

The critical role of US debt sustainability in the world financial architecture

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The US fiscal situation represents the ultimate case of “too big to fail” for the Rest of the World (ROW). The ROW has a lot to lose from a potential unravelling of US debt sustainability and therefore a substantial economic incentive to avoid triggering such an unravelling.

Executive summary

With the US debt-to-GDP ratio at historic highs, there is widespread concern for its long-term sustainability. Typical debt sustainability perspectives, often developed in the context of emerging markets or smaller developed economies, do not necessarily apply here. The United States has a unique position in the global financial architecture and geopolitical order that sets it apart from any other country. It is the ultimate case of “too big to fail” with the downside asymmetrically tilted against the Rest of the World (ROW).

Ever since Bretton Woods in 1944, the US dollar has been the world’s reference currency, first through its convertibility to gold, and, from 1971 onwards, as a fiat currency. The economic stability and geopolitical dominance of the United States rendered the US dollar a natural global reference currency. This allowed the US to run persistent current account and budget deficits and support a higher level of consumption, lower inflation and higher growth than otherwise, financed through capital inflows from the ROW. Over time, the ROW became an increasingly important investor in the US, not only in US debt instruments but also equities. The superior ability of the US to develop new technologies, innovation and unicorn companies has continued to attract non-US capital, intertwining the US and the ROW economies through a variety of complex mechanisms which we unfold in this study.

The financial arrangement that has emerged is central in the ability of the US to expand and support its increased indebtedness. Equally central is the continued ability of the ROW to generate capital surpluses that it is willing to invest in the US rather than in its domestic economy. Both conditions are inextricably linked to the strength and stability of the geopolitical alliances that the US fosters around the world and which support the US central role in the world economic order.

Looking into the future, the availability of surplus capital flows may be severely diminished by impending investment needs in the capital-exporting regions themselves. As the world becomes less globalised and more geopolitically fragmented, the current equilibrium appears to be less long-term stable. In the meantime, the difficulty of the ROW in weaning itself off the use of US safe and other assets is the “glue” that preserves the current financial arrangement. Presently, it is also being used by US administrations as a negotiating lever for a wide range of matters involving American economic and geopolitical interests.

By 2028, interest expenses will represent over 60% of the US federal deficit. Therefore, a possible tipping point for US debt sustainability could occur when additional borrowing is required

mainly to cover interest servicing costs. Such a development may provoke a significant selloff in US Treasuries that could quickly spread to other asset classes, including equities, giving rise to global market turmoil. Both the US and the ROW will have much to lose but the impact may in fact be asymmetrically greater for the ROW.

The reason is that the ROW has “doubled down” on US risk through its massive US safe assets and equity investments. Therefore, in the event of US-led market turmoil, it may be in the best interests of the official sector in the ROW to intervene in the markets and assist in providing a “floor” to US asset prices. The reality is that the complex relationship of the ROW with the US renders US debt more sustainable than it should be according to a classic debt sustainability analysis. In addition, so long as the current financial arrangement is in place, US equities will in fact serve as attractive high-return-generating quasi “safe assets”.

But can the current equilibrium be sustained forever? The global demand for safe assets is proportional to the global GDP. As the developing world grows at higher rates than the countries that produce safe assets, the demand for safe assets will keep outpacing their supply. The US, being the dominant supplier of global safe assets, cannot expand its debt issuance forever to satisfy global demand without subjecting itself to significant economic fragilities and national security issues. In the meantime, however, the main risk to US debt sustainability is geopolitical in nature. An increasingly polarised world aims to challenge the dominance of the US and the desirability of its assets in the global financial system. Initiatives such as those of the BRICS Plus merit close monitoring.

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1. Introduction: the fiscal state of the United States

The United States had a gross federal debt equivalent to 124% of GDP as of 2023 which is projected to grow to 129% by 2033 and 192% by 2053 based on projections by the Congressional Budget Office (CBO). Out of this gross federal debt, the equivalent of 98% of GDP is currently held by the public, and this amount is expected to grow to 115% of GDP by 2033 and 181% by 2053. These figures are reported in *Table 1*.

The difference between the gross federal debt and the debt held by the public is the amount of debt held by government accounts such as various federal trust accounts. Those accounts benefit various federal programmes mostly related to Social Security retirement funds and Medicare, but also include special retirement funds for other agencies such as Defense and the Postal Service.

TABLE 1
CBO's long-term projections of selected measures of federal debt
Percentage of gross domestic product^{(i), (ii), (iii)}

	2022	2023	2033	2043	2053
Debt held by the public	97	98	115	144	181
Debt held in government accounts	26	26	14	14	12
Gross federal debt	123	124	129	157	192

Numbers may not add up due to rounding.

(i) Source: Congressional Budget Office

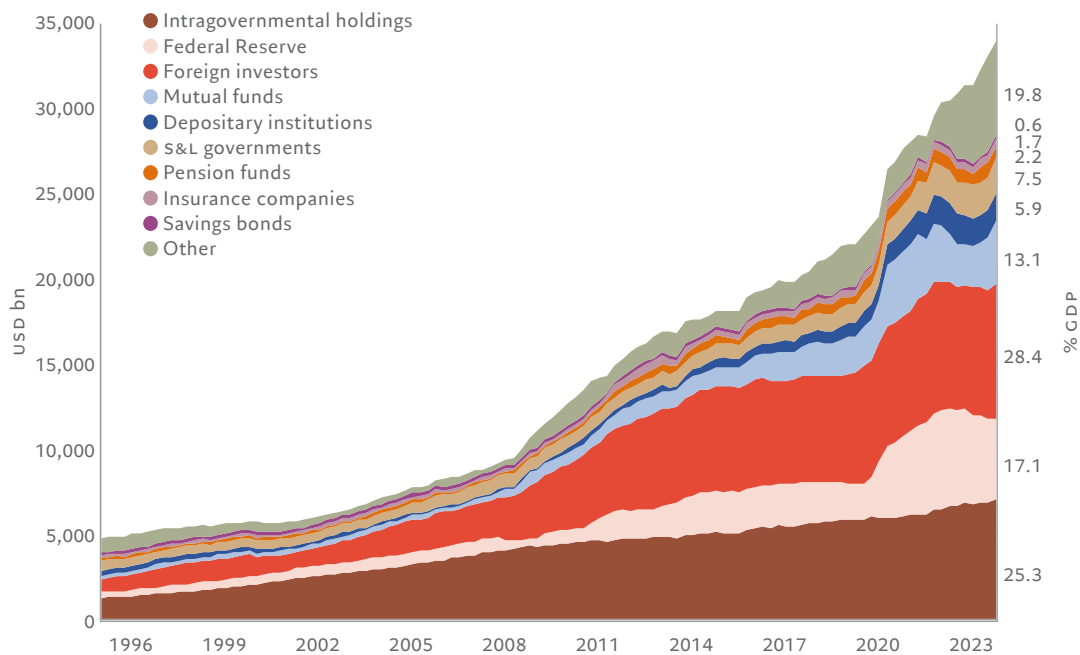
(ii) The budget projections are based on the agency's May 2023 baseline projections but also reflect the estimated budgetary effects of the Fiscal Responsibility Act of 2023 (Public Law 118-5), enacted on 3 June 2023.

(iii) All amounts are at the end of each fiscal year.

Debt held by government accounts is considered intergovernmental transactions and has no net effect on the federal borrowing or total budget. It constitutes an accounting mechanism between the US Treasury and various government funds. However, when US Treasury securities held by federal trust funds are exhausted, the Treasury may have to borrow more in the future to support specific activities if the revenues for those services are below their expenses.

A case in point is Social Security, which is expected to exhaust its trust fund by 2035, after which date either Congress will have to approve further borrowing or the benefits paid by Social Security will need to be decreased (this is estimated at a 17% across the board cut). The CBO by law must consider in its

FIGURE 1
Breakdown of US federal debt ownership
by holder type since 1995



Source: Treasury Department

baseline projection scenario that scheduled payments must be made in full even though the trust funds are depleted. In that sense, it is forced to project an analogous increase in federal borrowing to make up for the shortfall, thereby inflating projections for future federal debt levels unless tax revenues are increased. It is only in that sense that debt held by government accounts becomes relevant for our discussion: as trust funds are exhausted, the CBO projections assume that debt held by the public will have to increase to compensate for them. Keeping

this caveat in mind, the relevant debt-to-GDP ratios and projections for our discussion are those related to debt held by the public.

Figure 1 provides the breakdown of US federal debt ownership by holder type since 1995. Note that as the Federal Reserve (Fed) buys Treasury securities from the market and not directly from the Treasury, its ownership of US Treasuries counts as part of the debt held by the public. The same applies to US Treasuries owned by US state and local governments.

The US federal debt owned by true public owners (excluding the Fed and local governments) falls to USD20 trn or 71.7% of GDP – a much more palatable ratio.

We can view the USD20 trn debt as the “debt-at-risk” of refinancing, especially as about half of it is owned by foreign organisations and individuals.

While the total US federal debt was USD31.4 trn as of December 2023, the federal debt held by the public was USD24.5 trn. As mentioned above, part of the federal debt held by the public is in fact held by the Fed and local US governments. Specifically, as of end of 2023, about 17.5% of US federal debt was held by the Fed and about 6% by US local governments.

For purposes of evaluating the sustainability of the US federal debt, it is reasonable to view the federal debt owned by the Fed and local governments as “captive ownership” by the broader US government, in the sense that they are unlikely to sell their holdings in times of crises in the US debt markets. If anything, we may also see the Fed increasing its holdings in case of a market attack on US Treasuries or a decreased take by the public in Treasury auctions.

“Netting” the US federal debt in that way, the US federal debt owned by true public owners (excluding the Fed, intergovernmental holdings and debt held by state and local governments) falls, as of December 2023, to USD20 trn or 71.7% of GDP – a much more palatable ratio. We can view the USD20 trn debt as the “debt-at-risk-of-refinancing”, especially as about half of it is owned by foreign organisations and individuals.

The above “netting” should not provide much comfort regarding the sustainability of US debt. The US government has run persistent budget deficits since 1970 except for the period between 1998 and 2001 when it registered surpluses. In 2023, the US budget deficit was 6.3% of GDP according to the CBO, and it is projected to fluctuate between 5% and 6.4% between now and 2034. In other words,

TABLE 2
Top 15 foreign portfolio holdings of US assets
by country and security type, USD bn^{(i), (ii)}

	Totals	Equities	Long-term debt	Short-term debt
Australia	572.25	474.09	84.64	13.52
Belgium	983.73	85.58	825.85	72.30
Canada	2,054.89	1,459.13	565.81	29.94
China	1,432.37	309.29	1,117.91	5.18
France	676.68	362.92	292.20	21.56
Germany	623.37	411.56	198.88	12.94
Ireland	1,478.01	841.90	486.34	149.77
Japan	2,496.23	836.82	1,590.13	69.28
Luxembourg	2,098.75	1,087.39	883.06	128.31
South Korea	585.19	386.78	186.34	12.05
Netherlands	477.92	319.99	153.94	4.00
Norway	693.84	510.73	181.83	1.38
Singapore	664.82	408.37	247.30	9.15
Switzerland	1,086.72	682.70	340.99	63.04
UK	2,621.60	1,457.60	1,065.24	98.75
Total (all foreign portfolio holdings)	26,863.04	13,714.70	11,963.23	1,184.10

(i) All countries with total assets above USD500 bn are included plus the Netherlands.

(ii) Figures as of end of June 2023. https://ticdata.treasury.gov/resource-center/data-chart-center/tic/Documents/slt_table1.html

Approximately half of the US's "net" debt is owned by the ROW in the form of US dollars and US Treasuries that the ROW then uses to facilitate most of its financial and commercial transactions. This is effectively the "glue" that sustains the current financial arrangement.

the level of US federal debt is expected to increase at rapid rates going forward, raising concerns and questions about its sustainability, the tipping point, and the implications of its potential unravelling for the US economy and the global financial architecture.

1.1 HOW CAN THE US RUN PERSISTENT BUDGET DEFICITS?

The United States has been running persistently large current account deficits of a magnitude that no other part of the world could sustain, roughly USD-1 trn annually.¹ These current account deficits are paid for through the sale of US financial assets with the accompanying huge inflows of capital into the US from the Rest of the World (ROW). *Table 2* reports the countries with major US portfolio holdings by type of security. China and Japan are among the countries with high US securities holdings and a preference for debt instruments. Canada is also a major holder of US assets, but the majority is in US equities. The UK holds similar amounts in US debt and equities. Other countries, such as Belgium, Luxembourg, Switzerland, and Ireland may partly owe their large holdings to their custodial activities.

The capital inflows invested in US financial assets far exceed assets owned by the US abroad, resulting currently in a US foreign net asset position of USD-19.77 trn. About USD13.77 trn of the capital inflows are presently invested in US public equities which means that about 25% of the US equity market capitalisation is owned by the ROW. Furthermore, according to data presented by Atkeson, Heathcote and Perry (2023), the total equity currently owned by

the ROW is as high as 40% of the total US market capitalisation when private firms and foreign direct investments are considered.

In effect, the US has persistently spent more than the income it generates by borrowing. Approximately half of its “net” debt is owned by the ROW in the form of US dollars and US Treasuries that the ROW then uses to facilitate most of its financial and commercial transactions. This is effectively the “glue” that sustains the current financial arrangement. The extensive use of US Treasuries and the US dollar in global transactions forms part of the “exorbitant privilege” accorded to the United States – a term initially coined by the former French President Valéry Giscard d’Estaing and subsequently analysed by many academic authors over the years (e.g., Gourinchas and Rey (2007, 2022), Eichengreen (2011) and Bernanke (2016), among others.)

The sustainability of the US debt therefore crucially depends on the ability of the US to maintain its privileged hegemonic position in the global financial architecture. In addition, it requires that the ROW both create sufficient surpluses and be willing to transfer them to the US through the purchase of US financial assets rather than investing them in their domestic economies. Both conditions are inextricably related to the strength and stability of the geopolitical alliances that the US fosters around the world which in turn support its central role in the world economic order.

A key manifestation that the above arrangement continues to hold is the ability of the US to remain the supreme and trusted provider of safe assets to the world financial system. The question that naturally

1 In 2022 the US current account was USD -971.6 bn; in 2023 it rose to USD -820 bn. These and subsequent figures can be obtained from the Bureau of Economic Analysis, U.S. International Investment Position, 4th Quarter and Year 2023.

If the US's debt becomes unsustainable at some point, its equity market is all but certain to experience heavy losses. In such a case, the ROW will lose both from its holdings in US debt and its holdings in US equities. While the ownership of the ROW in the two asset classes does not necessarily fully overlap, on aggregate, the ROW has “doubled down” on US risk exposure and stands to lose dearly in the event of a fiscal crisis in the US. In effect, under the current arrangement, the US has so far neutralised the effects on its economy from a Triffin dilemma type of situation.²

In that sense, at least the official sectors (e.g., central banks) in the ROW have every incentive to step in at crucial times to mitigate the losses and stabilise a potential material slide in the US dollar, US Treasuries, and even US equities. In other words, the Fed, together with central banks from the ROW, is highly likely to provide an eventual “floor” to losses from a potential US crisis, which would most likely quickly become a global one.

² The Triffin Dilemma emphasises the macroeconomic difficulties that a hegemon is likely to encounter as it evolves to become a dominant supplier of the world's reserve currency and its safe assets. Ironically, the global shortage of safe assets that Triffin predicted has become a source of geopolitical power for the US given its role as the dominant supplier of such assets.

follows is whether under increased global economic and political fragmentation, this task will remain as manageable as it has been thus far. Indeed, some of the risks to the current equilibrium that supports the country's continued debt sustainability in the face of its rapid expansion may in fact be geopolitical.

