

Yuan and the dollar crisis: battle for currency domination or phony war?

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Draft of paper for the Max Fry Memorial Lecture in International Finance, Birmingham University, October 13th, 2021.

Comments welcome.

The title of this paper is a reference to an influential book written by Robert Triffin entitled “Gold and the dollar crisis” published in 1960. This started a debate about the so called “international liquidity” problem which dominated international monetary economics in the 1960s. By the end of the 1960s, the world community had invented a new instrument, the Special Drawing Right (SDR) which was intended to replace the US dollar as the “principal reserve asset of the international monetary system”. But this outcome did not happen, and the dollar continued its dominant role until the present day. A new challenge to the US dollar has arisen in the past decade or so with the rapid growth of China as a major player in international trade, and with an economy whose overall size may exceed that of the US in the next decade. This has caused some to question whether the dominant role of the USD can survive and whether it may be replaced by China’s currency in the international monetary system.

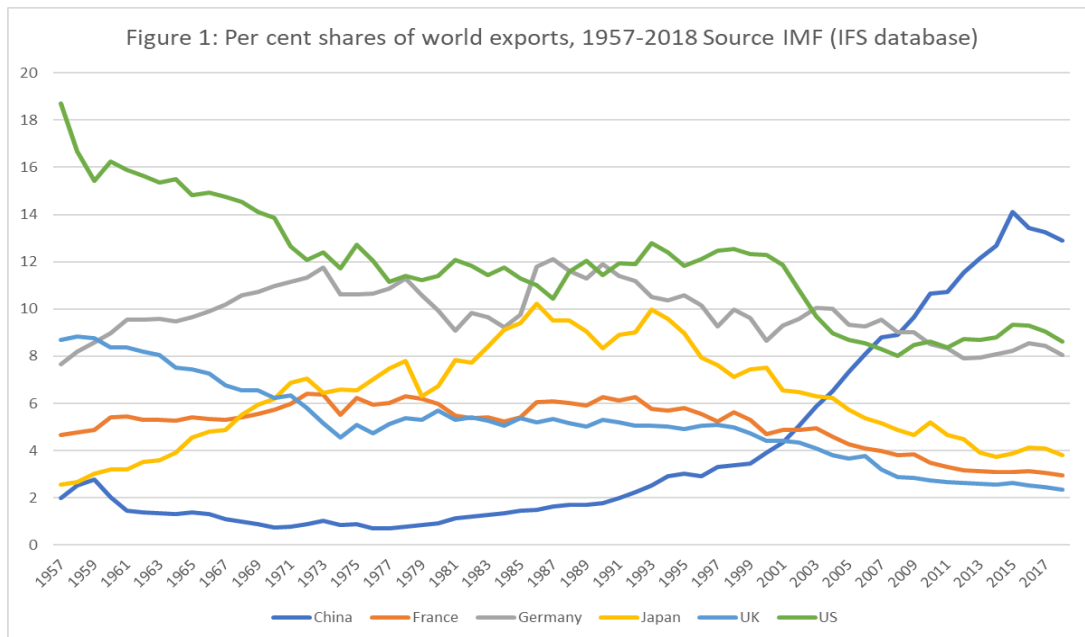
The international liquidity problem of the 1960s focused entirely on official international reserves, but these became less important with the widespread adoption of floating exchange rates in the 1970s. Accordingly we need to encompass private sector developments as well as those of the official sector. Section 1 will give a brief introduction to the issue of world currency dominance and the rapid emergence of China. Section 2 will start with a review of the evolution of international reserves and their currency denomination. Section 3 will look at the role of national currencies in international trade and then Section 4 will investigate the role of national currencies in international credit and investment markets. Section 5 will discuss the rather neglected role of national currencies in foreign exchange markets. Section 6 will briefly discuss cryptocurrencies and the potential issuance of central bank digital currency (CBDC). Section 7 will summarise and conclude.

1. Old and new views of world currency domination

One view of the world economy, called the “old view” or traditional view (Eichengreen, Mehl and Chitu, 2018), has it that the largest economy tends also to be dominant in financial affairs and that its currency becomes the most used money at the global level.

“These stories are told in terms of British hegemony in the nineteenth century, when Great Britain as the first industrial nation defined the technological frontier, and the country helped stabilize the global system by lending countercyclically---exporting capital when other economies suffered downturns---and by maintaining an open market for goods of distressed foreign producers. They are told in terms of American hegemony in the twentieth century, when the power of the United States was effectively institutionalized in what is sometimes referred to as the Bretton Woods-GATT System.Looking to the future, the same stories of political, economic, and monetary dominance are now told in terms of Chinese hegemony. The twenty-first century global economy, it is suggested, will be organized around the Chinese renminbi, and regulated by the People’s Bank of China. China’s immensely large population all but guarantees that the country will overtake the United States as the single largest economy, just as the US overtook Britain in the late nineteenth century. The renminbi will then overtake the dollar as the dominant international currency, for the same reasons that the dollar overtook sterling.....The traditional view, that economic dominance and monetary dominance go together, flows from models with strong network externalities, so the first-mover advantage matters, and when those externalities are sufficiently powerful that the result is “winner takes all.” (op. cit. pp 1-3).

Perhaps the most dramatic evidence supporting the expectation of a much greater role for the CNY (renminbi) is the rapid growth of China's exports, coming from a very low level to be the world's largest exporter in little more than a decade. The shares of major countries in world trade are shown in Figure 1.



The US was the largest exporter in the world by some distance in the two decades after WW2, but by the 1970s its position was threatened by West Germany and in the 1980s by Japan. Germany's exporting success continued but Japan suffered a significant relative decline in the 1990s from which it has not recovered (though in the 1980s there was talk of Japan growing to dominate the world economy, based on extrapolating growth rates at that time). China's share of world exports grew steadily in the 1980s and 1990s but then exploded in the 2000s.

In parallel with its export growth, we know that China also had a rapid growth in GDP, at a time when most of the other major economies have experience slow growth. Some analysts have predicted that the absolute size of China's economy will overtake that of the US in about 2032. But obviously this depends on China being able to maintain its high growth rate for many more years. The experiences of Germany and Japan may suggest that rapid growth is possible for several decades but not for ever (and the idea of catch up using the neoclassical growth model supports this too), so what actually comes about has to be highly uncertain. The prospects for continued rapid growth in China look worse in late 2021 than they might have done a few years ago, and even if China's GDP does reach that of the US in the 2030s, it will still be a very long way behind the US in terms of GDP per capital (which is currently only about one sixth of that in the US).

In contrast to the "old view" that one currency is likely to dominate, the "new view" (Eichengreen et al 2018, pp 6-11) is that currencies can coexist as big players in the world economy. As evidence for this, it is clear that even when sterling was the dominant currency in the 19th and early 20th centuries, the French Franc and the DM (and later the dollar) had significant roles. In the current context, the USD is clearly dominant, but the Euro has a significant international role (some of which was played by the DM before it). Hence,

according to this view, there is no inevitability about the CNY replacing the USD. Rather one possible outcome is that these two currencies coexist and play the dominant currency role in different parts of the world. Another is that the CNY does not evolve into a significant international currency but suffers the fate of the Yen which was once touted as a potentially significant international money.

Before discussing the evidence to date on international currency roles in the general world economy we now return to the international liquidity problem that was posed by Robert Triffin.