Another advantage of the US economy that makes it an attractive destination for foreign investments is its dynamism and leadership role in the development of technology and innovation, aspects we will discuss more fully in Section 4.2. This superior ability of the US to be in the forefront of innovation has led the ROW to be a major investor in US equities to the tune of 25% of the US public market capitalisation and as high as 40% of the total US equity capitalisation³. Whereas the ability of the US to generate superior equity returns makes it a safer borrower, it also carries important risks for the ROW. If the US's debt becomes unsustainable at some point, its equity market is all but certain to experience heavy losses. In such a case, the ROW will lose both from its holdings in both US debt and US equities. While the ownership of the ROW in the two asset classes does not necessarily fully overlap, on aggregate, the ROW has "doubled down" on US risk exposure and stands to lose dearly in the event of a fiscal crisis in the US. In effect, under the current arrangement, the US has so far neutralised the effects on its economy from a Triffin dilemma type of situation.⁴ In that sense, at least the official sectors (e.g., central banks) in the ROW have every incentive to step in at crucial times to mitigate the losses and stabilise a potential

material slide in the US dollar, US Treasuries, and even US equities. In other words, the Fed, together with central banks from the ROW, is highly likely to provide an eventual "floor" to losses from a potential US crisis which would most likely quickly become a global one. In a globalised world, such intervention would be assigned almost perfect certainty. The evolving geopolitical tensions, and the resulting increasing economic and political fragmentation, however, complicate the picture and increase the downside risks of a US crisis and the international assistance the US may need. In the case of the US, a desirable change in the eye of a part of the ROW would be the end, or at least a lessening, of US economic hegemony and the exorbitant privileges of the US dollar⁵. A US fiscal and/or financial crisis may precipitate such a development.

The US fiscal situation represents the ultimate case of "too big to fail" for the Rest of the World (ROW). The ROW has a lot to lose from a potential unravelling of US debt sustainability and therefore a substantial economic incentive to avoid triggering such an unravelling. But risks still exist and short-to medium-term market reactions can very well be severe. The existing world architecture on which US debt sustainability depends is thus of great importance for the US, the world economy and the global financial markets. The rest of this study is devoted to examining this architecture, the risks involved for US debt sustainability and the investment implications of potential scenarios that may transpire.

³ See Atkeson et al. (2023).

⁴ The Triffin Dilemma emphasises the macroeconomic difficulties that a hegemon is likely to encounter as it evolves to become a dominant supplier of the world's reserve currency and its safe assets. Ironically, the global shortage of safe assets that Triffin predicted has become a source of geopolitical power for the US given its role as the dominant supplier of such assets.

⁵ An example of countries interested in such a development would be members of the BRICS coalition.

2. Why is the United States the world's financial hegemon?

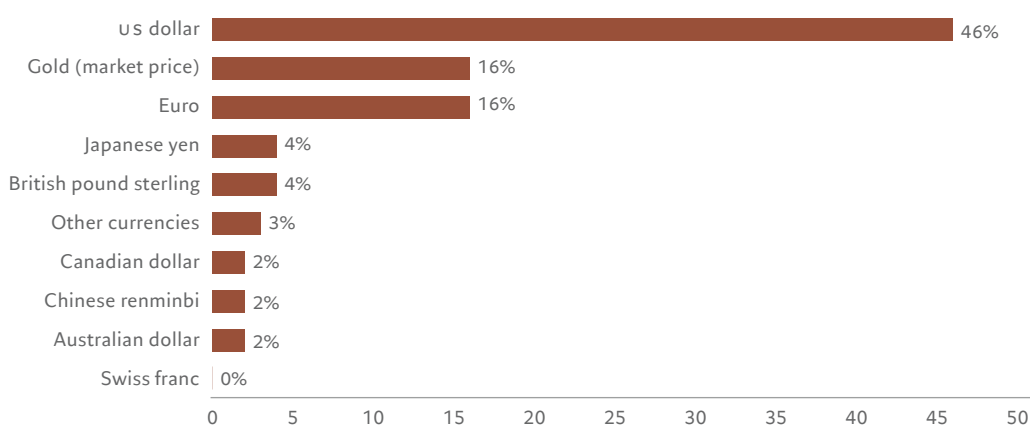
Ever since Bretton Woods in 1944, the US dollar has been the world's reference currency, first through its convertibility to gold, and, from 1971 onwards, as a fiat currency. Why did the rest of the world continue directly or indirectly to peg or manage its exchange rates relative to the US dollar despite the emergence of other financially strong countries or regions over the past eighty years? How has this arrangement been advantageous to them?

With the US being the largest world economy and given the continued expansion of international trade after WWII, the economic stability and geopolitical dominance of the United States rendered the US dollar a natural global reference currency. In addition, the depth of the US Treasuries market makes it an obvious reserve currency. Indeed, despite the size of other economies and the stability of their currencies, as well as increased geopolitical tensions, the share of foreign exchange currency reserves, once gold is included, in US dollars is currently around 46% and has been relatively stable over time (Figures 2, 3, and 4). In fact, as the Financial Times recently reported,

global central banks are even looking to increase their existing US dollar reserves.⁶ While the euro has captured some of the global demand for foreign reserves, its lack of common Treasury and common debt issuance has stabilised its share at around 20%. In the case of foreign exchange transactions, the BIS estimates that the dollar is used in 90% per cent of them worldwide.⁷ Note that export invoicing using the US dollar is dominant everywhere in the world except, as would be expected, the euro area (Figure 4).

Over time, the expansion of international trade and relative country specialisation that globalisation has fostered have further contributed to cementing the current equilibrium by allowing the US to continue borrowing at preferential terms while running persistent current account deficits. Du and Huber (2023) report that demand for US securities has increased sixfold over the two decades from 2002 to 2021. During that period, insurance companies, pension plans and the official sector increased their holdings, predominately in US bonds.

FIGURE 2
Foreign exchange reserves by currency,
including gold, Q4 2023, %



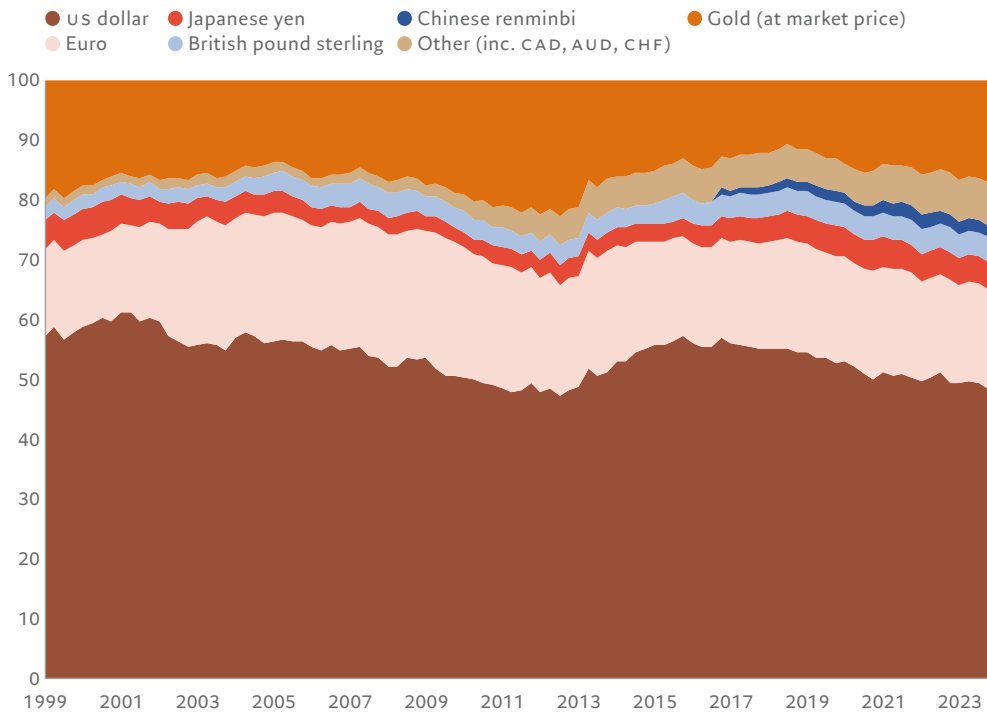
The numbers do not add up to 100% because of unallocated reserves. These unallocated reserves occur when a country either does not report the composition of its currency reserves or provides incomplete data.

Source: International Monetary Fund's Currency Composition of Official Foreign Exchange Reserves (COFER) database

6 "Global central banks plan to increase dollar reserves, survey suggests", Financial Times, 4 June 2024

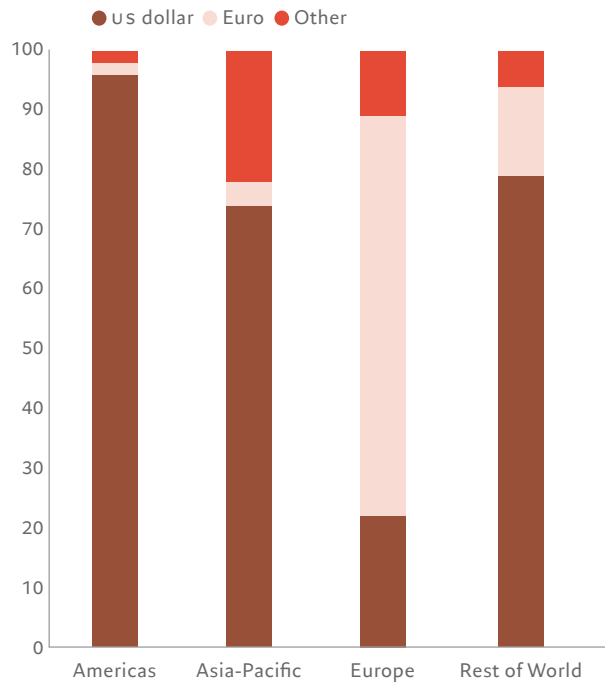
7 BIS Triennial Survey (2022): <https://data.bis.org/topics/DER>

FIGURE 3
Share of globally disclosed foreign exchange reserves
by currency since 1999, %



Source: IMF COFER

FIGURE 4
Average annual export invoicing from 1999 to 2019,
by currency type, %



Note: The value for Europe includes trade within the euro area.

Source: "The International Role of the US Dollar' Post-COVID Edition, Accessible Data," Board of Governors of the Federal Reserve System, 23 June 2023.

3. The benefits and risks of the current equilibrium: US vs the ROW

There have been benefits and risks for all sides from the equilibrium this financial arrangement provides. In what follows, we will discuss the benefits and risks for the US and the ROW in some detail.

3.1 THE BENEFITS FOR THE US

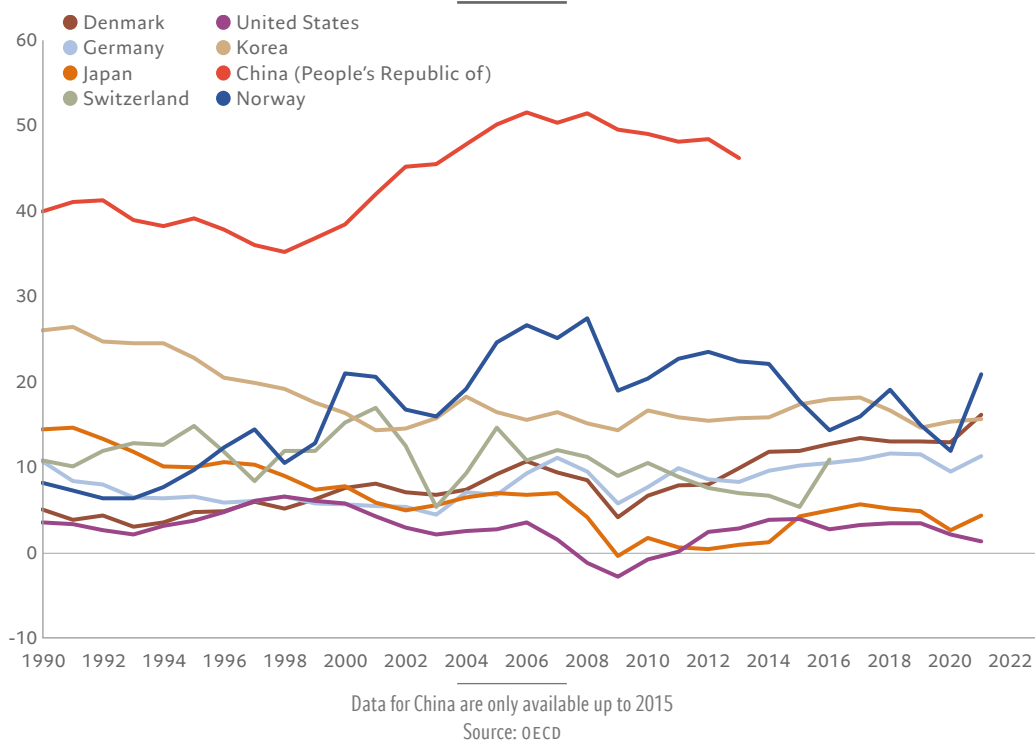
From a US perspective, the large capital inflows from the ROW offset the low US net savings rate which has been fluctuating around 3% of GDP since 1992, and, as of 2021, stood at 1.5% of GDP – the lowest rate by far among all developed countries, as *Figure 5* reveals.⁸ For comparison, net savings are 11% of GDP in Germany, 11% in Switzerland, 16% in South Korea, 21% in Norway and 46% in China.⁹

These capital inflows from the ROW alleviate the “crowding out” of US domestic investment financing by US Federal deficits and lower the cost of capital

for US firms. They also boost the value of the US dollar, making it less expensive for US firms to acquire assets abroad. In an open economy without access to capital inflows, the US dollar would have to decline substantially to balance the current account. US inflation is much lower than it would have been if the adjustment to the current account had to happen through a depreciation of the US dollar. Lastly, US income taxes are lower than they would have to be if current federal spending levels were exclusively domestically financed. In other words, investments, GDP, consumption and employment are higher and prices lower than if there were no net foreign capital inflows.

In the presence of the enormous fiscal stimulus that US deficits represent, it is likely that imported traded goods, especially consumer goods, represent

FIGURE 5
Net savings as a percentage of GDP
1990–2021, %



8 This figure is to be distinguished from gross savings as a percentage of GDP, which for the US is about 18.5% due to high corporate savings. For comparison, gross savings stand at 29% of GDP in Germany, 23% in France, 24% in Canada and 28% in Norway. China’s gross savings is 46% of GDP.

9 Net Savings for China are for 2015, the latest available data.

a significant dampening effect on US domestic inflation. The increased value of the dollar in recent months has only strengthened this effect. Approximately 11% of US consumption overall represents payments to foreign suppliers, although in any single purchase of a foreign sourced good, the part of the purchase price going to the original manufacturer differs substantially across the country of origin, as *Figure 6* reveals.

Note that for European manufactured goods sold in the US, 80% of the sale price accrues to the country of origin. In the case of most other areas of the world it is around 55%. The larger the share of the final goods price accruing abroad the greater the price restraint imported goods can potentially offer in the presence of a rising dollar, keeping a lid on inflationary pressures.

As mentioned earlier, foreign net demand for US assets is highly positive. This foreign demand increases the prices of US assets and as a result, foreign and domestic owners of these assets experience positive wealth effects, especially

By increasing the availability of
safe assets, which are presently in global short
supply, the US Treasury creates positive
externalities for the ROW by facilitating global
financial transactions.

in an environment of dollar appreciation. It is therefore likely that worldwide consumption demand is higher as a result of the positive foreign net demand for US assets and acts as an endogenous and costless multi-country fiscal stimulant.

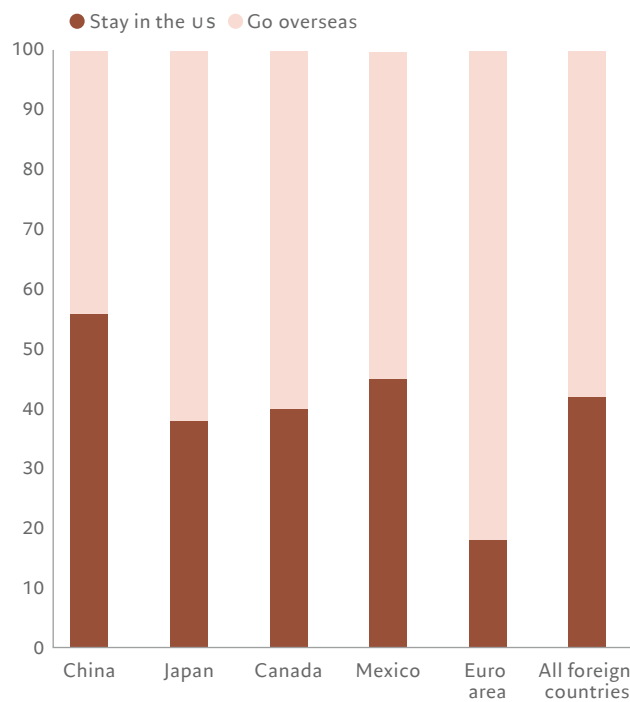
At the same time, debt capital flows into the US allow the US Treasury to borrow more in the short run. As a consequence, by increasing the availability of safe assets, which are presently in global short supply, the US Treasury creates positive externalities for the ROW by facilitating global financial transactions, a topic we will discuss more in Section 4.

Lastly, the use of the US dollar for international transactions allows US-based firms to borrow and receive their revenues mostly in their domestic currency, eliminating exchange-rate risk exposure – an important source of uncertainty and cost for non-US firms.

3.2. THE BENEFITS FOR THE ROW

A main benefit of the current equilibrium for the rest of the developed world is the role it plays in preserving key industries and supporting employment. Take for instance the cases of Germany

FIGURE 6
Distribution of final goods price on imports to the US
by country of origin, %



Source: Hale et al. (2019)

and Japan, two countries with large automobile industries, and, historically, large current account surpluses. In both cases, automobile production far exceeds domestic demand. These countries can thus maintain their automobile industries at higher capacity and profitability through exports, of which the United States absorbs a leading share (more than 40% in the case of Japan.) The US, on the other hand, can finance these imports because of the large foreign capital inflows it receives. The asset purchases these capital inflows represent allow foreign pension funds, insurance companies and private individuals to better diversify their asset portfolios and improve their expected returns performance.

For less developed countries, these same benefits accrue. In addition, the purchase of US assets, primarily US Treasuries, provides them with a means of store of value in the form of safe assets widely used in a plethora of financial transactions. We address the role of US safe assets in the international financial system and their importance for the prevailing equilibrium more in Section 4.1.

Increasingly, capital inflows into the US appear to be directed towards equity investments, which allow foreign countries to participate in future US equity cash flows and fund the creation of

new firms. Given the higher growth dynamics in the US relative to other developed countries and its leadership role in innovation, these equity investments enhance the expected wealth of private citizens of foreign countries.

The emphasis on private wealth enhancement should not be overlooked. Particularly in EM countries, private wealth is highly concentrated. From the overall social perspective, however, these capital inflows, to the extent that they promote dollar appreciation, are destructive if the EM country of their origin has issued dollar-denominated debt, or if it is dependent on dollar-denominated food or energy imports.

3.3. THE LONG-RUN RISKS OF THE CURRENT EQUILIBRIUM TO THE US AND THE ROW

The current financial arrangement is the product of the post-WWII era, built gradually on the assumption of a largely peaceful and increasingly globalised world. Fast forward eight decades, globalisation has accrued many benefits but also has downsides. These downsides negatively affect both the US and the ROW and have implications for the sustainability of the US debt.

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3.3.1 The risks for the US

Globalisation enabled the current global financial equilibrium whereby the US has been able to run persistent current account deficits financed by capital inflows from the ROW. The result is a US economy highly dependent on the ROW.

It is well known that globalisation encourages country specialisation. As such, the US economy has evolved over time to depend largely on the ROW to provide it with critical goods (e.g. pharmaceutical ingredients) and services (e.g. maritime freight shipping). While US dominance in software production has increased, as witnessed by the explosion of existing and newly created firms offering generative AI services, there are many strategically important goods that are now largely manufactured outside the US; for example, smartphones, computer monitors, semiconductors and basic pharmaceutical ingredients to name just a few. Most household goods are now made abroad, as well as most apparel. The implication is that any supply chain disruptions stand to provoke near immediate shortages in the US. That this is indeed the case was witnessed during the pandemic-induced supply chain disruptions of 2020–2021, and the rise in inflation that ensued.

There is, however, a more profound issue with the global supply chains produced by globalisation. Apart from short- to medium-term supply disruptions, they threaten the mere medium- to long-term

competitiveness of the US economy with important implications for its ability to sustain an elevated level of debt. We detail the reasons for this below.

1. If we consider new ideas arising from a community of high-tech firms in an ecosystem where ideas are borrowed from related industries or developed from human capital interactions of personnel from complementary industries, the destruction or lack of development of some parts of such an ecosystem within the US economy carries the risk of compromising the ability of the US to foster innovation in the future. Recent studies document that new patent creation, and the ideas behind them, depend most critically on other patents (ideas) generated within the same country in which the new patent is first filed, and less so on patents generated (elsewhere Berkes et al. (2024)). In other words, for “new idea creation” physical proximity matters.

2. Being able to imagine a new product or process is not the same as the ability to manufacture it successfully. A recent illustration can be found in the difficulties encountered by the US government as it attempts to recapitalise the US semiconductor industry after years of underinvestment.¹⁰ Although all semiconductor firms use the same machines, the use of them is a highly skilled enterprise, requiring high levels of specialised human capital. With few fabrication plants in the US, there was previously little incentive for young people to

¹⁰ There is a sense that the present large capital subsidies simply make up for the massive subsidies prevalent in Asia. Until the CHIPS Act, investment subsidies to the semiconductor industry came only from countries which lacked the financial resources to make much of a difference. In the past, offshoring was the only way to offset the Asian cost advantage.

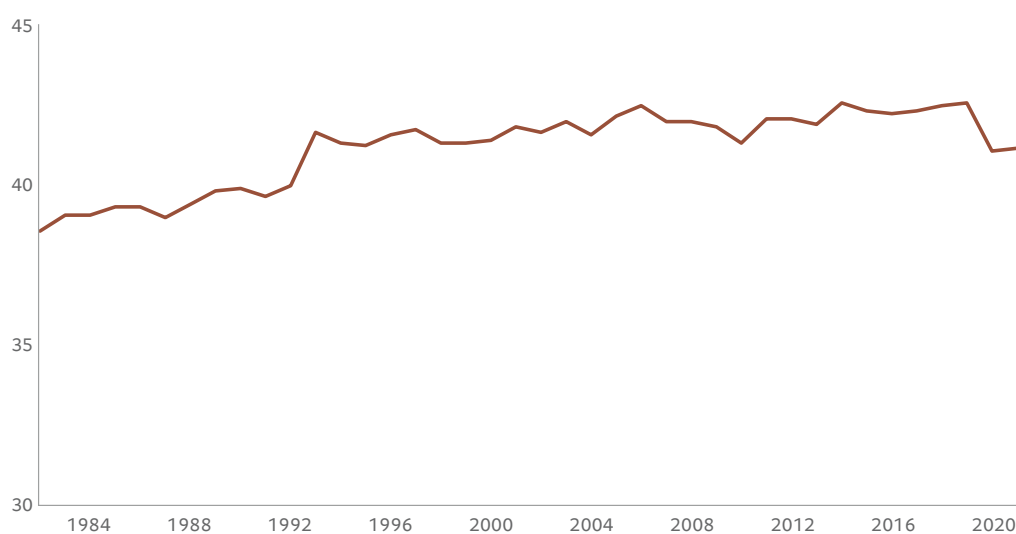
pursue high-level engineering degrees. Thus, the entire educational supply chain must also be simultaneously rebuilt. This takes time. In summary, the current arrangement whereby the US exchanges goods and, ultimately, the ability to make them, for capital invested in US debt or existing equity securities, is likely to have negative long-term implications for the competitiveness of the country and its ability to maintain and advance its technological leadership, an ability especially critical in an increasingly less globalised world.

3. In the near term, these capital inflows have bid up the value of the dollar, which currently stands at historical highs. This fact has made it more difficult over time for traditional, price-sensitive industries to compete, resulting in a potential loss of employment with negative social consequences in the affected parts of the country.

Globalisation enabled the current global
financial equilibrium whereby the
US has been able to run persistent current account
deficits financed by capital inflows
from the ROW. The result is a US economy
highly dependent on the ROW.

4. Another downside for the US, or any highly indebted country, is the resulting increased GDP risk. Borrowing intuition from portfolio theory, we can view an economy as a portfolio of productive assets that produce a stream of expected future output. If the sale of debt securities enables the financing of an increase in physical and human capital stock, the economy's expected output in future periods will increase. But this increased expected output will also be accompanied by increased after-tax income volatility. As the economy gets leveraged up, the uncertainty of future-generated tax revenue to pay for the issued debt will also increase. In adverse scenarios or times of crises and external shocks, the leveraged economy's net tax revenue may shrink more than in the absence of excess borrowing – just as a portfolio of risky assets will be more volatile when highly levered. Net cash available for public income maintenance will become more volatile, likely affecting poorer citizens more acutely.

FIGURE 7
Gini coefficient for the United States 1982–2021
0 = complete equality, 100=complete inequality



Source: World Bank

5. Because of the decades-long persistent stability of this perverse equilibrium, the US has acquired the unfortunate propensity to spend more than it produces. What's worse, currently, 64% of US budget spending goes to healthcare, social security and other income maintenance programmes, all of which represent mandatory spending for social welfare purposes. With the CBO projecting that the US social spending, and therefore US debt, will likely continue to increase, unless drastic action is taken, a disturbance to the current equilibrium will thus threaten the sustainability of the US debt and the existing social benefits it provides.

6. The dependence of the US on foreign capital is itself another danger. Looking to the future, the availability of surplus capital flows shown earlier in *Table 2* may be severely diminished by impending investment needs in the capital-exporting regions themselves. The green transition, increases in military budgets and an ageing population will raise the need for domestic investments in many of the countries featured in *Table 2*, likely leading to lower capital availability for investing in US securities.

Germany is a case in point. It has had positive current account balances since roughly 2002. As of 2022, its net external assets stood at EUR2,721 bn, corresponding to around 70% of its nominal GDP.¹¹ More than EUR420 bn of Germany's foreign direct investments went to the US.¹² Germany also has ageing physical infrastructure and has not invested adequately in digital technology, necessitating significant investments in these areas going forward to maintain its international competitiveness.

Asian economies have also been big capital exporters, but with declining populations and increasing expenditures for the care of the elderly, it is reasonable to assume that their capital exports will likely decline as well. Geopolitical tensions between the US and China, the process of partial deglobalisation and income inequality concerns in many countries could discourage surplus-producing countries from continuing their high capital outflows to the US economy.

7. Income inequality has generally increased in the US since 1980, as the evolution of the Gini coefficient shows in *Figure 7*. A result is the perverse twin deficits phenomenon – the simultaneous existence of high current account and fiscal deficits.

¹¹ Deutsche Bundesbank, Germany's International Investment; 3rd Quarter, 2023, Press Release.

¹² <https://www.bundesbank.de/en/statistics/external-sector/direct-investments/stock-data-776576#tar-2>

A large negative current account is fundamentally contractionary. As such, it must be offset by a large fiscal stimulus, or the economy will contract. Incoming financial flows elevate security prices, in principle providing a positive wealth effect to demand. However, since the savings ratio in the US is very low and financial and real assets are primarily owned by the already rich, this demand channel is essentially non-operative. Under these circumstances, deficit spending at the federal level becomes the required offset – hence the twin deficit phenomenon. The US has run twin deficits since 1970 which means that current account deficits may be viewed as being habitually offset with budget deficits, eroding the competitiveness of the domestic industry and exacerbating the debt burden of the country.

3.3.2. Risks for the ROW

Just as the US is highly dependent on the ROW for the supply of many critical goods, so is the ROW dependent on the US to provide securities with attractive financial returns. This dependency has decreased the urgency in those countries to invest domestically to improve their own innovation capabilities and industrial diversity. The specialisation and dependencies that the prevailing equilibrium has created over the past several decades came to the forefront, first during the Great Financial Crisis (GFC) and subsequently during the pandemic and in the currently evolving geopolitical polarisation – recall, for instance, the restrictions on Russian gas exports to Europe following Russia's invasion of Ukraine. Recent efforts both in European countries

but also in the BRICS to reduce those dependencies underlie the realisation of the risks they pose as well as the potential fragilities of the current arrangement.

Simple economics also reminds us that wages are higher when workers have more capital to support them. Capital-exporting developing countries are therefore forever poorer than they could have been when their surplus capital flows to the US.

Note that the current arrangement, whereby emerging markets' surpluses flow into the US, is inverted relative to the more standard arrangements that existed prior to WWI. In those years, Britain exported large amounts of capital to low-income countries either to develop them or to acquire assets in them. The present reversed arrangement also means that when the US enters a recession or is affected by a negative shock, these lower-income countries may be negatively affected through two different channels: potential losses in the capital they invested in the US, and loss of exports to the US as demand there diminishes. Put differently, the strong export orientation of those countries towards the US also creates a strong transmission mechanism of shocks from the US to the domestic economies of its trading partners.

In summary, there are both benefits and risks for the US and the ROW from the current arrangement. As the world becomes less globalised and more geopolitically fragmented, the current equilibrium appears to be less long-term stable. Furthermore, given the many decades over which it has persisted, an unravelling of the current financial arrangement will likely have profound consequences for the global economy and financial system.

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4. The forces that keep the world entrenched in the current equilibrium

The global financial system largely functions based on the use of the US dollar and US-produced safe assets. It is not only that the ROW largely uses US dollars and US-produced safe assets for 90% of its transactions, but also that there are no readily available alternatives to them.

For the ROW to disentangle itself from the US global financial dominance will not be an easy task. The difficulty in weaning itself from the use of US safe assets perversely acts as an additional major negotiating lever for US administrations on matters that transcend economic interests. It can also help shape geopolitical alliances to the benefit or the detriment of the US. Before we discuss the risks to the current equilibrium, it is instructive to look at the reasons the US's production of safe assets forms a cornerstone of stability for the current financial arrangement and the difficulties in bypassing it.

4.1. THE US AS THE WORLD'S PRIMARY PRODUCER OF SAFE ASSETS

Safe assets are defined as assets that have stable nominal payoffs, are highly liquid and carry minimum credit risk.¹³ They are particularly valuable during periods of market turmoil or crises when the values of other assets typically fall. Given their nominal value stability and their negative beta in periods of market turmoil, safe assets are fundamental for the smooth functioning of modern financial systems. They act as a store of value, are used as collateral in financial transactions, fulfil prudential requirements and serve as a pricing benchmark for risky assets. In other words, safe assets are systemically important for the global financial system to function well.