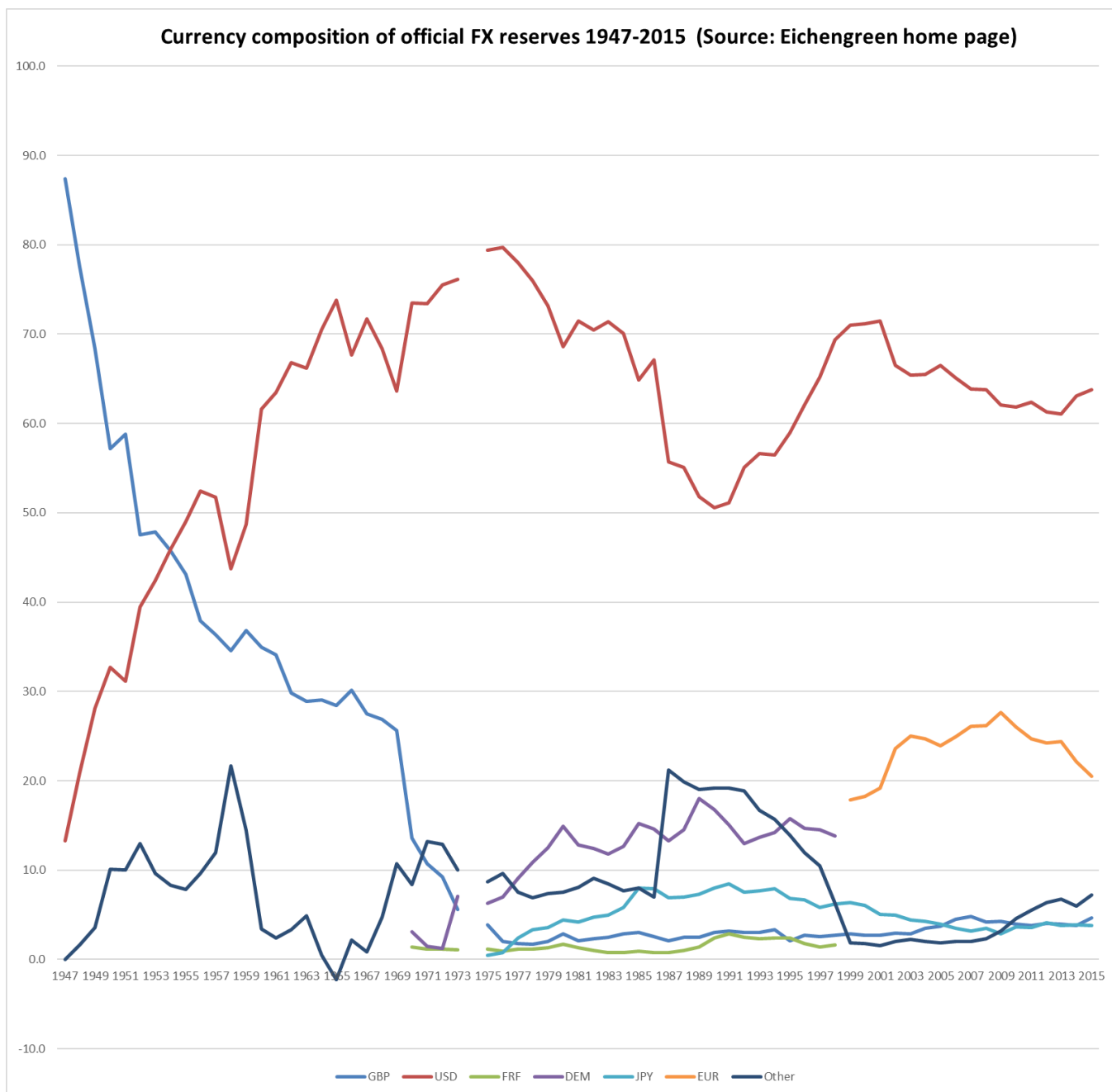
2. Official international reserves.

The Bretton Woods Agreement stated that there were two key currencies for use as international reserves: the US dollar (USD) and the pound sterling (GBP). Official reserves in GBP were larger than those in USD at the end of WW2. This, however, was substantially due to political support of many British Commonwealth countries and existing and former colonies (the sterling area). In practice, the role of GBP declined steadily before dropping like a stone after the 1967 sterling crisis and the floating of sterling in 1972 (see Schenk 2010). This episode does provide an example of how established reserve use can shift quite fast (see Figure 2), but the puzzle is why the reserve role of sterling lasted so long and not why it fell rapidly when the UK economy was seen to be in bad shape and the former British Empire was rapidly dismantled. Hence, it would be a mistake to assume that such a rapid decline could also happen to the US dollar.

By the start of the 1960s, the USD was the dominant reserve currency, and this is when Robert Triffin identified a problem. The USD was pegged in value to gold at \$35 per ounce. But US gold reserves were more or less fixed in size and yet a growing world economy would require growing balances of USD in official reserves to help stabilise the fixed exchange rate system agreed at Bretton Woods. Triffin pointed out that as US external liabilities rose but the gold backing for those fell (as a proportion) then the safety of the USD, and especially its peg to gold, would come into question and this could cause a crisis for the whole world economy as external holders dumped dollars and switched into safer assets such as gold (and possibly other currencies seen to be safe at the time). According to Triffin, a currency crisis for the world's major currency would be likely to lead to a global recession and undermine the whole world economic system.

This analysis was widely accepted and initiated a great debate about how to solve the "international liquidity problem", which was interpreted by most as a request for suggestions about how to find a new international reserve asset that could expand in use and displace the

Figure 2.



dependence on the USD. Some advocated the revaluation of gold, but the consensus was in favour of a new international reserve instrument. What was agreed in 1969 was the creation of IMF Special Drawing Rights (SDRs). The conception was that these would be issued to IMF members and expanded over time until they substantially reduced dependence on the USD.

SDRs were handed out to IMF members to a total of SDR9.3bn over the three years 1970 to 1972. In 1972 this stock of SDRs amounted to about 7 percent of FX reserves (and about half

that as a per cent of FX plus gold reserves). There was a further issue in 1979-81 with a SDR12.1bn increase and then nothing at all until the aftermath of the financial crisis when, in 2009, there was a further issue of SDR182.7bn. Finally, there has been a big issue of SDRs in August 2021, in response to the Covid pandemic, to a value of SDR456.5bn.

The cumulated stock of SDRs is now worth \$925bn, while FX reserves are \$13,128bn and gold (at market prices) reserves are \$1,928bn. This means that, even after a substantial new issue, the SDR still amounts to only about 6 per cent of gold and FX reserves (and would be only about 7 per cent of FX reserves alone). IMF members have clearly given up a long time ago on the idea that SDRs should be the principal reserve asset of the international monetary system. Indeed, the fact that the two latest issues were in response to the GFC and the Covid crisis, makes it very clear that SDR issues are no longer related to optimal monetary provision but rather are seen as a cheap form of foreign aid that can be used in crisis times to make it look like the richer countries are helping those less well off at virtually no cost to themselves.

So, what went wrong with the SDR and why is it now of such marginal relevance? It could be argued that the SDR just came too late, and the general move to floating exchange rates in the early 1970s made its introduction unnecessary. This is certainly part of the story. However, I argued in my 1978 Princeton Essay (Chrystal 1978) that the design of the SDR was flawed, and it would never replace FX reserves and could, indeed, speed up the creation of more FX reserves. One obvious limitation is that SDRs can only be used for transactions between IMF member governments. They cannot be used to intervene in FX markets, which is what FX reserves were for under the Bretton Woods system! A second is that SDRs are not money they are credit. So, an allocation of SDRs is not a gift of money, rather it is a gift of a right to borrow some real money from another government. There is interest to be paid on that loan when used and that interest rate is linked to the market rates in the major countries that make up the valuation basket to which the SDR was moved (from being equivalent to \$1) in the 1980s. The fact that the SDR offers credit not money is important, as it explains why the major countries lost interest in SDR issues for nearly 30 years between 1981 and 2009. They could borrow in the markets on the finest terms so had no benefit from the credit offered via SDR use. Many poorer countries, however, could not borrow cheaply and so would benefit from greater credit at low interest rates. But IMF voting was weighted towards the richer countries, and only at crisis time could they be persuaded to be seen to be helping the less prosperous countries with an apparent handout in the form of an SDR allocation (even though the bulk of the SDR issues went to the richer countries themselves).