A prime example where the shortage of safe assets precipitated a crisis is the Great Financial Crisis (GFC). During the early 2000s, the global savings glut, generated because of the current account surpluses

of the oil producing countries as well as some emerging markets, led to increased demand for US safe assets. At the same time, European countries leveraged their international balance sheets by borrowing and issuing bank debt to invest in highly rated US mortgage-backed securities and other fixed-income assets. Apart from suppressing US long-term yields, this excess demand for high quality US assets also led financial institutions to create private label "safe assets" by securitising risky obligations in a way that would be assigned a high credit rating. When the housing bust called into question the quality of those assets, their price collapse resulted in the financial crisis.¹⁴ Since then, the main provider of safe assets in the world has become the US Treasury. *Figure 8* shows the trend and expected trajectory of the global supply of safe assets by country with the US being the de facto prime supplier.¹⁵

As large as the future supply is projected to be, it is not enough as *Figure 9* shows. In fact, the availability of safe assets as a percentage of global GDP is projected to shrink considerably. This is due to the expectation that global GDP will grow at a higher rate than the growth of safe assets – that is, the issuance of additional debt by countries that are considered of low credit risk, and stable inflation.

Much of the growth in global GDP is expected to come from developing economies where savings rates tend to be high (in the case of China see, e.g., Imrohoroğlu and Zhao (2018), Wei and Zhang (2011), Yang et al. (2013), and Zhang (2017) for underlying reasons), fuelling demand for safe assets as a store of value.

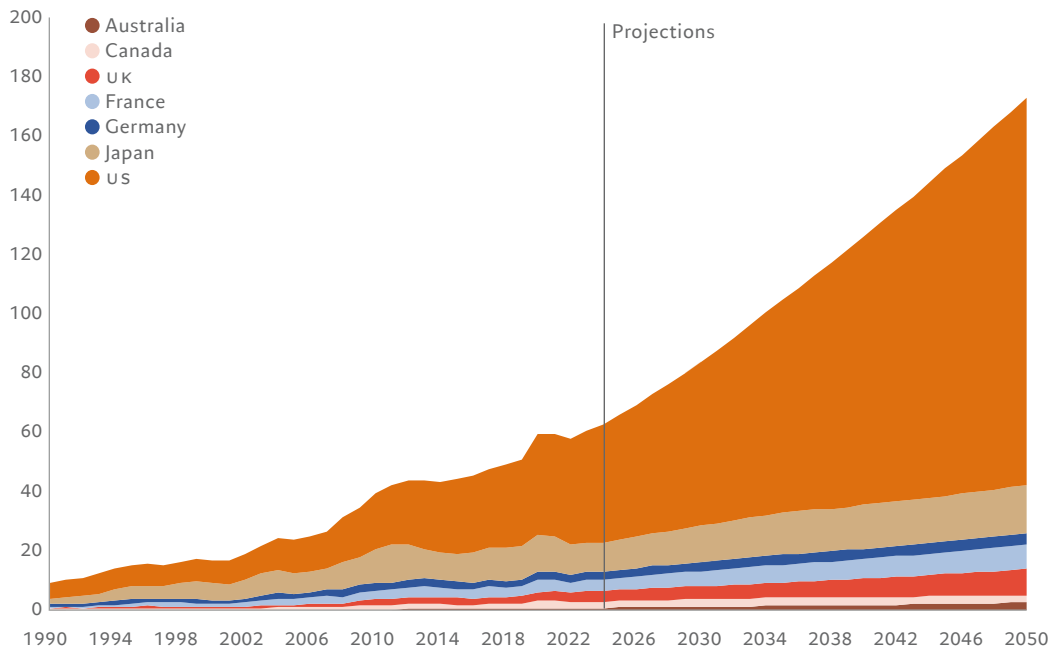
Another source of demand for safe assets, at least recently, has been the very high corporate holdings of "cash and marketable securities" which contributes to the scarcity of safe assets. In the US, for example, US firms currently hold roughly USD3.5 trn of these

13 See Maurizio Michael Habib, Livio Stracca, and Fabrizio Venditti, 2020.

14 Other factors such as regulatory deficiencies, lax risk management of financial institutions, problems with financial supervision as well as wrong incentive structures for the government-sponsored enterprises (GSEs) also significantly contributed to the GFC. For a detailed discussion of the role of the shortage of safe assets in the GFC, see Bernanke, Bertaut, DeMarco and Kamin (2011).

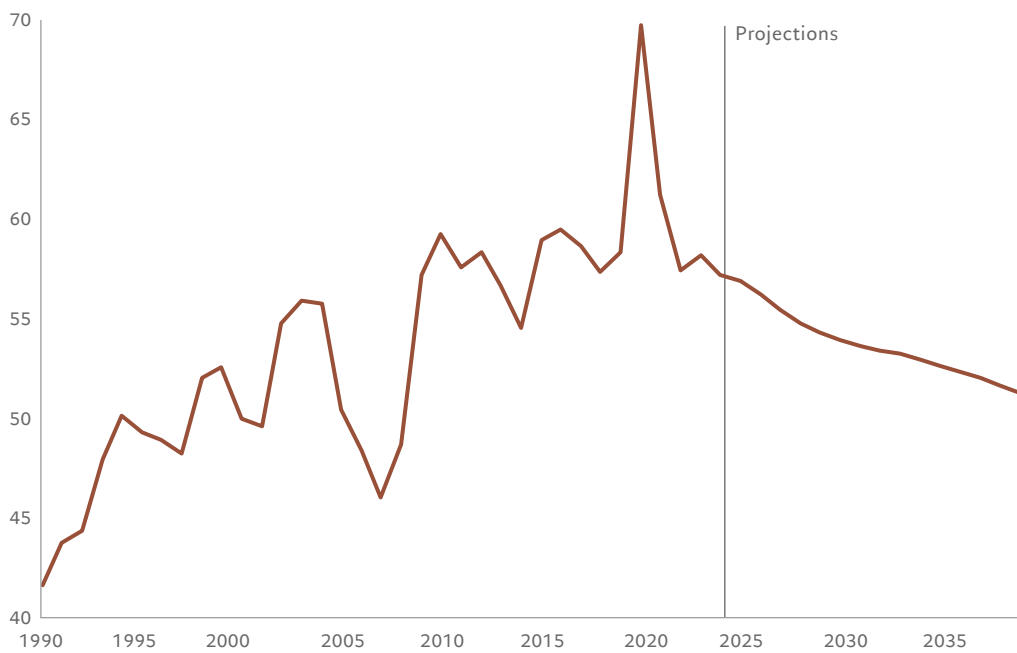
15 The aggregate production of safe assets by the EU was recently valued at roughly 1 trn euros; as of March 2024, the safe US dollar assets in foreign hands exceeded USD8 trn; see TIC data. https://ticdata.treasury.gov/resource-center/data-chart-center/tic/Documents/slt_table5.html

FIGURE 8
 Projected supply of world safe assets by country
 1990–2050, USD trn



Source: Oxford Economics and the Financial Times

FIGURE 9
 Safe assets as a percentage of global GDP, %



Source: Oxford Economics and the Financial Times

Forecasts or projections are not reliable indicators or guarantees of future results, therefore there can be no assurance that these results will be achieved.

securities, well above the pre-Covid baseline, as *Figure 10* shows. To put this into perspective, that is around 17.5% of the US's debt held by the public, excluding the Fed and state and local government holdings.

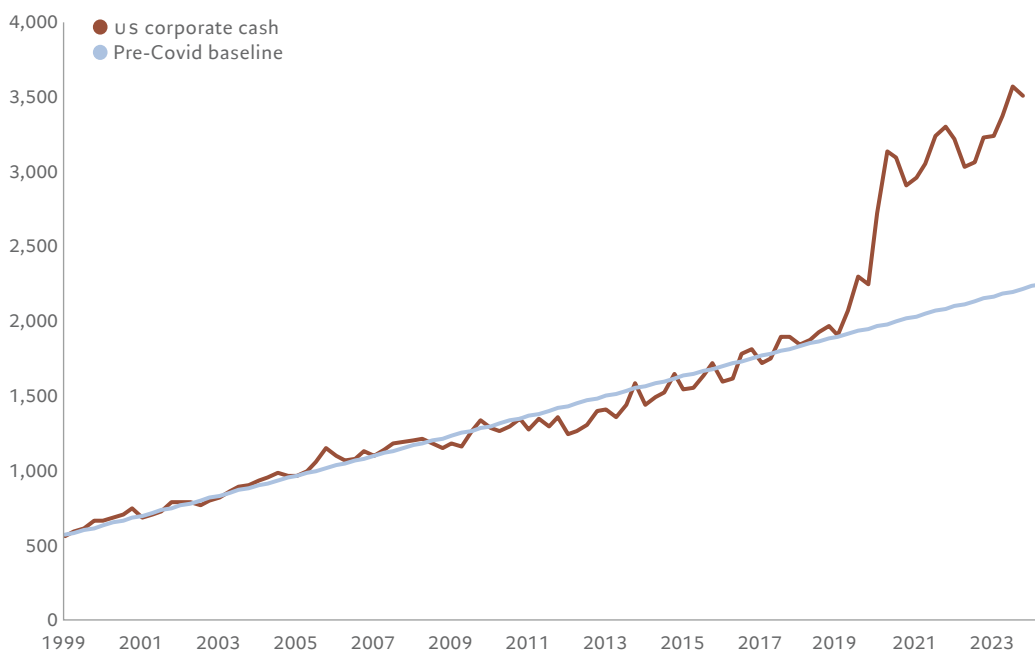
The situation is much more severe in the case of Japan, where Japanese corporations effectively hold about 81% of outstanding Japanese government debt available to the public, once intergovernmental and Bank of Japan (BoJ) holdings are taken into account. The percentage is particularly high in Japan because of the large BoJ purchases of Japanese government bonds (JGB) through auctions. As a result, the liquidity of JGBs in the market is extremely restricted given that both the BoJ and Japanese corporations are buy-and-hold owners of JGBs.¹⁶

While it is more difficult to get comprehensive information about EU firms, *Figure 11* reports the holdings of the firms with the highest "cash and marketable securities" balances. As of 2023, the total cash holdings of these firms represented around

EUR 300 bn, with the trend increasing since 2016. The investments of choice when considering European safe assets are German government bonds, but their availability to the public as safe assets could be compromised, as these firms alone hold the equivalent of 12% of the German public debt in cash. Global regulatory reforms that provide disincentives to public corporations to hoard cash and cash equivalents could increase in some cases the availability of global safe assets for other uses.

The current and projected acute shortfall in the production of safe assets relative to global GDP, first and foremost, strengthens the dependency of the ROW on the US dollar and US safe assets. From a US perspective, it buys the country time to restructure its industrial base and geopolitical strategy. Under any plausible scenario, the existing international financial dependencies of the ROW on the US will take a long time to be unwound. Having said that, the current geopolitical tensions

FIGURE 10
Cash and cash equivalents held by US corporations, USD bn

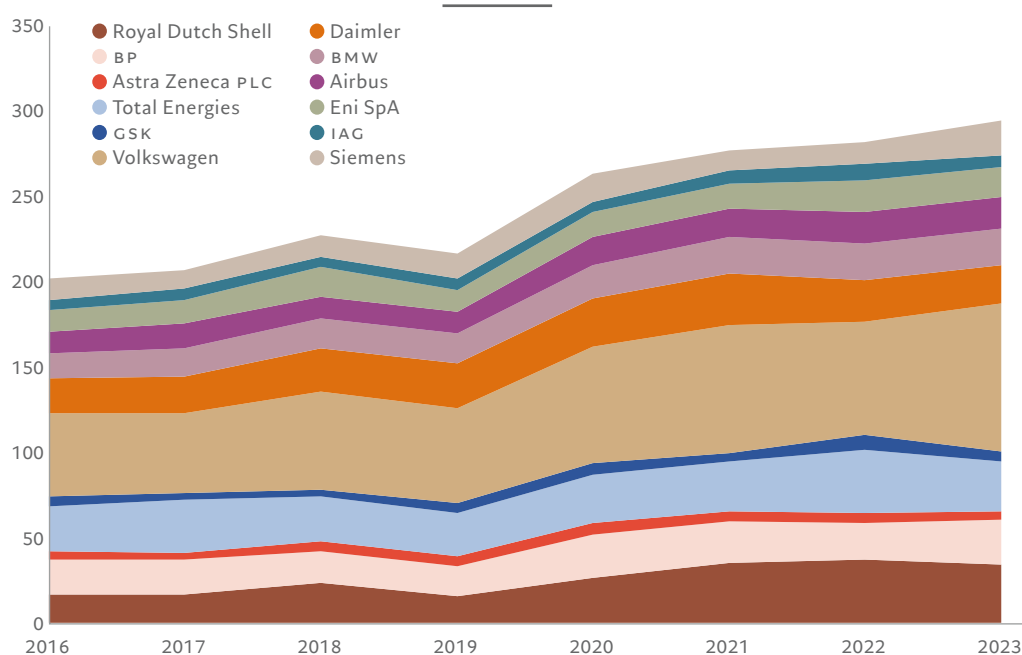


Source: FRED¹⁷

¹⁶ See Mookerjee, I., Hu, F. and Jeong Lee, M. "Japan Companies Are Sitting on Record USD 4.8 trn in Cash," Bloomberg, 2019, for a related article.

¹⁷ Cash and Cash Equivalents defined as the sum of foreign deposits, checkable deposits and currency, time and savings deposits, money market fund shares and security repurchase agreements. As an alternative source, see The Carfang Group, as quoted in Harris, A. and N. Trentmann, "A USD 6 trn Wall of Cash Is Holding Firm as Fed Delays Rate Cuts," Bloomberg, 2024.

FIGURE 11
Cash and cash equivalents of major European listed firms, EUR bn



Source: Karwal, A., European Multinationals Hunt for Yield as Cash Balances Surge, EuroFinance, 2022.

have increased the incentives and urgency of the ROW to find alternatives, adding to the risks of US debt sustainability going forward.¹⁸

The search for alternatives to US safe assets is not easy. The capacity of a country to produce safe assets is determined by constraints in the financial sector, the level of financial development, the fiscal

The current and projected acute shortfall in the production of safe assets relative to global GDP, first and foremost, strengthens the dependency of the ROW on the US dollar and US safe assets.

capacity of the sovereign and the track record of the central bank for exchange rate and price stability. These are the reasons why, historically, the supply of safe assets has been concentrated in a few developed economies with the US being the most prominent one (Caballero, Farhi and Gourinchas, 2017).

This persistent short supply of safe assets has led to a steady rise in the prices of those assets and as a result, to a decline in real interest rates. Indeed, this has been the case since the 1980s (Obsfeldt et al. 2023).

¹⁸ Russia, for example, has developed its own payments card system as an alternative to Visa and Mastercard. It has also created a "financial transactions system" as an alternative to SWIFT from which it has been banned.

For illustrative purposes only. This page may contain information about companies, financial instruments or issuers but does not set out any direct or implied recommendation whatsoever (either general or personalised).

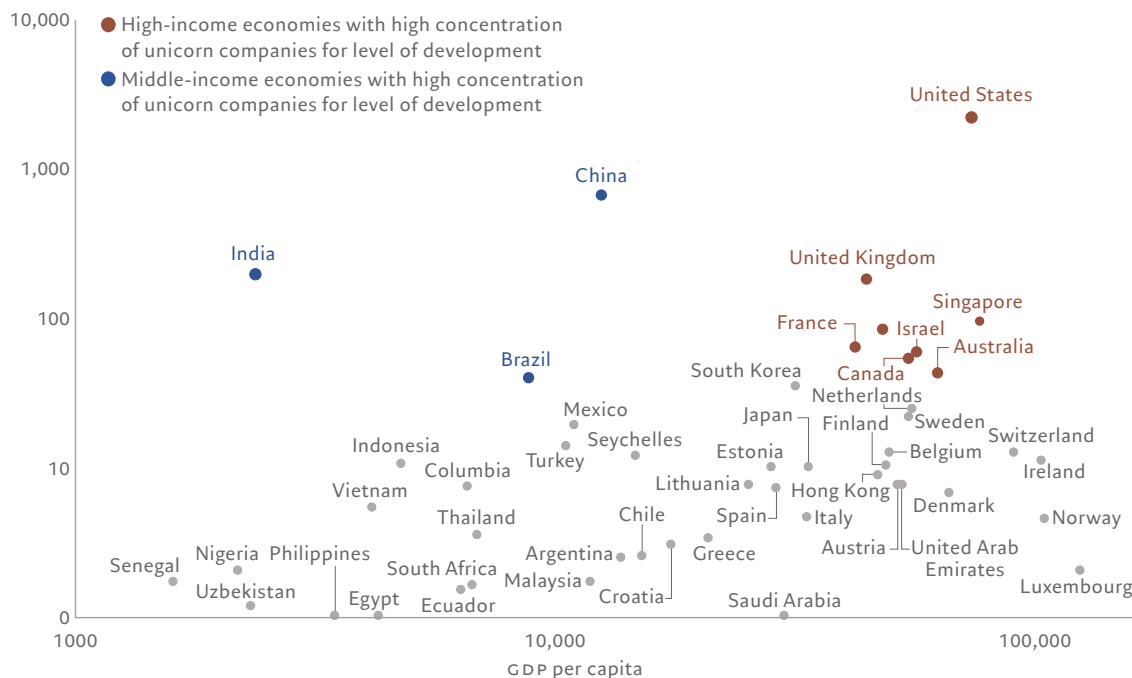
Comparing safe assets across issuers, Krishnamurthy and Vissing-Jorgensen (2012) demonstrate that investors pay about three times as high a premium for US Treasuries over other safe assets for their liquidity than they do for their safety. In other words, safe assets that are highly liquid command higher prices than safe assets with low liquidity. In that sense, while all governments that issue safe assets collect seigniorage, those seigniorage effects are much higher for US Treasuries given the depth of the market than for other safe assets. In the case of the US, Krishnamurthy and Vissing-Jorgensen (2012) estimate that the seigniorage effect is worth 0.25% of GDP per year or roughly USD65 bn. Using an interest rate of 3.5% to 5%, as assumed in the projections of the CBO, the benefits of the seigniorage effects for the US amount to about 8% to 12.5% of annual savings in interest payments.

The status of US Treasuries as the preeminent global safe store of value is the necessary determining factor for the sustainability of US debt under the current financial arrangement, especially as the US debt-to-GDP ratio is set to increase further over time. Two of the determinants of debt sustainability are therefore:

- a. Stable nominal values
i.e., low and stable inflation (price stability)
- b. Minimum credit risk
i.e., low political risk

Paradoxically, under the above conditions, further debt issuance increases the liquidity of US debt, which in turn increases the seigniorage benefits that the US government collects, all things being equal. Therefore, the US debt can continue to be sustainable so long as the US exhibits price stability, low political risk and the ability to cover all future interest and principal payments at reasonable taxation levels. How can the US ensure that the above conditions will remain in place?

FIGURE 12
Unicorn valuation by level of economic development 2023, USD bn, log scale



Source: Global Innovation Index 2023

TABLE 3
2023 innovation rankings of countries
overall and by innovation pillar

Country/Economy	Overall GII	Institutions	Human Capital and Research	Infra-structure	Market Sophistication	Business Sophistication	Knowledge and Technology outputs	Creative Outputs
Switzerland	1	2	6	4	7	5	1	1
Sweden	2	18	3	2	10	1	3	8
United States	3	16	12	25	1	2	2	12
United Kingdom	4	24	8	6	3	13	7	2
Singapore	5	1	2	8	6	3	10	18
Finland	6	3	5	1	12	4	4	16
Netherlands	7	6	13	14	15	8	8	9
Germany	8	22	4	23	14	16	9	7
Denmark	9	5	9	3	21	12	12	10
South Korea	10	32	1	11	23	9	11	5
France	11	27	17	22	9	17	16	6
China	12	43	22	27	13	20	6	14
Japan	13	21	18	13	8	11	13	25
Israel	14	40	20	36	11	6	5	33
Canada	15	14	10	30	4	18	19	22
Estonia	16	11	34	5	5	25	20	15
Hong Kong, China	17	8	15	9	2	28	51	3
Austria	18	13	11	12	39	19	17	13
Norway	19	4	19	7	29	22	28	23
Iceland	20	9	24	10	32	15	25	20

Source : Global Innovation Index 2023

4.2 BEYOND PRICE STABILITY, CREDIT RISK AND LIQUIDITY – WHAT ULTIMATELY MAKES A COUNTRY AN ATTRACTIVE PRODUCER OF SAFE ASSETS?

While price stability, zero credit risk and depth of markets are necessary conditions for the issuance of safe assets, they are not necessarily sufficient. A country should also have valuable collateral against which it issues its safe assets. By the same token, to continue issuing more debt that remains sustainable, it must have the ability to continue to create and realise attractive growth opportunities into the future. Put differently, investors need to know that the debt securities they are buying are effectively collateralised by adequate future tax

revenues and that raising these tax revenues will not be socially or economically destructive to the country and prove counterproductive to its growth prospects. To remain an attractive provider of safe assets the country must maintain sufficiently attractive growth dynamics and anchor expectations that these favourable growth dynamics will remain in place going forward.

To that effect, the US thus far has a credible track record as an attractive investment location. According to the Global Innovation Index 2023 report of the World Intellectual Property Organization, the United States ranks overall third in the world in 13 critical indicators considered by the index. The US is ranked first in the categories of corporate R&D investment,

The practice of expanding central banks' balance sheets to absorb increased public debt issuance has effectively rendered them the *marginal buyers* of their countries' public debt, as well as of other public or privately issued securities. Effectively, they no longer simply set the short-term interest rate as part of exercising monetary policy, but they also have a material influence on the rest of the yield curve as well as on the pricing of select other assets of interest (e.g., mortgages.) This expanded role of the major central banks has effectively blurred the lines between fiscal and monetary policy. It amounts to lowering the cost of debt issuance for their respective governments, and in the process, making higher debt levels more sustainable.

VC funding received, university quality, combined valuation of unicorn companies and the value of corporate intangible asset intensity.¹⁹ These are all crucial drivers in the ability of the US to generate innovation, create new companies and produce attractive risk-adjusted cash flows. However, there is no guarantee that these factors will always be in place. Their demise may set into question the sustainability of the US debt and its position in the world economic and political order.

Table 3 shows that the US ranks third overall in the world as a pillar of innovation behind Switzerland and Sweden. Consistent with our discussion about its leadership in financial markets, the US ranks first in terms of market sophistication. Furthermore, as Figure 12 shows, it is by far the top producer of unicorn companies – privately held startups valued at over USD1 bn.

4.3 THE AUXILIARY ROLE OF THE FED AND THE OTHER CENTRAL BANKS IN MAINTAINING THE EQUILIBRIUM

With the increase in the level of debt issued by the US government, we see increases in the size of the Fed's balance sheet. To mitigate the negative effects of the GFC and the Covid-19 pandemic, holdings of US debt by the Fed started rising during the GFC and have expanded over time due to quantitative easing. Other than a brief reduction in the balance sheet size prior to the pandemic, the Fed's holdings of US debt have increased significantly over time, accounting now for 17.5% of the total outstanding US debt.²⁰

The simultaneous increase in public debt holdings by the major central banks at least as a percentage of GDP has altered the way monetary policy is conducted as well as the role of central banking in public debt management. In particular, the practice of expanding central banks' balance sheets to absorb increased public debt issuance has effectively rendered them the *marginal buyers* of their countries' public debt, as well as of other public or privately issued securities. Effectively, they no longer simply set the short-term interest rate as part of exercising monetary policy, but they also have a material influence on the rest of the yield curve as well as on the pricing of select other assets of interest (e.g., mortgages.) This expanded role of the major central banks has effectively blurred the lines between fiscal and monetary policy. It amounts to lowering the cost of debt issuance for their respective governments, and in the process, making higher debt levels more sustainable.

We expect that central banks will continue to play a more important role in supporting the debt sustainability of their countries which, in the case of the US, also refers to the country's leadership as a producer of safe assets. While the Fed cannot by itself eliminate the risks inherent in the developing US debt dynamics, it can certainly marginally improve them and buy time, which under certain scenarios could have a material effect on the outcome.

¹⁹ <https://www.wipo.int/edocs/pubdocs/en/wipo-pub-2000-2023-en-main-report-global-innovation-index-2023-16th-edition.pdf>

²⁰ US Treasury holdings by the Fed are coming down relative to previous years due to Quantitative Tightening (QT). The practice of holding material amounts of debt in the Fed's balance sheet is not new. It also occurred during the Great Depression and WWII to accommodate increased needs of borrowing. At an international level, material balances in a central bank's balance sheet can also be observed in the case of the Bank of Japan well before the GFC where they fluctuated around the level of 30% of the country's GDP for a prolonged period.

While long-standing unintended intellectual property transfers from the US to China helped propel China to the status of a formidable technological global power, the current close competition between the US and China in this space is becoming almost existential. Without maintaining its leadership in producing innovation, unicorn companies, technology and ultimately highly attractive asset returns, the ability of the US to sustain its dominance as a producer of safe assets, support its expanding debt and budget deficits, and maintain its geopolitical heft will be seriously compromised. The competition between the US and China is therefore substantially economic with major strategic implications.

5. Maintaining the existing financial architecture

Should it wish to maintain the current world financial architecture, the US must:

- a. Maintain its technological leadership position, and
- b. Control its fiscal profligacy

We consider these challenges next. Neither is surprising nor insurmountable, but the severity of the challenges ahead should be noted.

5.1 THE NEED FOR THE US TO MAINTAIN GLOBAL PROMINENCE IN TECHNOLOGY AND INNOVATION

While long-standing unintended intellectual property transfers from the US to China helped propel China to the status of a formidable technological global power, the current close competition between the US and China in this space is becoming almost existential. Without maintaining its leadership in producing innovation, unicorn companies, technology and ultimately highly attractive asset returns, the ability of the US to sustain its dominance as a producer of safe assets, support its expanding debt and budget deficits, and maintain its geopolitical heft will be seriously compromised. The competition between the US and China is therefore substantially economic with major strategic implications. This is, in our view, the reason why both the Republican and Democratic parties are effectively advocating and supporting essentially the same China policies, something that is unlikely to change whoever occupies the White House in 2025.

An example of the determination of the US to regain its leadership in certain sectors, not only in the concept-creation segment but at the manufacturing level, can be found in the semiconductor industry. In fact, the competition for improved positioning

in the production of semiconductors is global, as *Table 4* shows with its lower and upper estimates. While many countries are competing for a better spot in the global rankings, in 2021 and 2022 the US has committed to a level of semiconductor investments that are at least seven times as large as those undertaken by China, Germany, or India.

These investments will not change the global supply of semiconductors overnight. As McKinsey's report suggests, a new semiconductor facility takes five years to build while the R&D development of related technologies typically take 10–15 years²¹. Given that the existing supply chains of semiconductors were built for a global market, their restructuring to be more localised, more autonomous, and more resilient to supply chain shocks can take many years to take effect. In the meantime, there is a real risk that the synchronised investment in local facilities across the world will lead to an oversupply of chips at a time when demand is cyclically falling. Although government-structured industrial strategies run the risk of creating inefficiencies and/or over-capacities, in the case of semiconductors, they can be justified as part of a broader economic and geopolitical objective.

The US thus appears to be aware of the need to retain technological leadership, and to that end is investing, though somewhat belatedly. It is along the fiscal dimension that the story is less optimistic.

5.2 THE FISCAL OUTLOOK OF THE UNITED STATES, AND THE SAFETY OF THE ASSETS IT ISSUES

Just as the US has experienced prolonged current account deficits, its long-term fiscal path entails an accelerating increase in aggregate indebtedness according to the CBO. The critical issue comes to servicing this debt going forward. *Figure 13* provides a historical perspective.

21 McKinsey (2024)

TABLE 4
New chip industry investment announced
in 2021 and 2022, USD bn

	Lower	Upper
China	22.833	22.833
France	5.700	5.700
Germany	26.109	26.161
India	22.500	22.500
Ireland	11.800	11.800
Italy	5.125	5.125
Japan	10.044	11.044
Malaysia	9.300	9.300
Singapore	9.000	9.000
South Korea	10.600	10.600
Taiwan	3.501	3.501
UK	0.100	0.100
USA	165.457	325.649
Vietnam	1.050	1.100
Total	303.119	464.413

Source: Compiled by Linda Christensen/
Semiconductor Engineering from company reports
<https://semiengineering.com/where-all-the-semiconductor-investments-are-going/#Country>

While by 2029 the level of the US public debt will reach its highest point since WWII, when WWII ended, the massive borrowing ended as well. Furthermore, in the decade of the 1950s, the average US real GDP growth was 4.4%. In the decade 2024–2033, the CBO forecasts a real US GDP growth rate of only 2%. The current projections for the US thus suggest massive borrowing into the indefinite future, partly as the result of subdued GDP and tax revenue growth.

The CBO also makes projections regarding the interest payments that will have to be made to service this debt. As *Figure 14* reveals, going forward, the total deficit is expected to grow, with the primary deficit stabilising at around 2.3% but interest payments increasing from 3% to 6.3%. For those calculations, the CBO assumes interest rates in the vicinity of 3%.

What is particularly worrisome, however, is that by 2028, interest expenses will represent over 60% of the federal deficit. Therefore, a possible tipping point for US debt sustainability, which may provoke a significant selloff in US debt instruments, could occur when additional borrowing goes mostly towards covering interest payments.

What's more is that this tipping point is bound to happen while much of the US budget is devoted to mandatory spending, as reflected in *Figure 15*, and the US is making significant investments to maintain its global competitiveness and advance its green transition. The risk of market turmoil originating from the US public debt markets could act as a headwind to the US's investment ambitions.

5.3 SPENDING CONSTRAINTS GOING FORWARD: DIFFICULTIES IN REDUCING THE DEFICIT

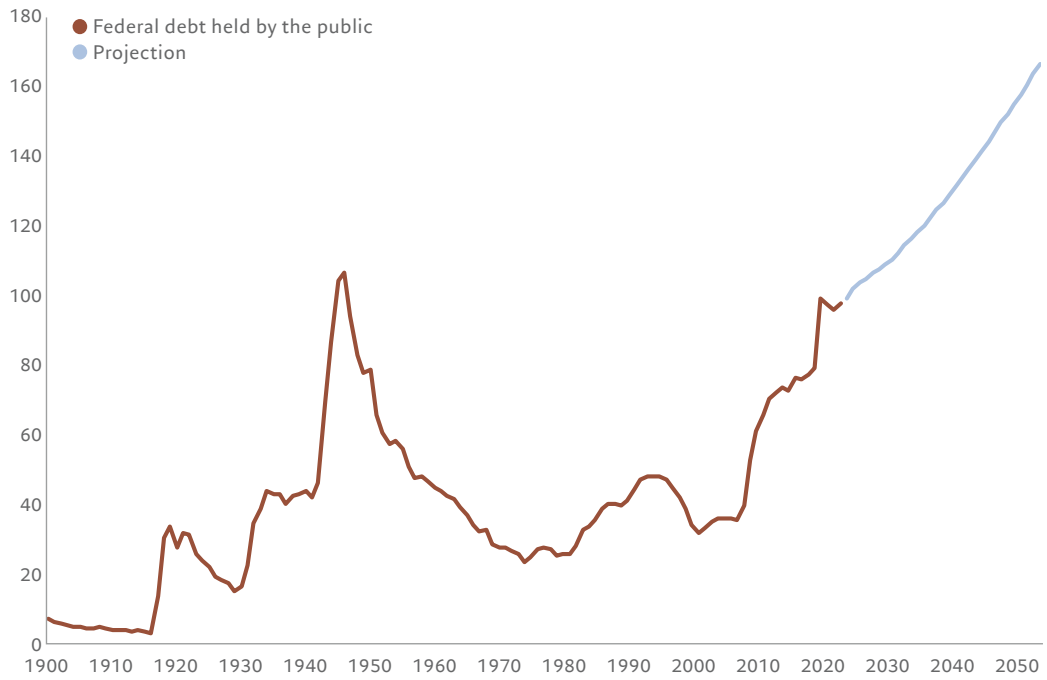
5.3.1 Environmental spending

The CBO baseline projections assume that programmes such as the Infrastructure Investment and Jobs Act (IIJA) enacted in 2021 to fund programmes related to transportation, the environment and other areas for each year from 2022 through 2026, continue following their expirations.²² Such programmes are part of discretionary spending.