The reason that SDR issues do not reduce dependency on FX reserves is that any country that borrows via its SDR allocation does so by getting a real currency from another member. If this loan comes from, say, the UK in the form of sterling then it immediately increases the stock of FX reserves. Indeed, the UK could increase its own FX reserves by accepting SDRs in exchange for sterling and then using the SDR to acquire USD. In effect, it has enabled an FX swap indirectly. The old phrase that “loans create deposits” has a new context in the world of FX reserves and it helps to explain why SDR issues did nothing to reduce the stocks of FX reserves and if anything did the opposite.

Figure 3.

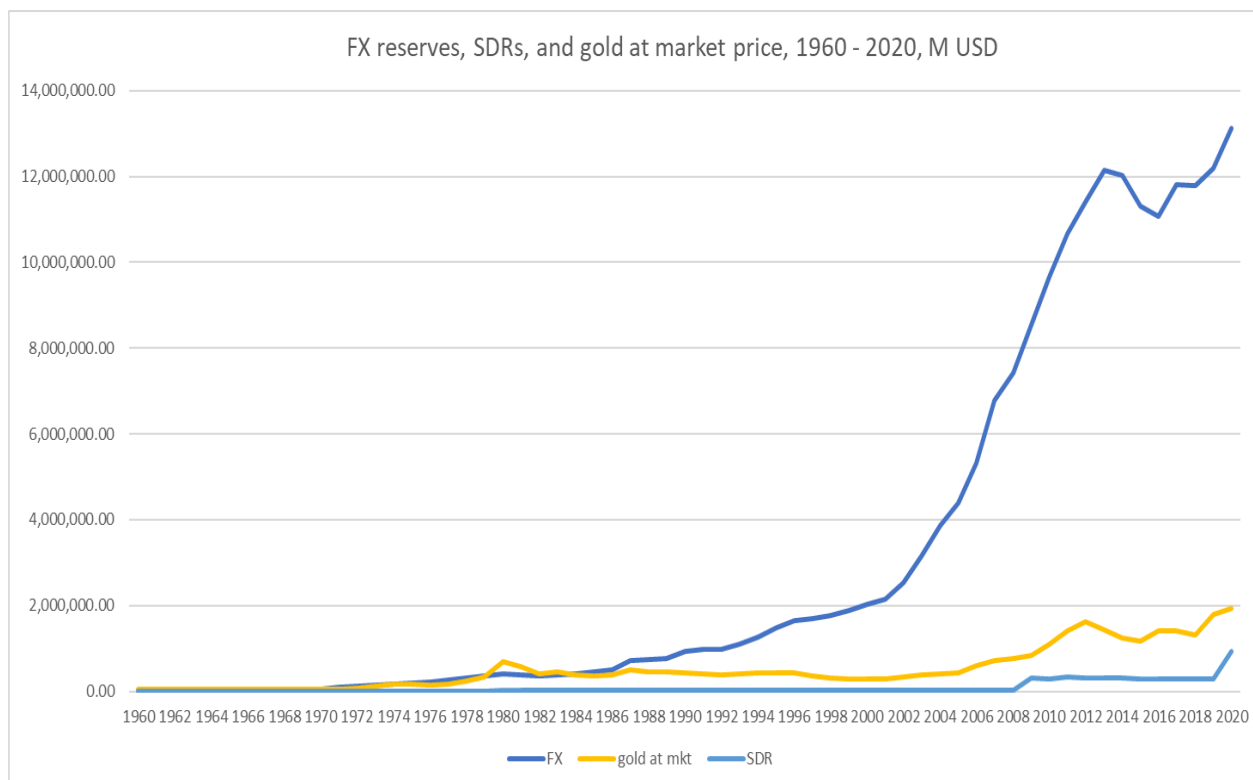
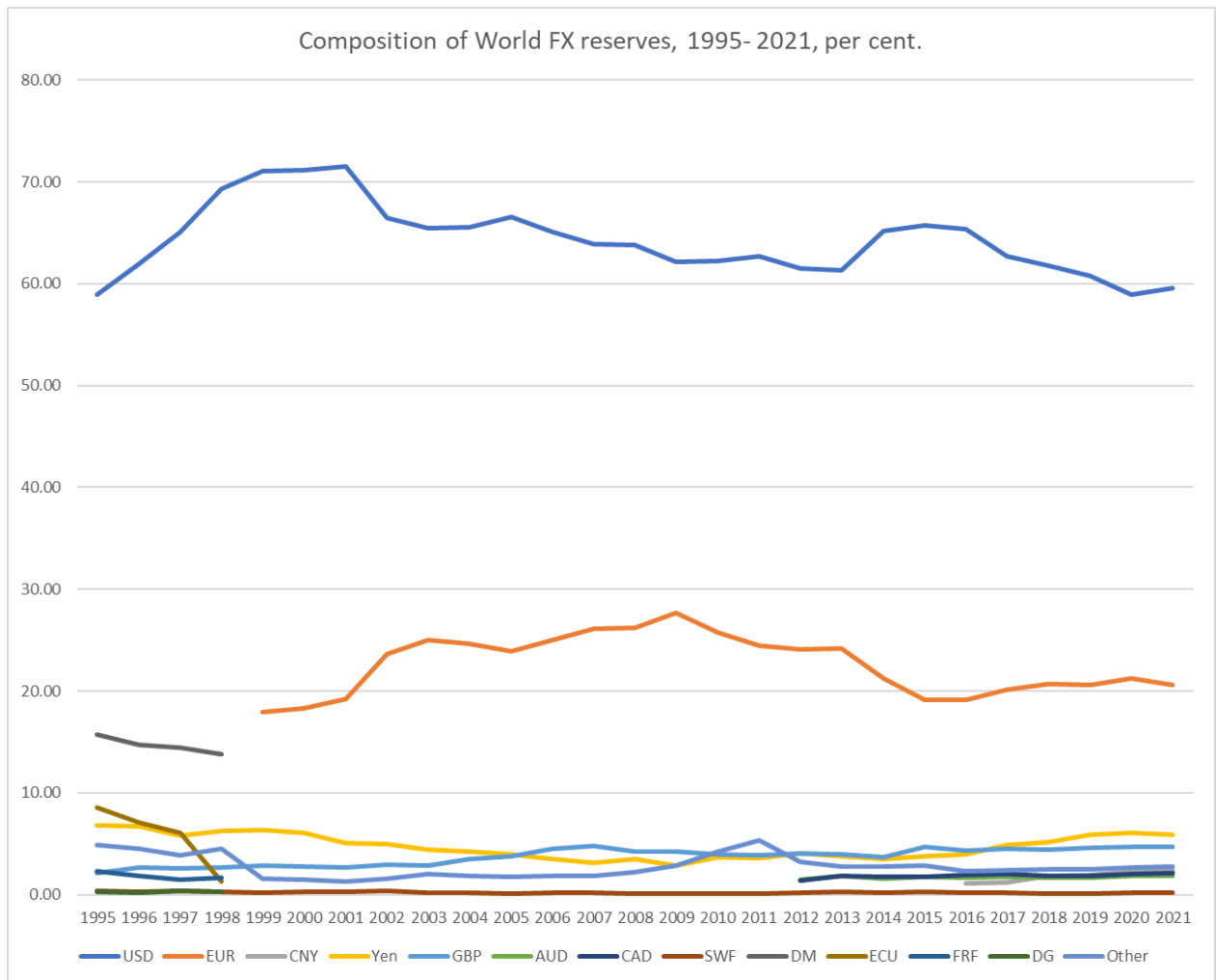