McKinsey estimates in *Figure 16* that global annual investments for energy and land-use systems worldwide would need to be of the order of USD9.2 trn to achieve the NGFS net zero target.

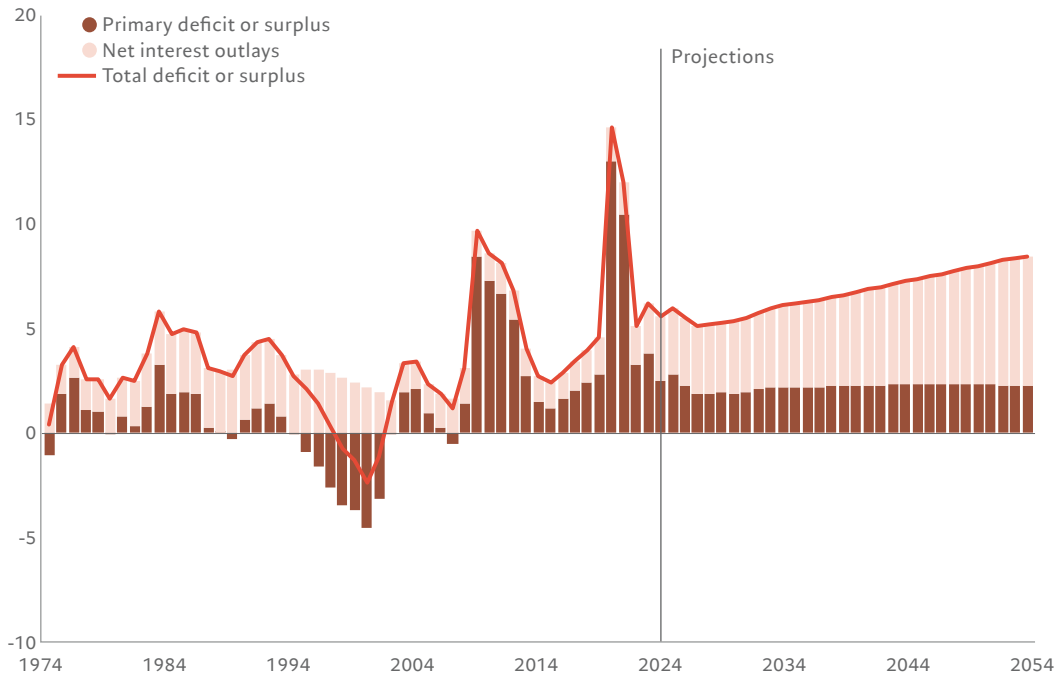
²² See, Congressional Budget Office, "Budgetary Outcomes Under Alternative Assumptions About Spending and Revenues", May 2024.

FIGURE 13
Federal debt held by the public,
percentage of Gross Domestic Product, %



Sources: "The 2021 Long-Term Budget Outlook; The 2023 Long-Term Budget Outlook,"
Congressional Budget Office, 28 June 2023

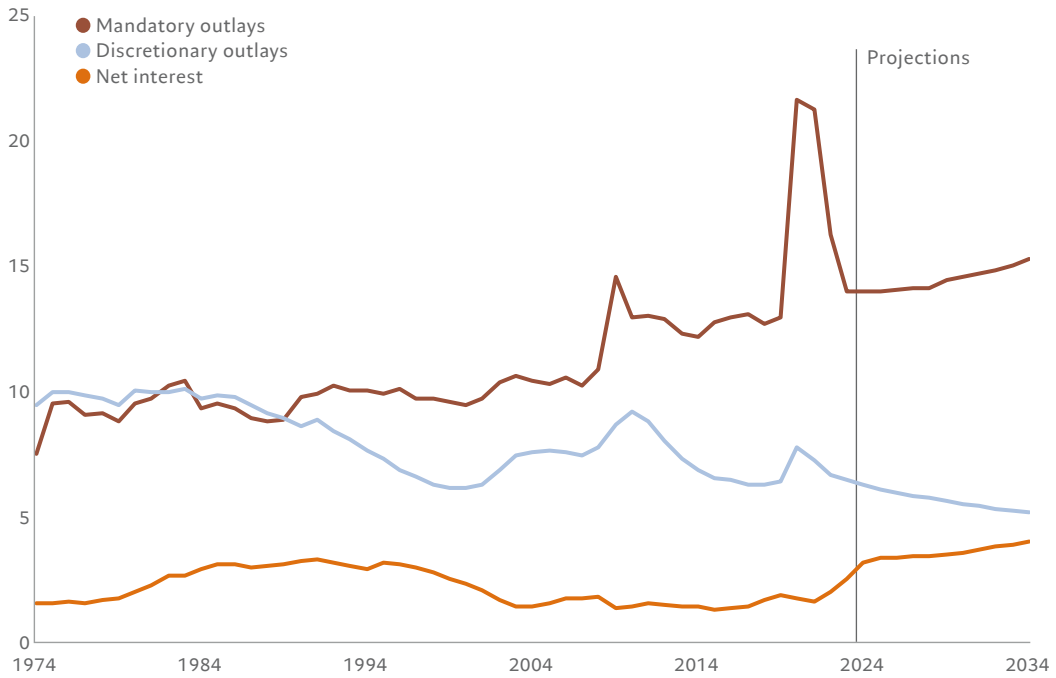
FIGURE 14
Sources of the US deficit as percent of GDP, %



Sources: CBO: the Budget and Economic Outlook: 2024–2054

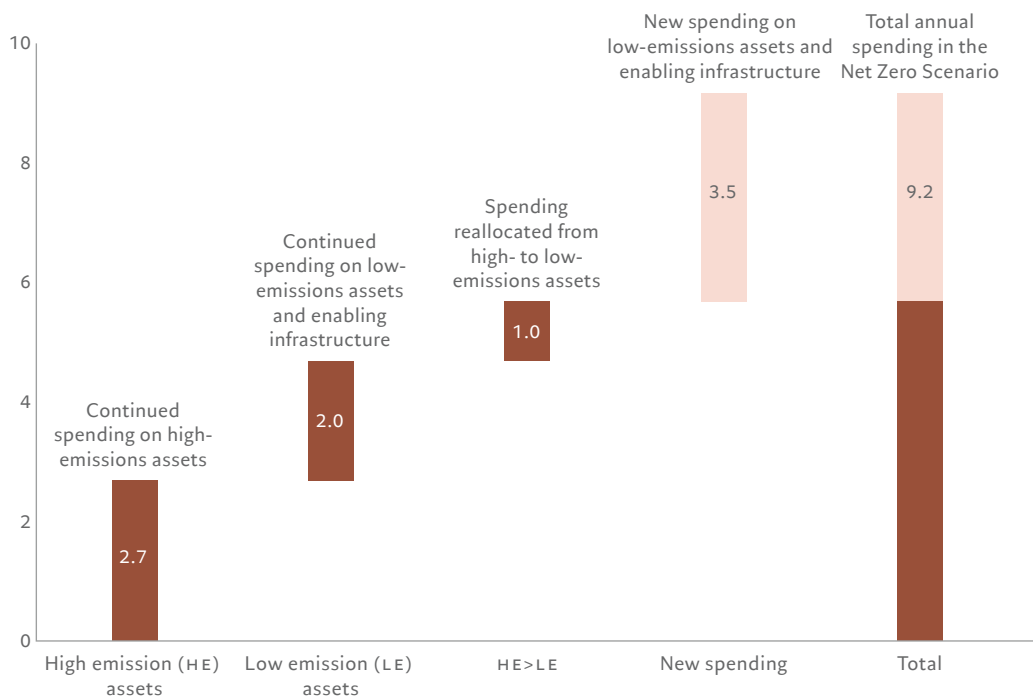
Forecasts or projections are not reliable indicators or guarantees of future results, therefore there can be no assurance that these results will be achieved.

FIGURE 15
US budget allocations as a percentage of GDP, %



Source: CBO: the Budget and Economic Outlook: 2024–2034

FIGURE 16
Projected annual spending on physical assets for energy and land-use systems in the NCFs Net Zero 2050 scenario, USD trn



Source: McKinsey and Company; McKinsey Global Institute; Krishnan, M., and J. Woetzel, "Infrastructure for a Net-Zero Economy: Transformation Ahead," 2022.

Forecasts or projections are not reliable indicators or guarantees of future results, therefore there can be no assurance that these results will be achieved.

The percentage of this worldwide expense that the US could be expected to pay is in the range of USD1.24 trn to USD1.84 trn depending on whether the obligation is proportional to its current CO₂ emissions level as a proportion of current total emissions (13.5%) or its cumulative level of emissions as a proportion of total cumulative emissions (20%). It is doubtful whether this level of spending will be able to be covered by the projected allocations of the existing programmes or other discretionary items, especially as discretionary spending is expected to shrink over time in the CBO projections, at the expense of mandatory spending which is set to grow. To address the green transition, Congress would need to approve further spending, adding to the budget deficits and debt level. The alternative would be drastic and painful spending and tax reforms. We consider these matters in the sections that follow.

A possible tipping point for US debt sustainability, which may provoke a significant selloff in US debt instruments, could occur when additional borrowing goes mostly towards covering interest payments.

5.3.2. Parsing through the US budget

Figure 17 shows that most of the federal budget goes towards social spending, largely to support lower income earners. Indeed, 61% of the US budget is devoted to Social Security, Medicare, Medicaid, income security programmes and miscellaneous other social programmes. All these programmes are part of the mandatory spending of the US budget, leaving only 39% for defence, non-defence discretionary spending, and net interest payments.

5.3.2.1 Mandatory spending

The Pension Rights Center reports that as of 2022, which corresponds to the latest data available, the median income of people 65 and older is only USD29,740. Furthermore, the National Institute of Retirement Security has estimated that as many as 40.2% of retired Americans rely exclusively on Social Security income. It is therefore reasonable to assume that this mandatory federal spending is largely inelastic and cannot be reduced without causing major social consequences. The same is true for Medicare – which provides health insurance for

people 65 or older; Medicaid – the country’s public health insurance plan for low-income people; and income security programmes – the federal budget dedicated to federal employee retirement, disability insurance, unemployment compensation, housing assistance and nutrition assistance. Given the level of income inequality in the US, it follows that any reduction in federal spending in the future would need to come from either discretionary spending or by increasing taxes. Both those avenues would be problematic.

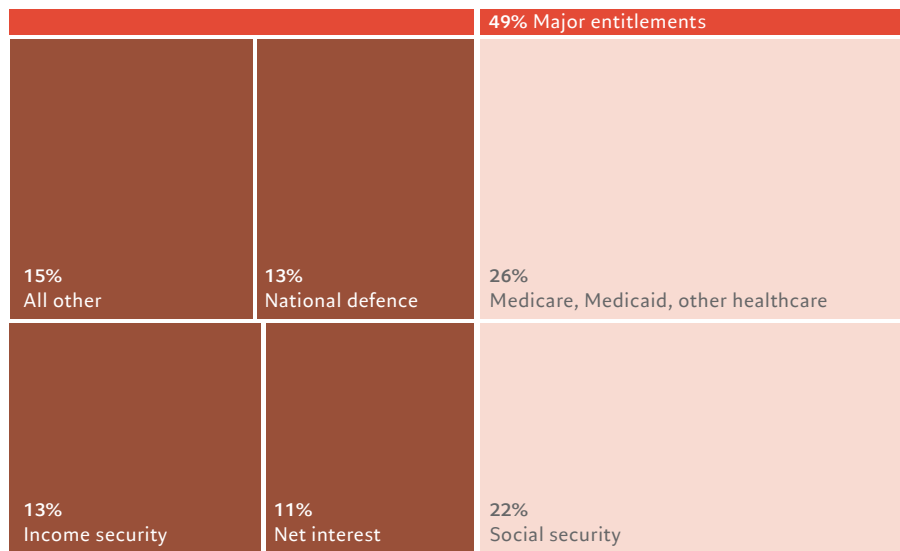
5.3.2.2 Discretionary spending

Defence spending accounts for roughly half of the discretionary spending while the rest funds various federal programmes and activities, many of them related to research and investment which are of crucial importance for the future economic growth dynamics of the US economy. As such, decreasing discretionary spending is not advisable, if the US is to maintain its leadership role in the global geopolitical and economic order.

A. Defence

Despite the current US military strength, in the face of increased geopolitical tensions, defence spending may need to increase if the US is to continue simultaneously supporting Ukraine, Israel and Taiwan. The CBO projects an increase in defence spending of only 1% for the next four years under the President’s budget projections. The USD100 bn grant to Ukraine, Israel and Taiwan had to be financed via a special appropriation as there is no elasticity in the defence budget. Cancian (2023) demonstrates that the United States stockpile in air-defence missiles, ground-launched precision munitions and air-launched precision munitions is extremely limited and certainly not sufficient to support an active war on all three fronts. If these conflicts are to continue with the support of the US, the federal government will need to expand investments in the defence support industries. Such a development would put further pressure on the US budget.

FIGURE 17
Spending categories as a share of the 2023–2024 US budget



Sources: United States OMB

B. Research, investments and green transition

Following the Covid-19 pandemic and the ongoing wars in Ukraine and Israel, the US Administration has focused on strengthening the industrial base of the US to render it more independent from potentially adversarial or unreliable suppliers. In that context, we have seen efforts for onshoring and nearshoring parts of production chains that can be moved back to the US or Mexico, as well as a wave of federal subsidies that aim to provide incentives for the development of local industries.

Examples of legislation to that effect are the CHIPS Act, the Infrastructure Investment and Jobs Act, and the Inflation Reduction Act. While the CHIPS Act focuses on promoting the semiconductor industry, the other two aim to support the green transition by building up the domestic manufacturing of solar panels, batteries, etc. Despite the well-intentioned goals of these

40.2% of retired Americans rely exclusively on Social Security income

subsidies, they will all but certainly lead to an increase in budget deficits and threaten the medium-term sustainability of the US debt. What's more, given the projections of the CBO, and the shrinkage of discretionary spending expected, it is doubtful whether all these initiatives will materialise without other drastic changes. One of them would be on the taxation front, the topic of our next section.

5.4. CAN INCREASED TAXATION SOLVE THE UNITED STATES' BUDGET DEFICITS WOES?

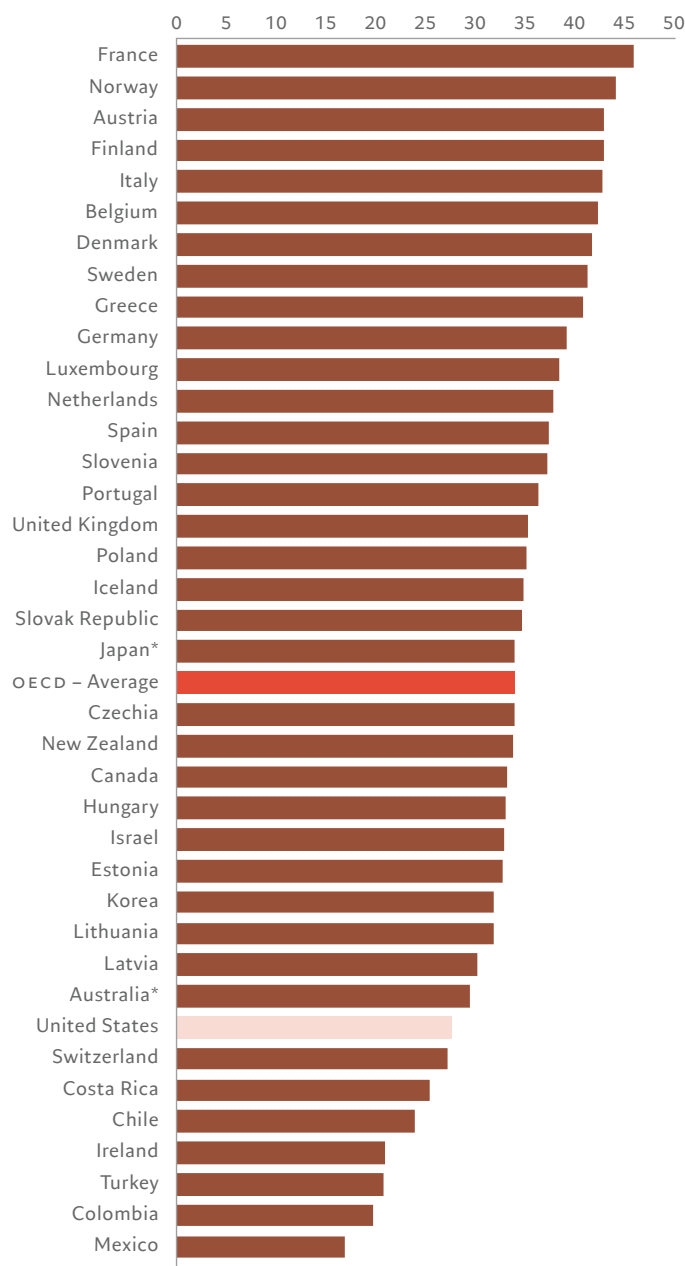
The evidence so far points to the direction of likely increases in US taxation to address the pressing funding shortages of the federal government.

When viewed on a global scale, US taxes appear moderate relative to those of the rest of the OECD countries, as *Figure 18* reveals. The US ranks 31st out of 38 OECD countries, collecting 27.66% of GDP in taxes compared to 34.04% on average in the OECD. However, this graph masks the idiosyncrasies of the US tax system. Furthermore, tax increases alone cannot bridge the budget gap, as we will show later in this section. The budget deficits, therefore, will continue to persist, adding pressure to the US debt dynamics and sustainability.

Despite the low total taxes paid in the US as a share of GDP compared to the OECD, the US federal tax code is the most progressive one (Riedl (2018)). *Figure 19* shows that the bottom 50% of income earners in the US pay essentially no income taxes, although they do pay payroll taxes. In addition, the top 1% of income earners pay close to 46% of total income taxes, whereas the top 10% pay 75.7% of all income taxes that the federal government receives.

Income taxes constitute the main source of federal revenue at close to 50%, with payroll taxes representing another 36% of revenue as *Figure 20* reveals. *Figure 21* compares the tax revenue breakdown for the US with that of the G7 economies for 2021, the last year for which the OECD has harmonised data across countries available. In 2021, corporate taxes in the US accounted for 6.1% of federal revenue, compared to 8.2% in the G7. The

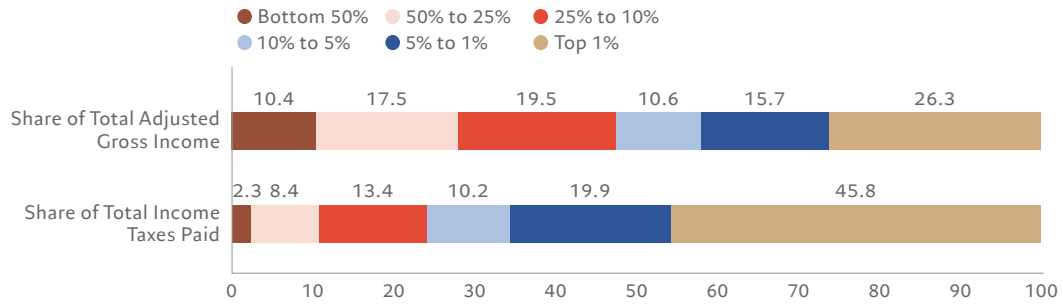
FIGURE 18
Total taxes paid as a percentage of GDP, %



*Data relate to 2022 except for Australia and Japan where 2021 data is used

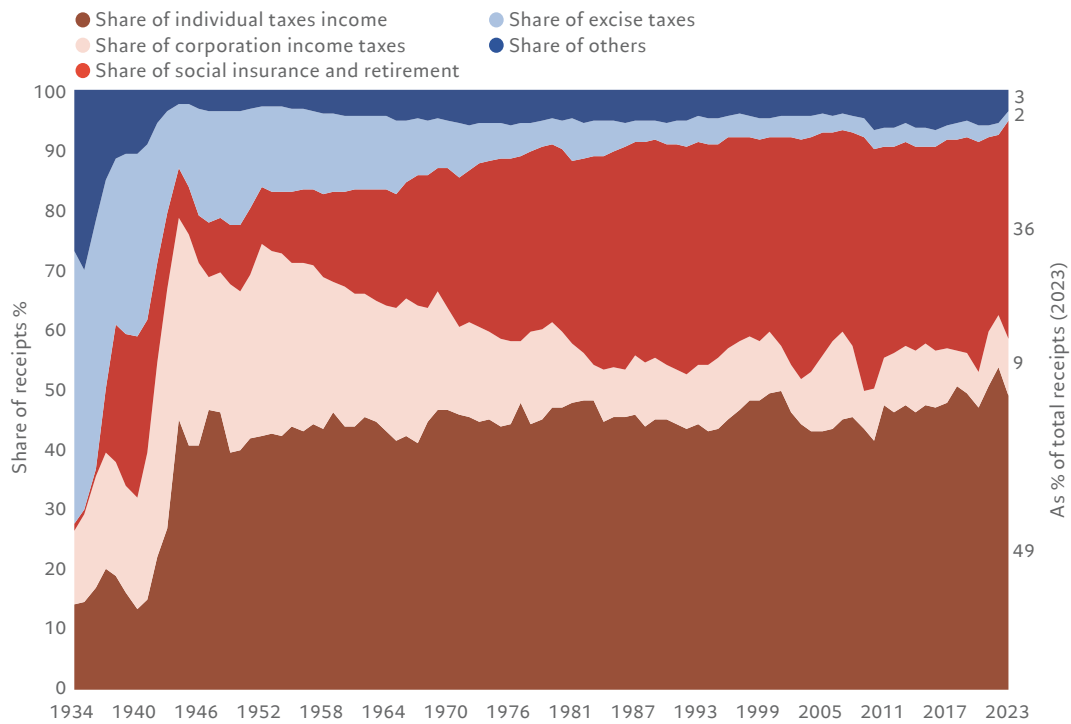
Sources: OECD, Center for Tax Policy and Administration, tax-to-GDP ratio compared to the OECD, 2022.

FIGURE 19
Share of adjusted gross income and federal income taxes paid by income group in 2021, %



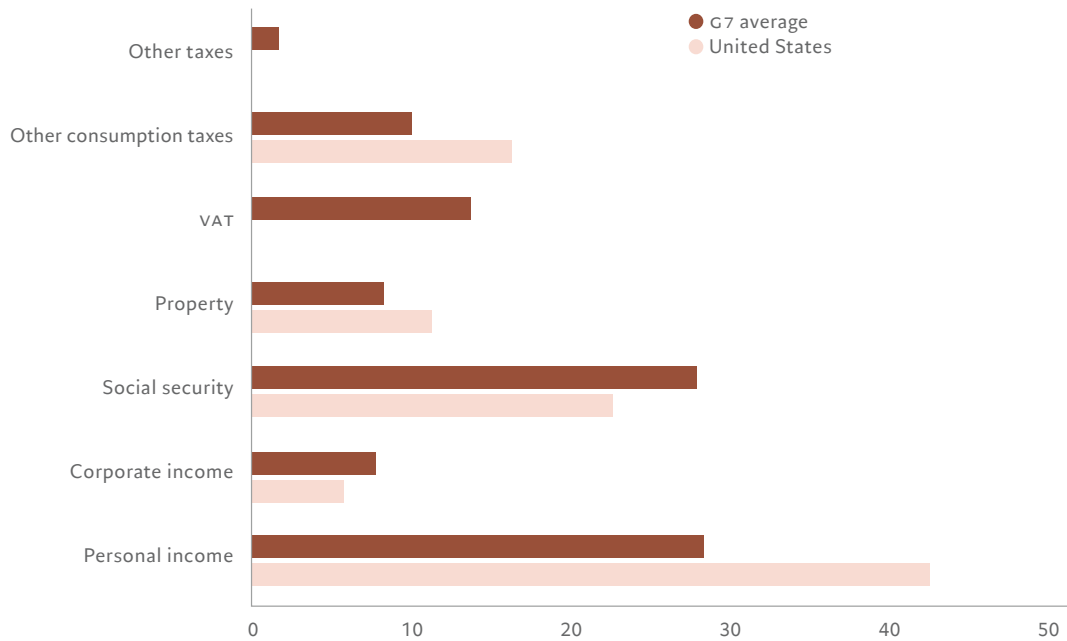
Sources: IRS, "SOI tax stats – individual statistical tables by tax rate and income percentile," as presented in: York, Erica, "Summary of the Latest Federal Income Tax Data, 2024 Update," Tax Foundation, 13 March 2024

FIGURE 20
Source of federal revenue fiscal year 1934-2023



Source: Office of Management and Budget (OMB), Historical Tables, Tables 2.1 "Receipts by Source: 1934-2029"

FIGURE 21
Share of major taxes in total tax revenues, %



Source: OECD (2023).
Revenue Statistics 2023: Tax Revenue Buoyancy in OECD Countries.
Table 1. Data refer to 2021.

reason for lower revenue share of corporate taxes in the US has to do with the fact that the tax base in the US is narrower than in the G7 countries with significant business activity not subject to corporate tax in the US, such as partnerships and subchapter S corporations.²³ Otherwise, among the 225 jurisdictions surveyed in 2023 by the Tax Foundation, the US ranks the 84th highest in terms of corporate tax rate with a combined federal and state statutory rate of 25.77%, compared to the average of 22.27% for all 225 jurisdictions. Again, it is not that the corporate tax rate in the US is exceptionally low but that the tax base is rather narrow.

Raising taxes on the top earners and corporations to pay for social spending and close the budget deficit is a popular argument among American politicians and commentators. There is also broad consensus that the 2017 tax cuts should be preserved for the bottom 98% of earners. However, raising taxes on corporations and the top 2% of income earners, even if done aggressively, will only increase federal revenues by 1.5% to 2% of GDP as Riedl (2023) shows – an increase which is insufficient to close budget gaps of the order of 6% of GDP. His report also shows that Europe’s significantly higher tax revenues are driven by broad-based payroll and consumption taxes rather than particularly higher taxes for the

²³ For more details, please see “Key Elements of the US Tax System”, Tax Policy Center, January 2024.

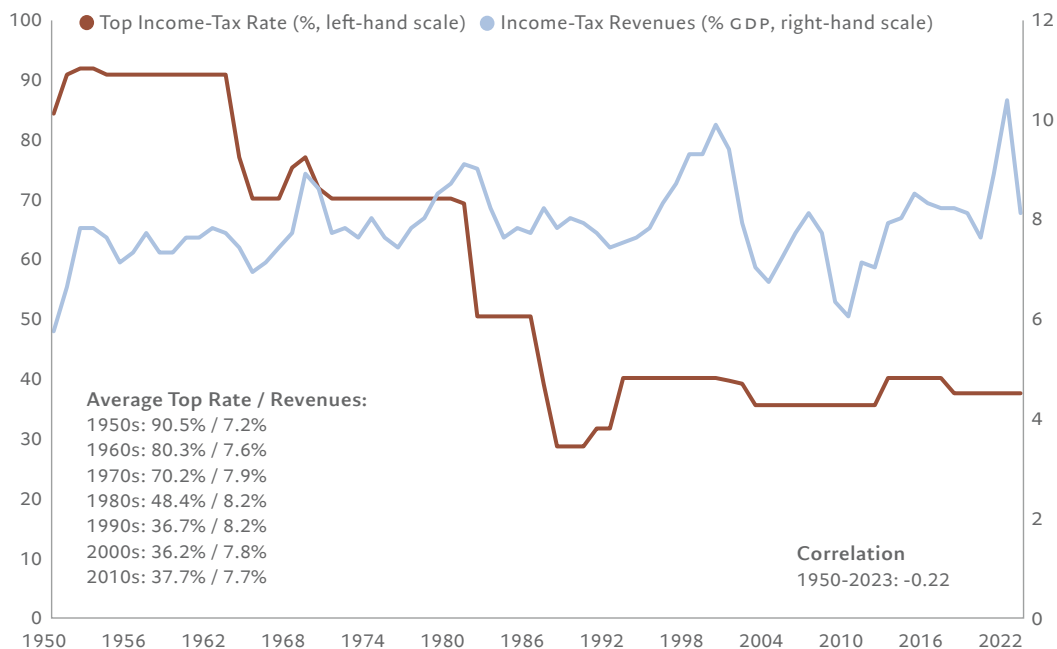
very wealthy. In fact, the corporate, capital gains and estate-tax rates in the US are higher than those in most of Europe and the OECD, while the US's top income brackets are within the range of those of other major economies.

For a breakdown of the total federal tax revenues in the US relative to the G7 countries, see *Figure 21*. It reveals that most US federal tax revenues come from personal income taxes, most of which are paid by the highest income earners. In contrast, G7 countries derive about 14% of their tax revenues from value-added tax (VAT), a category of taxation that does not exist in the US.

If compared to the OECD universe, the average OECD country raises 7.2% of GDP from VAT which accounts for 96% of the tax revenue gap between the US and OECD. Once VAT revenues are excluded, Riedl (2023) estimates that OECD countries raise 26.9% of GDP in taxes compared to the 26.6% raised in the US.

VAT is unpopular in the US because it is a regressive tax that affects the entire population, including the low-income earners. The US tax system has been highly progressive for historical reasons dating back to the Tea Party rebellion.