Figure 3 shows the stock of gold and FX reserves since 1960 (in \$M) with gold valued at market prices. The physical stock of official gold reserves was about the same at the end of this period as at the beginning (though holdings dipped in the first decade of the 2000s and recovered in the second) and so the variation in the value of gold reserve holding is largely due to changes in the market price. The stock of FX reserves in contrast grew steadily after 1970 until the end of the 1990s and then exploded. The rapid growth was reversed briefly between 2013 and 2016 but has since returned to an upward trend. Some of the rapid growth in FX reserves is linked to growth in China and the attempts by the Chinese authorities to stop the exchange rate of the Yuan from rising (resulting in a rapid rise in reserves that were substantially held in dollar assets) but it also follows the 1998 Asian debt crisis when many countries in South Asia opted to build up a stock of reserve assets to insulate them from future currency crises (this is also associated with what Ben Bernanke called the “world savings glut”).

Figure 3 also shows the dollar value of the world stock of SDRs. This is trivially small until 2009 and remains so even after the latest issuance which has been added to the data for 2020 (even though it occurred in August 2021). Our firm prediction (based on the analysis in Chrystal 1978) is that the proportion of SDRs in total reserves will now fall again as FX stocks continue to rise.

Figure 4 shows the currency composition of FX reserves from 1995 to 2021 (using COFER data from the IMF). This shows a period of steady domination by the USD which made up between 60 and 70 per cent of global FX reserves. From 1999, the Euro takes over the second-place role of the DM and became established in the region of 20 per cent of world FX reserves.

Figure 4 (Source: COFER tables, IMF. Data are for Q4 except for 2021 which shows Q1)



Proportions held in Yen (5.89%) and GBP (4.7%) were steady in third and fourth place for the past two decades or so, and the AUD and CAD had almost similar proportions in the next two places until the CNY just overtook them in 2018 and held a small lead at 2.5 per cent by 2021Q1 (with CAD at 2.11% and AUD at 1.82%).

The clear message from these data is that the USD is firmly established as the main official reserve currency denomination¹ and the Euro has a secure position in second place. The CNY has made no significant inroads into this position, indeed, its inclusion in the SDR basket seems to have done nothing to enhance the role of either the SDR or the CNY and given the

¹ The attractiveness of the USD as a reserve asset has recently been enhanced by innovations during the Covid pandemic that enable central banks to obtain dollar liquidity via REPO operations and improved swap facilities (see Choi et al 2021).

recent political problems between China and the West it seems unlikely that the CNY would be added to the SDR basket if the decision was revisited today. Another obvious, but important, point is that China is one of the biggest holders of FX reserves and it cannot use its own currency for that purpose. Hence the potential internationalisation of the CNY does nothing to aid China's reserve choice, and it has no option but to hold a mix of assets in the other major currencies.

3. Currency use in international trade

Since the early 1970s and the general adoption of floating exchange rates the action in the sphere of global money use has shifted to the private sector. Official international reserves have ceased to be a topic of major concern and the evolving role of currencies in the worlds of trade and investment has become of more interest. Here it is generally market forces and choices by private agents that drive outcomes. Thus, for most of the rest of this paper we are going to focus on currency use in international markets. In this section, the focus is on invoicing patterns in international trade and the next two sections will look at credit markets and then the FX markets themselves (though these issues are often linked to trade patterns).

An important set of ideas related to international currency use is what Alexander Swoboda (1968) called the "vehicle currency hypothesis" or what the present author (Chrystal 1977, 1978) called "demand for international media of exchange". A more recent literature (with new twists) refers to this as the "dominant currency hypothesis" (Gopinath et al, 2020) and the term "dominant currency" is one that we have been using already above.

The open-economy macroeconomics literature of the 1950s and early 1960s (often associated with the famous "Mundell-Fleming" model) assumed that all countries were symmetrical in the sense that they all set their export prices in home currency and import prices in foreign currency. The "Marshall-Lerner condition" used this assumption to work out the implications for stability of foreign exchange markets, via calculating under what circumstances a devaluation would improve the current account of the balance of payments (in a model where capital flows were assumed to be absent or prohibited).

Swoboda's insight came from looking for reasons for the rapid growth of dollar banking markets in Europe in the late 1950s and early 1960s (which thus became known as Eurodollar Markets.....long before the Euro existed!) What was happening, he suggested, was that dollars were being used as a settlement medium in trade between companies and countries even when this did not involve any direct trade with the US. Hence, they would need working balances in USD (and perhaps trade credit is USD) and these balances would most conveniently be held in banks outside the US, and this created an offshore (from the US perspective) dollar banking market. The growth of the Eurodollar was also aided by the fact that it was outside the monetary controls of many of the countries in which it operated, with London as an obvious example.

Evidence for this international medium of exchange role for the USD (or any other currency) was lacking until the appearance of a study of invoicing patterns of Sweden's foreign trade by Grassman (1973). A study for the UK followed this (Carse, Williamson and Wood, 1980) and many subsequent studies are reviewed in Hartmann (1998). The broad picture that emerged was very clear. For trade between advanced countries, most of their differentiated exports were invoiced in domestic currency and imports in the currency of the seller, but for

some trade (even between developed countries) the reverse was true, and a significant proportion of trade was invoiced in third currencies. Trade with emerging markets (formerly called developing countries) was either in the currency of the developed country or in a third currency such as the USD. Virtually all trade in homogeneous primary commodities, such as oil, was invoiced in USD (though in earlier studies the pound also had a role for some commodity trade and the Euro has some role in recent data). The most recent evidence available suggests that dollar and euro invoicing has continued to increase (ECB 2021) even for trade in which neither the US nor eurozone countries are directly involved. One reason given for this continued growth of third-currency use is the globalization of international supply chains and the advantages of pricing most components of the supply chain in the same currency. A summary of this evidence, based on a survey of a large sample of 102 countries (Boz et al 2020) over several years is presented in Figure 5.

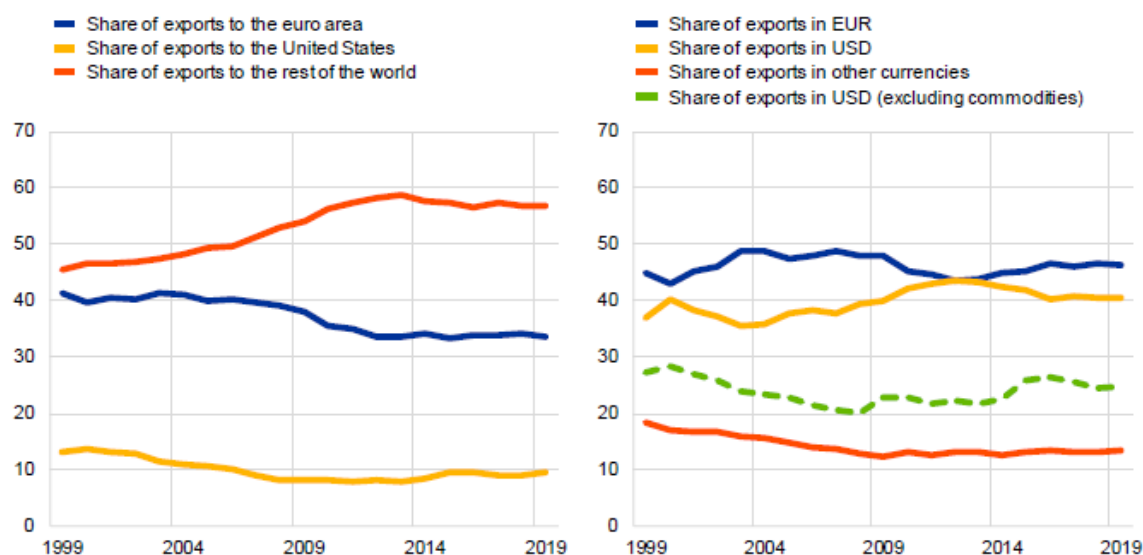
The left-hand panel of Figure 5 shows that the shares of world exports to the US and to the Euro area have declined, while the right-hand panel shows that the use of the USD and Euro as settlement currencies have broadly held up while use of all other currencies has declined. The right-hand panel also shows that a significant proportion of use of USD in trade is linked to primary commodity trade. It is notable that the US is a much smaller actor in international trade than the Euro area, but their global currency use is of similar magnitude. Both clearly also have a vehicle currency role, but the USD seems to be more important in this respect (in addition to its obvious role in commodity trade).

Figure 5. World trade structure and currency use.

Use of the US dollar and the euro as vehicle currencies has increased

Shares of global exports broken down by destination (left panel) and by invoicing currency (right panel)

(percentages)



Source: Boz, E., Casas, C., Georgiadis, G., Gopinath, G., Le Mezo, H., Mehl, A. and Nguyen, T., "Patterns in invoicing currency in global trade", Working Paper Series, No 2456, ECB, Frankfurt am Main, 2020.

Notes: The left panel shows the evolution of the share of exports to the United States, the euro area and the rest of the world in global exports; the right panel plots the share of global exports that are invoiced in US dollars, euro and other currencies. Only exports to countries for which invoicing data are available are shown. The charts are based on interpolated and extrapolated data.

Recent evidence on UK trade invoicing is available from HMRC reports for each year since 2013 for UK trade outside the EU. A summary of this is shown in Figure 6 for Imports and Figure 7 for Exports.

Figure 6 (Source HMRC)

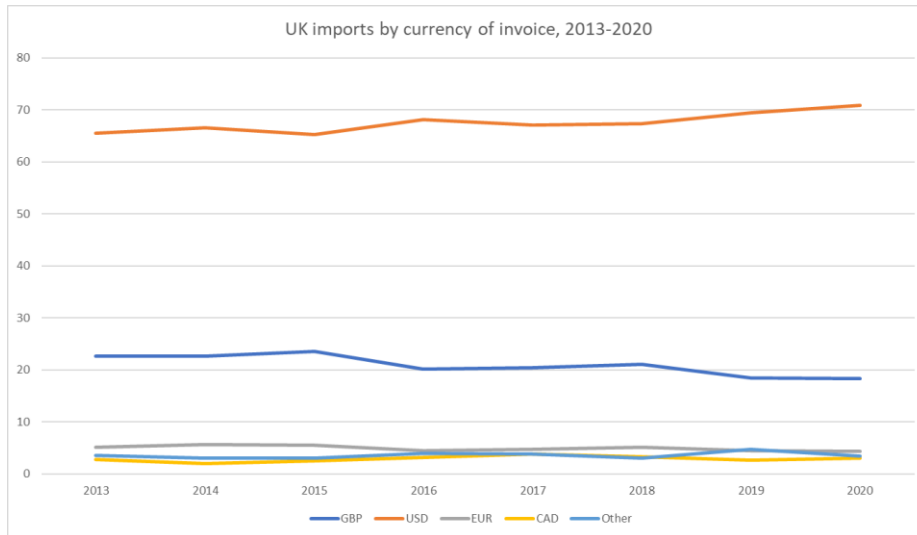
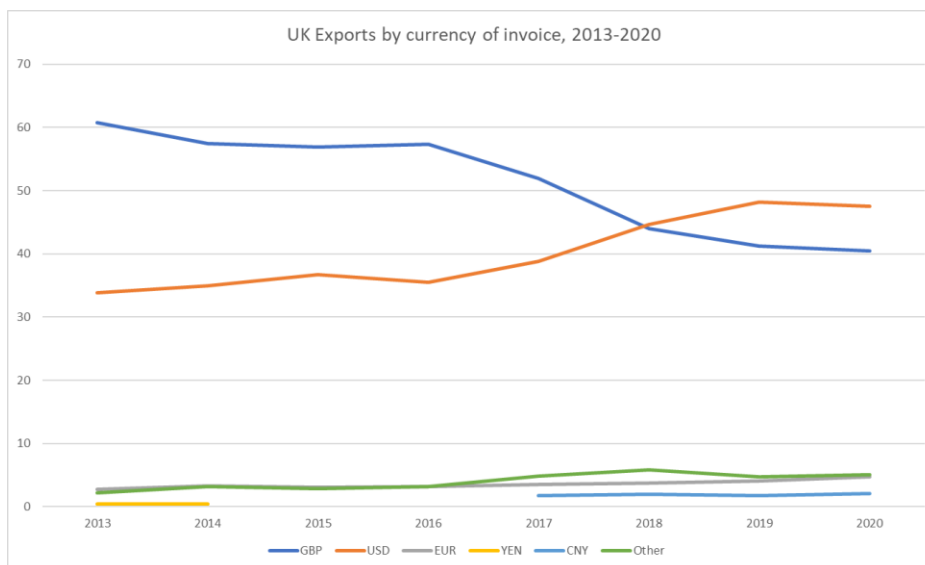


Figure 7 (Source HMRC)



The use of sterling for invoicing UK trade has declined slowly for imports, whereas the use of dollars has increased from an already high level. In the case of exports, the decline in sterling invoicing and the rise in dollar invoicing are more dramatic. The low use of the Euro for non-EU trade is not surprising. The CNY just creeps in for invoicing UK exports after 2017, but it has not yet registered a role in UK imports.

One reason for the dominant role of the USD and Euro in global trade could be the size of these economies. This is why some commentators have pointed to the rapid growth of China as a trading nation (see Figure 1) and draw the implication that its presence as the world's largest exporter could lead to a vastly increased role of the Yuan in the international economy. However, in October 2020, data from SWIFT the payment messaging service,

reported that the Euro was involved in 37.83% of global wire transfers (by value) while the USD was involved in 37.64. The pound was a distant third with 6.92% followed by the Yen on 3.59%, the Canadian dollar on 1.74% and then the CNY on 1.66%.

Some growth in the use of the Yuan is likely but there are some limiting factors that should be born in mind. Firstly, the Yuan was not a convertible currency with any significant external market until as recently as 2009. It is only since that time that the Chinese authorities have tried to encourage is external use. Secondly, the bulk of China's external trade is still invoiced in third party currencies, especially US dollars. Accurate figures are lacking, but some analysts' estimates suggest that only about 15 to 20 percent of China's exports are invoiced in Yuan and that proportion is probably even smaller for their imports. Thirdly, it is well known that only a small proportion of FX market turnover is linked directly to trade. The rest is linked to capital flows and money management activities. There has been some liberalisation of China's financial markets but there is still a long way to go (in comparison with the US, EU, Japan and UK etc) and in recent years the authorities have become (if anything) more authoritarian and have taken actions that could harm trade relations with some other major countries.