FIGURE 22
Income tax revenues and average top rate
(1950–2023)

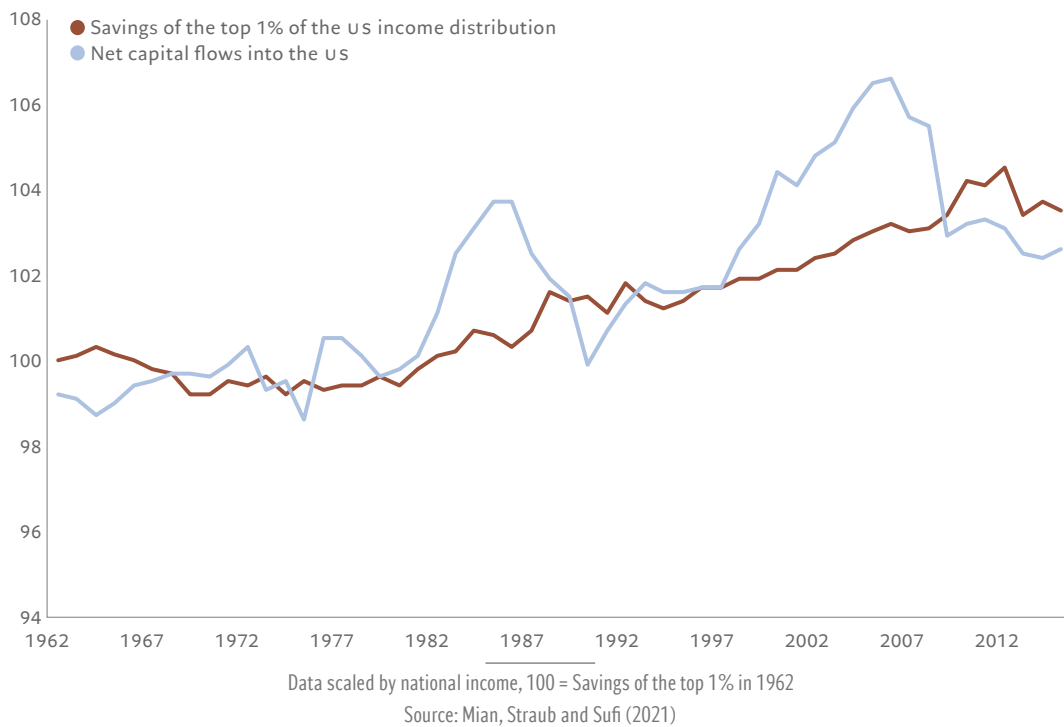


Source: OMB Historical Table 2.3, and Tax Policy Center – Historical Highest Marginal Income Tax Rates, and U.S Treasury SOI Tax Stats – Historical Table 23

The weaponisation of the US dollar for diplomatic purposes and the implementation of sanctions towards unfriendly countries and individuals do not necessarily serve the fiscal interests of the US in the medium term.

Regarding its fiscal outlook, the United States is in a bind. The best bet for the country to escape the persistent negative budget deficits is to increase its productivity and therefore growth rate. This was also the way the US reduced its debt-to-GDP burden after WWII. The emphasis on the semiconductor industry, AI advancements and innovation more broadly may hold the key to the US having a chance to put its fiscal house in order without significant political conflict.

FIGURE 23
US domestic rich and foreigners are equally big savers



Closing the gap through further taxation of corporations and the very rich is not feasible without having a negative effect on economic activity and investment. Indeed, *Figure 22* shows that federal income-tax revenue as a percentage of GDP has remained relatively constant over time, even as the top income-tax rate has declined significantly over time. In fact, the correlation between revenue raised and top income-tax rate is slightly negative. Tax revenues as a percentage of GDP were close to 7.2% when the top tax rate was 90.5% in the 1950s compared to around 9.5% now with a top tax rate of 37%.

Top income earners in the US are also the ones who do all the savings. Recent work by Mian et al. (2021) notes that the savings of the top 1% of the income distribution are almost equal to the net capital inflows into the US as *Figure 23* shows. This is also roughly equal to the US current account deficit.

It is thus likely that any particularly large increases in income taxes or the initiation of a wealth tax on these high net wealth households will negatively impact the overall savings ratio of the US and may be counterproductive.

Regarding its fiscal outlook, the United States is in a bind. The best bet for the country to escape the persistent negative budget deficits is to increase its productivity and therefore growth rate. This was also the way the US reduced its debt-to-GDP burden after WWII. The emphasis on the semiconductor industry, AI advancements and innovation more

broadly may hold the key to the US having a chance to put its fiscal house in order without significant political conflict.

An alternative approach would be for the US to introduce a consumption tax along the lines of the European VAT. Such a tax would hit low-income earners harder and increase disposable income inequality within the country – an undesirable and potentially politically toxic outcome.

5.5 WEAPONISATION OF THE DOLLAR AND ITS RISKS

Innovation and productivity growth take time to materialise and pay dividends. In the meantime, the US must wrestle with the risks of its fiscal situation and if, possible, buy time. The weaponisation of the US dollar for diplomatic purposes and the implementation of sanctions towards unfriendly countries and individuals do not necessarily serve the fiscal interests of the US in the medium term.

The continued dominance of the US dollar in global transactions indirectly guarantees the sustainability of US debt by rendering US Treasuries the quintessential safe assets of the global financial system. Weaponising their use can hasten efforts by various countries to wean themselves from the use of the US dollar for their international transactions, precipitating a potential US debt crisis. A relatively recent example of weaponising the US dollar is the Biden Administration's decision to freeze Russia's access to USD300 bn in liquid foreign exchange reserves in retaliation for invading Ukraine in February 2022.²⁴ These actions are not going unnoticed by the world community, with coalitions of countries such as the BRICS actively working on an alternative payment system. Even the European Union has expressed a desire to eventually break free of the US dollar's dominance by developing a euro-based payments system.

While the demise of the US dollar has been predicted many times in the past several decades, recent geopolitical developments may accelerate work on an alternative. Such efforts may be further facilitated by the development of digital currencies and other digital technologies. The use of the US dollar as a negotiating lever for political purposes may therefore ultimately work against the long-term political interests of the US. In the context of the present discussion here, it is certainly not helpful for the long-term sustainability of the US debt and should be avoided.

From a historical perspective, no other currency in the past two hundred years has remained a reserve currency for as long as the US dollar has (Vicquery 2021). Even in the case of the pound sterling, while it was the dominant international currency between WWI and WWII and briefly after WWII, its dominance was often challenged by other competing currencies such as the French franc, the Deutsche mark or gold. In fact, before the US dollar came to dominate global financial transactions, the world was for the most part characterised by a multipolar system. This setup may well return. In fact, we view it as the most likely scenario going forward. Chitu, Eichengreen and Mehl (2012) show that economic stagnation and decline in its relative global economic importance was the most important factor that led to the sterling's loss of dominance as a reserve currency. On the other hand, financial deepening was the factor that led to an increased share of US dollar in the global public debt markets.

With increased polarisation, we may see a bigger shift in central banks and other entities towards diversifying their currency holdings away from the US dollar. In addition, weaponisation of the US dollar may prompt currency areas such as the euro area or political alliances such as the BRICS to deepen their financial markets. Common debt issuance in the euro area and a move towards fiscal

24 Robert H. Wade, "The beginning of the end for the US dollar's global dominance", 29 February 2024. <https://blogs.lse.ac.uk/internationaldevelopment/2024/02/29/long-read-the-beginning-of-the-end-for-the-us-dollars-global-dominance/#:~:text=The%20US%20took%20weaponization%20to,of%20Ukraine%20in%20February%202022.>

union would all but certainly boost the prominence of the euro, other things being equal. Successful central bank digital currencies may capture part of the global currency demand, and a proxy for a basket of BRICS Plus currencies may replace the US dollar in some international transactions. Such developments would reduce the seigniorage benefits of the US dollar, which are substantial, but they are unlikely to fully replace its use. The main reason has to do with the depth of the US dollar market, which would be difficult to be replicated by other competing currencies, at least in the near future. The most likely scenario, in our view, is a return to a multipolar world where the US dollar remains a reserve currency but its share in global reserves decreases in favour of alternatives.

What is ultimately important for the US economy and its currency is for it to remain a leading value creator across a wide range of key sectors. If that is maintained, the US will remain a trusted producer of assets, whether they are fixed income or equity in nature. A loss of some of its seigniorage benefits may also induce the US to balance its persistent deficits and focus on further improving the resilience of its economy.

While the loss of some of the US dollar's prominence may seem, on first impression, as a short-term negative development for the US, it can carry benefits as well, if managed appropriately. What is ultimately important for the US economy and its currency is for it to remain a leading value creator across a wide range of key sectors. If that is maintained, the US will remain a trusted producer of assets, whether they are fixed income or equity in nature. A loss of some of its seigniorage benefits may also induce the US to balance its persistent deficits and focus on further improving the resilience of its economy.

6. Scenarios that could lead to a US debt crisis

As alluded earlier, an initial tipping point for the US debt may come when the interest servicing costs start dominating the budget deficit, leading to increased borrowing needs, primarily for interest payment purposes. Initial signs of such a tipping point may be low bid-to-cover ratios on long-dated US Treasury auctions that tail, and lower allocations to non-direct and direct buyers. Gauging the evolution of US Treasury auctions can provide useful information about the market's perception of the continued safety and attractiveness of US-issued public debt assets.

For the interest payments to start dominating the US budget deficits, interest rates must remain relatively high. The CBO projections assume 10yr US Treasury rates between 4% and 4.6% between now and 2054 and an average interest rate by all federal debt held by the public between 2.5% and 3.8%. Underlying these assumptions is an inflation rate that returns to the Fed's target of 2%. In addition, there is an assumed increased term premium due to the rising US debt levels.

SCENARIO 1	SCENARIO 2
<p>CBO baseline: net interest outlays account for more than 60% of US budget deficit.</p> <p>This is the baseline scenario of the CBO and can transpire as soon as 2027. At that point, we may see reduced interest in US Treasuries auctions, which would lead to higher yields and a decreased value of the US dollar.</p> <p>Caveat: The above also depends on what happens in the ROW. If debt levels in the ROW are also rising, inflation outside the US stays higher, or non-US financial markets have not deepened, the demand for US Treasuries may continue to be robust, supporting the sustainability of US debt.</p>	<p>Inflation remains persistently above 2%.</p> <p>This may happen either because of external shocks, such as the type we experienced during the Covid-19 pandemic or because the Fed cuts interest rates prematurely.</p> <p>In either case, nominal interest rates will rise, but the value of the US dollar will ultimately decline, reducing the safety and desirability of US public debt.</p> <p>Caveat: In the case of a global shock of the type experienced during the pandemic, inflation may be high everywhere. In that case, while yields may remain high or rise further, the value of the US dollar may not decline, and US public debt may still be viewed as a desirable store of value.</p>

For discussion and illustrative purposes only. There is no assurance that any scenario depicted or described above will ultimately materialize.

SCENARIO 3

Heightened geopolitical conflicts lead to a global inflation shock.

Wars and other elevated geopolitical tensions that restrict the movement of goods, disrupt supply chains or lead to increased sanctions are generally inflationary. In such an environment, interest rates will likely rise. The effect on the US dollar will depend on the nature of the geopolitical conflict and the resulting alliances. If the US prevails, the US dollar will strengthen, supporting the sustainability of the US debt. If the international geopolitical and economic position of the US diminishes, the US dollar will weaken, the US will lose much to all its seigniorage benefits and the US debt will quickly become unsustainable.

Caveat: Wars and conflicts tend to lead to increased borrowing by the countries involved. Access to borrowing provides a large advantage in prosecuting wars as shown in Pflueger and Yared (2024). Depending on the situation and the alliances formed, the US may or may not be on the receiving

end of additional funding. Historically, war victors have had superior access to capital markets. A prime example of this phenomenon occurred in the Napoleonic wars. Britain had a lower GDP than France and a much lower population but much better access to the capital markets. This allowed it to finance not only its own war participation but also that of Prussia. Britain was also able to finance its WWI expenditures including extending loans to France without having to resort to inflating away its debt. Germany did this with ultimately disastrous consequences. While this issue is just beginning to be studied, should any significant military operation be necessary for the United States, history suggests that surplus borrowing capacity would be useful. Whether the demand would be there will be determined by the nature of the conflict and the alliance that the US would be able to form. A prevailing US in a military conflict would see the US dollar strengthen, supporting the sustainability of the US debt. The reverse could also occur.

SCENARIO 4

The US loses its leadership role as a producer of innovation and technology.

In this case, the US will become a less attractive destination of capital flows, economic growth will decrease, inflation is likely to increase, the value of the US dollar will trend lower and the US debt will quickly become unsustainable. This is exactly the reason why the competition between the US and China is existential and economic for the US.

SCENARIO 5

The US real growth rate accelerates to well above 2% due to major productivity gains.

In such a scenario, wages are likely to rise faster, consumer demand will increase and inflation may accelerate. This will lead to higher yields, and a stronger US dollar. The higher real GDP growth will help lower the debt-to-GDP ratio, if the difference between the higher real GDP growth and the higher interest rates servicing costs is positive.

For discussion and illustrative purposes only. There is no assurance that any scenario depicted or described above will ultimately materialize.

A more likely outcome would be the eventual transition to a multipolar arrangement whereby the US dollar maintains a role as a reference currency, but instead of accounting for 46% of global reserves and 90% of global transactions, those percentages fall somewhere closer to 30% of reserves and 40–50% of global transactions. This would be a preferable arrangement, both for the US and the ROW.

7. Investment implications and conclusions

The US debt dynamics are on a dangerous path that could quickly challenge its sustainability going forward. The more immediate tipping point, other things being equal, is the growth in the interest servicing costs to a level that accounts for more than half of the federal budget deficit. This may happen as soon as in the next five years, when debt servicing outlays will rise to over 60% of the deficit. The implication would be higher yields, a weaker US dollar and potentially a bond rout that can lead to an increase in defaults of entities heavily invested in US Treasuries, such as insurance firms, public pension plans or other financial institutions.

While the above outcome may be the central scenario under the current CBO baseline debt and deficits projections, there are many other developments that may increase or decrease the sustainability of the US debt. We identify the following:

- a. The ability of other countries or alliances to develop deep financial markets that would challenge the dominance of the US public debt market,
- b. Geopolitical developments that would strengthen or weaken the relative position of the US in the global economic and geopolitical order, and
- c. The ability of the US to remain a dominant creator of innovation and technology, strengthening its real GDP growth and its ability to sustain a higher level of debt.

Our earlier discussion suggests that under most scenarios, yields may rise and fragilities in the public debt markets may indicate the beginning of a potential bond tsunami that could lead to a global recession. However, under several scenarios, higher yields do not automatically mean a weaker US dollar, due to the preferential status of the US dollar in the global financial architecture.

Therefore, to a large extent, the ability of the US to sustain its debt is intricately related to its ability to preserve its position as the supreme global provider of safe assets.

Recent geopolitical developments and the partial reversal of globalisation suggest that the underlying forces are not friendly to a continued dominance of the US dollar, despite the necessity of its use under the current global financial architecture. Nevertheless, we view its complete demise as unlikely in the immediate future, barring any catastrophic extreme development. A more likely outcome would be the eventual transition to a multipolar arrangement whereby the US dollar maintains a role as a reference currency, but instead of accounting for 46% of global reserves and 90% of global transactions, those percentages fall somewhere closer to 30% of reserves and 40–50% of global transactions. This would be a preferable arrangement, both for the US and the ROW. The current equilibrium has led to exacerbated global imbalances with several undesirable consequences, including underinvestment in surplus-generating countries, increased income inequality, economic fragilities and US fiscal excesses.

The future is very uncertain, as always. The markets are likely to remain vigilant about public debt, experiencing volatility episodes, elevated yield levels and higher exchange rate movements. The current global financial arrangement that has been sustaining and encouraging the accumulation of US debt is becoming increasingly unstable and fragile. Geopolitical developments and deglobalisation further threaten its stability. These evolving conditions should inform asset management practices and risk taking accordingly.

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