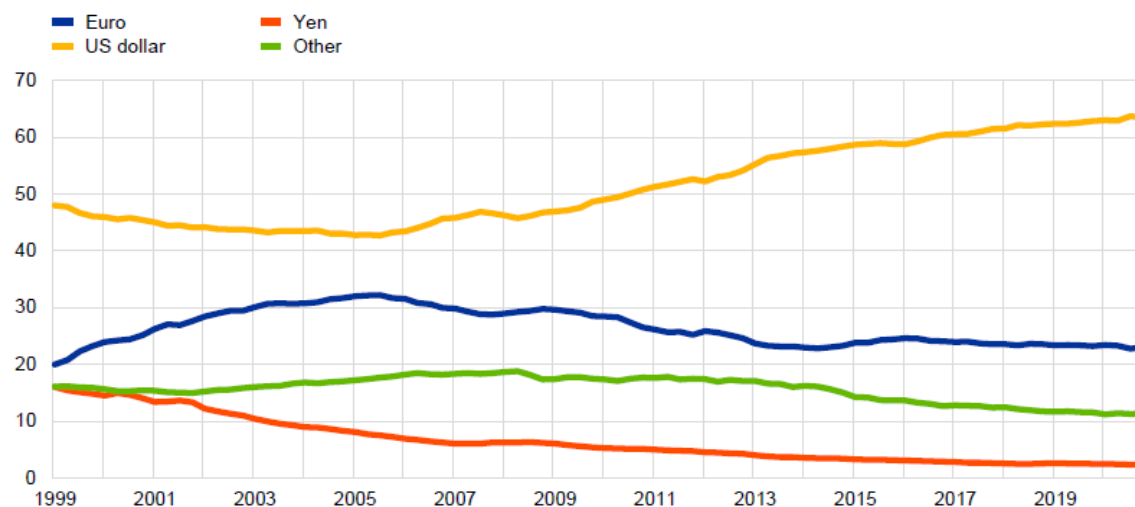
4. Investment and loan markets.

The growth of the Eurodollar banking market from the late 1950s onwards created a substantial offshore banking market in loans and deposits. The banking crisis of the early 1980s shifted much of this borrowing and lending to bond markets, as high-quality companies and other institutions could borrow more cheaply in their own name than via riskier bank intermediation. As exchange controls were gradually removed in the 1980s and 1990s, the distinction between onshore and offshore credit markets largely disappeared but the dominant role of the USD in these markets persisted.

Figure 8.

Currency composition of outstanding international debt securities

(percentages; at constant Q4 2020 exchange rates)



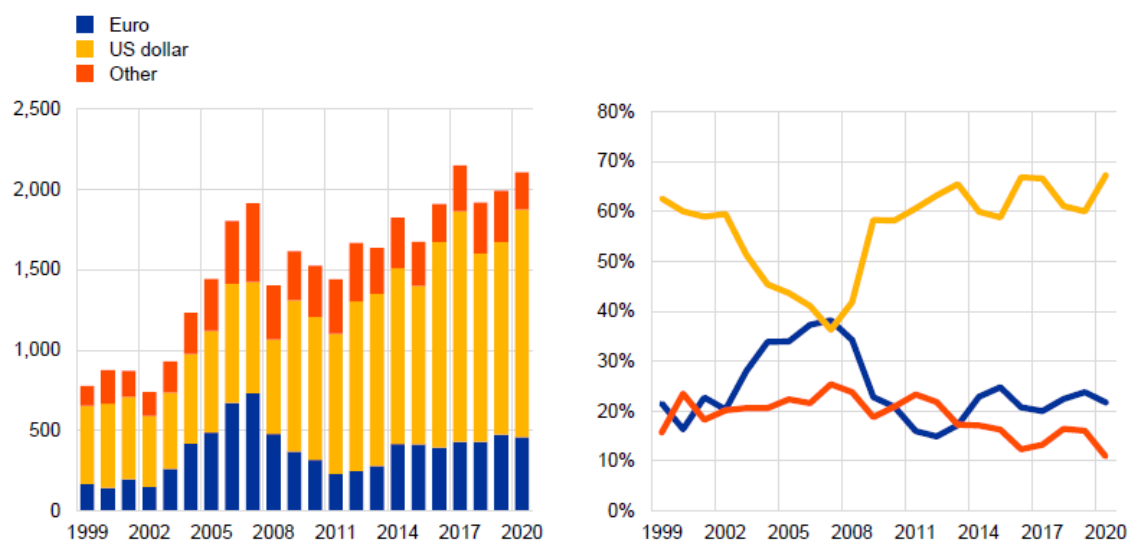
Sources: BIS and ECB calculations.
Notes: Narrow measure. The latest data are for the fourth quarter of 2020.

Figure 8 shows the currency denomination of the outstanding stock of international debt securities. While there was a relative dip in USD denominated bonds outstanding in the early 2000s, dollar dominance increased after 2005 to a position of well over 60 per cent of the market on the latest data (from the ECB). Comparable dollar dominance is evident in the new issuance of foreign currency denominated debt (Figure 9).

Figure 9.

Currency composition of foreign currency-denominated debt issuance

(left panel: USD billions; right panel: percentages)



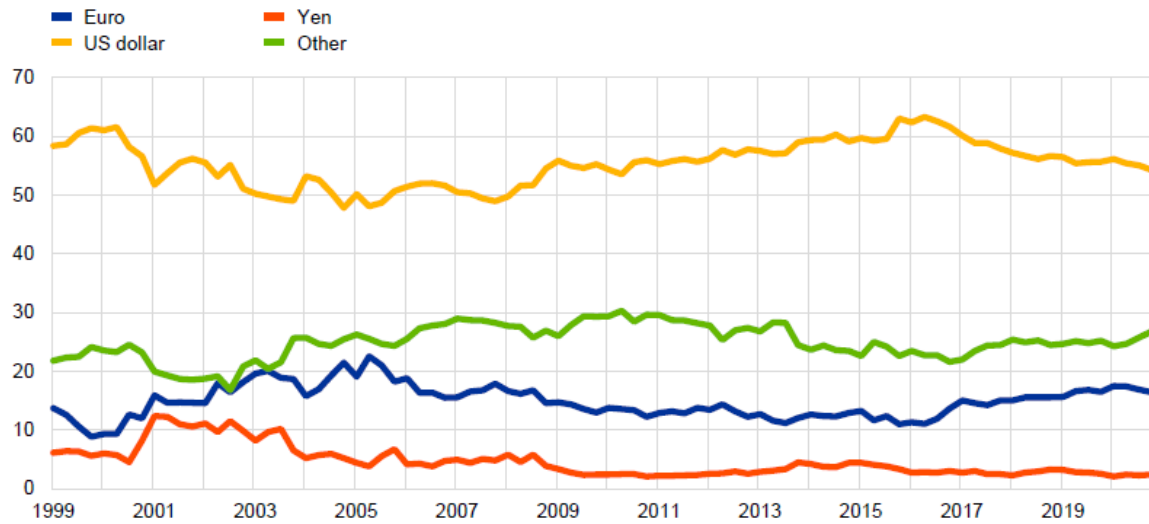
Sources: Dealogic and ECB calculations.
Note: The latest data are as of end-2020.

Similar dominance of dollar denomination is evident in the international loan markets. (see Figure 10.)

Figure 10

Currency composition of outstanding amounts of international loans

(percentages; at constant Q4 2020 exchange rates)



Sources: BIS and ECB calculations.

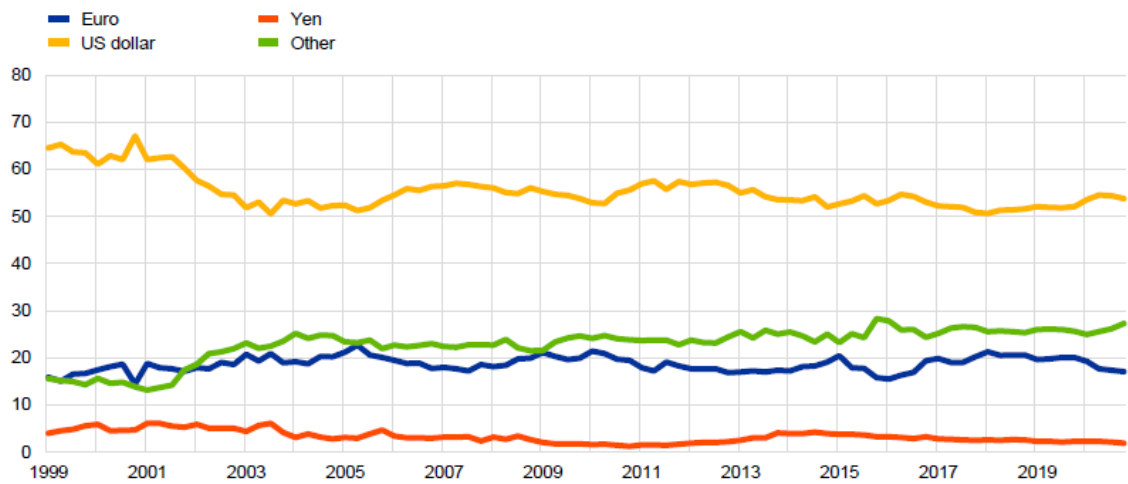
Notes: The latest observations are for the fourth quarter of 2020. International loans are defined as loans by banks outside the currency area to borrowers outside the currency area.

This pattern is also evident in international deposit markets.

Figure 11

Currency composition of outstanding amounts of international deposits

(percentages; at constant Q4 2020 exchange rates)



Sources: BIS and ECB calculations.

Notes: The latest observations are for the fourth quarter of 2020. International deposits are defined as deposits with banks outside the currency area from creditors outside the currency area.

China does not yet appear as a big player in offshore securities and loan markets in its own currency. This was forbidden until at least 2009 and only gradually liberalised since then.

Some foreign access to Renminbi bond markets was permitted more recently (so-called Panda bonds) and an offshore market was also established via Hong Kong (the Dim Sum market). These markets have grown, but from a very low base and do not yet register any significant share of the global bond markets. Offshore deposit and loan markets also appear to be of limited significance although they have grown, especially for financing trade with China's near neighbours and those with which it has close economic ties. In this respect, offshore financial transactions in CNY may be starting to have a regional but not a global significance.

5. Currency use in FX markets.

Further important information about currency use is available from the BIS triennial surveys of the currency composition of turnover in FX markets. A breakdown is available by type of instrument, but the focus here will be on the overall picture with all instruments combined. The latest survey currently was for 2019, but more timely data for the London FX markets has been published on a half-yearly basis by the Bank of England for the past few years.

Figure 12

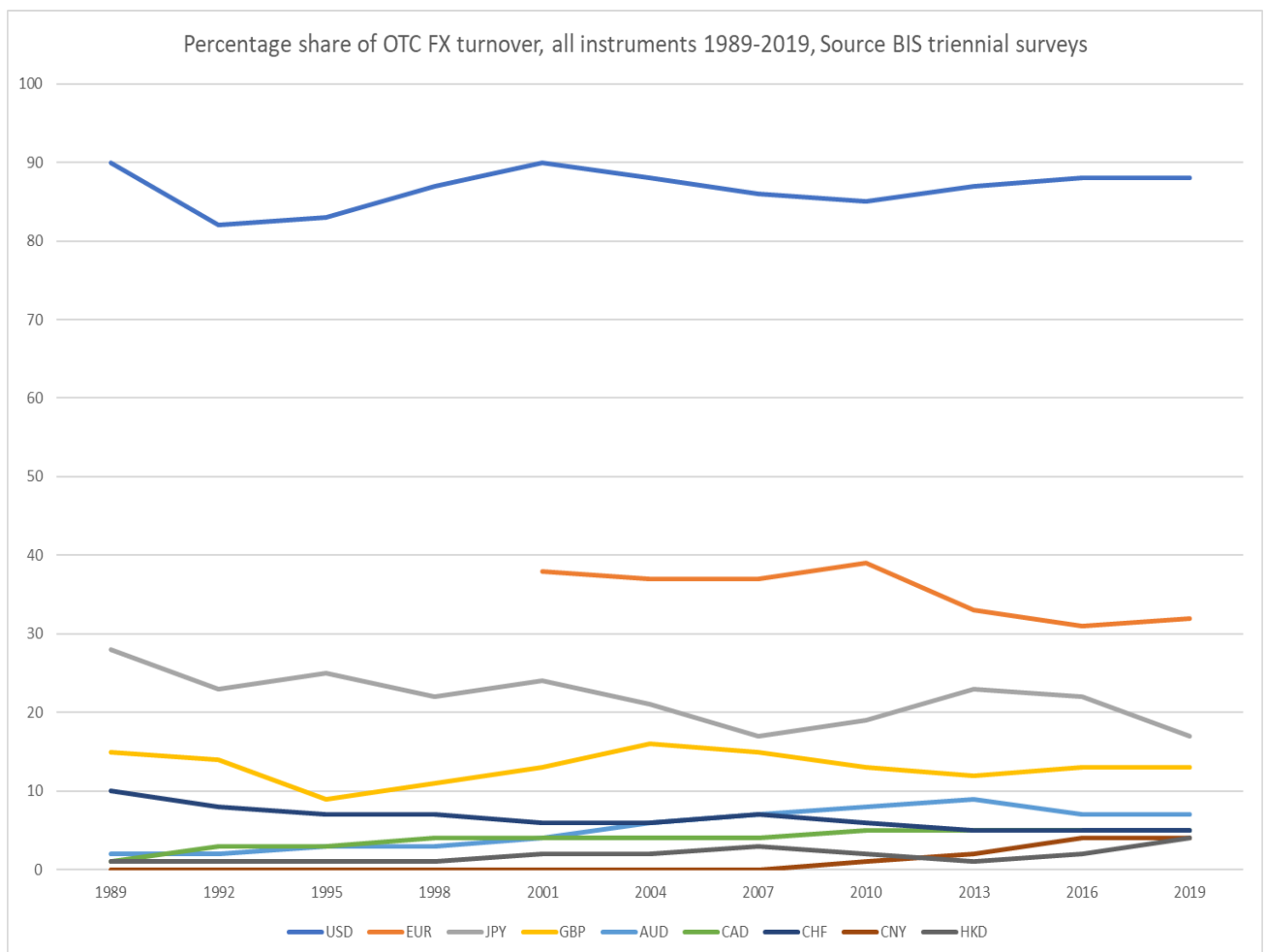
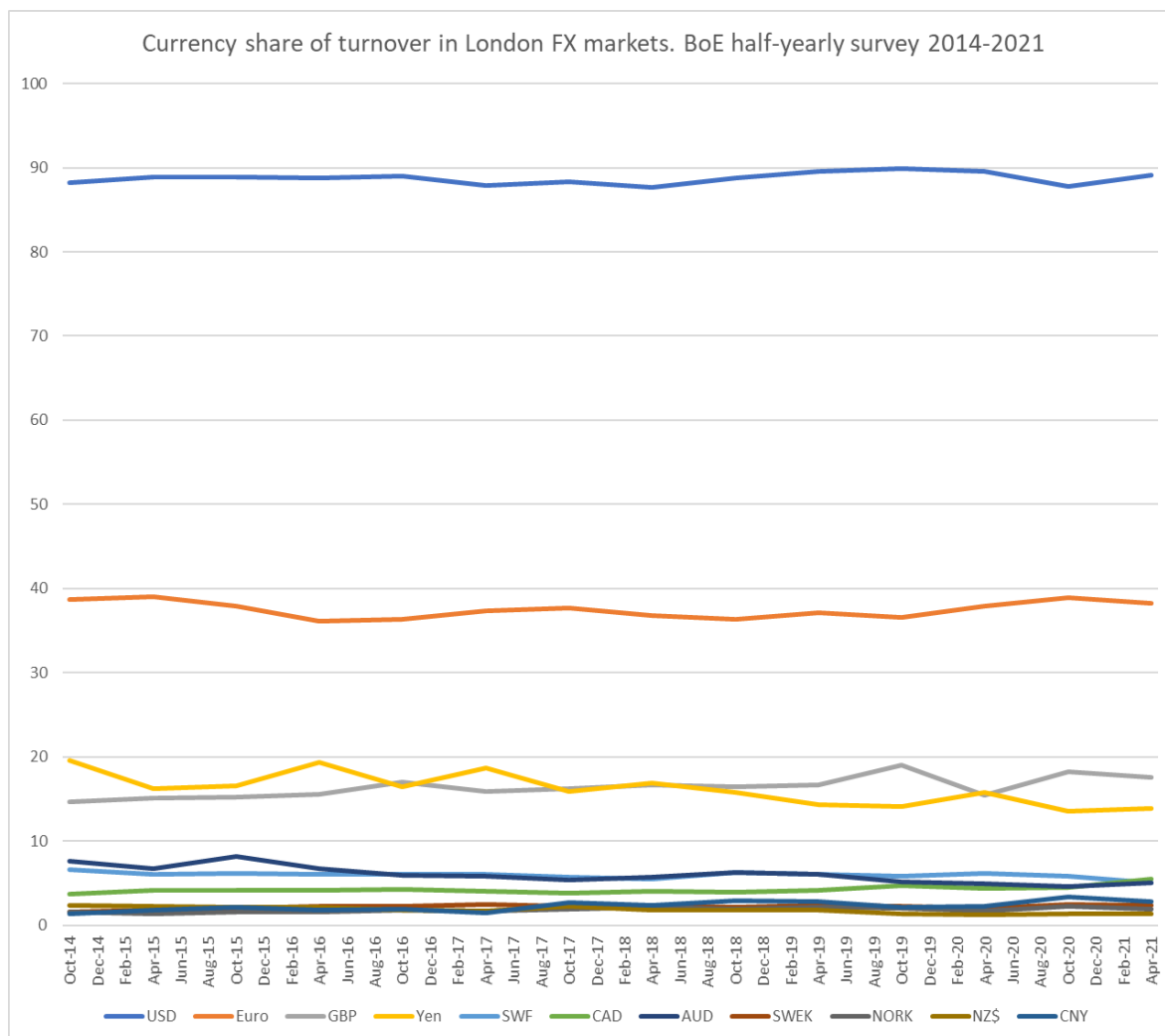


Figure 12 shows the BIS survey results and Figure 13 shows the Bank of England data.

Figure 13



These data require a little thought as the numbers are percentages of trades involving a specific currency, but they are unusual in that every FX trade (by definition) involves two currencies, so these percentages add up to 200. So, the reported numbers for the USD, for example, which in both Figures are at just under 90% tells us that the USD is on one side of 90% of FX transactions. This may seem strange when we noted already that the US exports are less than 10% of world exports. But we have also seen that the USD is used for invoicing possibly 40% of world trade and for denominating around 50% of international deposit and loan markets, 60% of international bond markets and a similar percentage of world FX reserves.

However, the FX turnover data are telling us much more than how much USD are used in trade or credit settlements. They are telling us a key characteristic of the FX markets themselves. This is that the USD is the “money” of the FX markets. The reason for this is that the USD has the most liquid FX market vis a vis every other traded currency and thus

also the lowest spreads with each currency. Not all currency pairs have an active bilateral market. But any currency that does have a market will have one with the USD. A trader who wants to sell Norwegian Kroner and buy Brazilian Real will not waste his or her time trying to find a suitable counterparty. Rather, the trader will sell Kroner for dollars and then use dollars to buy Real and this will be the cheapest and quickest way to complete the deal (see Chrystal, 1979 and Hartmann, 1998 for more detailed analysis of this mechanism). Certainly, there are some liquid cross-markets between a few of the major currencies, but the data are telling us very clearly that the USD is on one side of 90% of FX transactions. If this number were 100% there would be no other cross-market at all, and all FX trades would be intermediated via the USD.

Perhaps a surprising feature of these FX turnover data is the remarkable stability of these numbers. Not much has changed in the past three decades, apart from the invention of the euro, which then took over the combined roles of the legacy currencies (especially the DM). The CNY does now appear in these surveys (for the first time in 2010) but in 2019 it was only involved in 4% of FX market turnover at the global level (and under 3% in the London market in 2021). Some commentators point to the rapid growth from zero in 2007 but the small role in FX markets seems to conflict with the fact that China has 13% of world exports. However, we know that only a proportion of China's trade is invoice in CNY and that capital and other financial flows generate more FX turnover than trade does, and that China has had restrictions on these flows which still exist to some degree today. We can also see that the GBP and Euro have a larger role in the London market than globally, but this should not be a great surprise. What is clear is that the USD has a central established role in FX markets globally and this shows no sign of falling.

So, what might shift the USD from this dominant position. Clearly the growth of China's trade alone has not done this. Perhaps a complete liberalization of China's financial and capital markets would help to advance the CNY further. However, this (at best) is likely to be a long and slow process. On the other hand, the deteriorating economic and political relations between China and the so-called West are likely to push the attractiveness of the CNY in the opposite direction. These obstacles may persist so long as China remains a one-party state with a lack of trust in its openness and absence of corruption. Indeed, these issues may hinder underlying trade and economic growth directly with inevitable knock-on effects on currency use. Of course, there are political risks in the US and the Eurozone as well (for the latter see, for example, Demetriades 2020) however, the Fed and the ECB have so far managed to maintain a degree of independence and credibility, though this is not guaranteed to all time.

One possible innovation that might work in favour of the CNY is that China is working on introducing a central bank issued digital currency (CBDC). Some commentators think that this could be a game changer in favour of the CNY.

6. Cryptocurrencies and central bank digital currencies

One innovation of recent decades that some have thought might be significant is the creation of so-called cryptocurrencies. These are computer-based assets for which ownership records are saved on a block-chain or distributed ledger. The best-known example of this type of asset is Bitcoin. These are highly speculative assets with a high degree of price volatility, and

they do not seem a credible threat as a medium of exchange but may have some attraction as an alternative investment or as a store of value for possible use in illegal transaction...as the records are secret. For this reason, and possibly others, the Chinese authorities have banned cryptocurrencies from their economy, while at the same time working on the development of a central bank digital currency (CBDC). Many other central banks have subsequently said that they are also looking at the possibility of introducing a CBDC (Bank of England, 2020, BIS, 2020, NBER 2020).

CBDCs are sufficiently complicated that they could occupy a whole lecture (or several) on their own and will undoubtedly be a topic for a future talk in this series. At the present the exact form of any likely CBDC is not precise enough to allow us to conjecture on its impact. Indeed, we have had a form of central bank digital currency in all economies for many years in the form of reserve and clearing deposits at central banks by commercial banks and some other financial institutions. Hence, to be a genuine innovation a CBDC must involve much wider access for businesses and households to direct claims on central bank deposits. This, of course, could be a threat to the role in the domestic payments system of the commercial banks and providers of other payments services, so the impact on domestic payment systems is probably the dominant issue here.

How CBDCs might affect international payments is even less clear than it is for domestic payments. Suppose though that China was ahead of the game in introducing a CBDC and that it was available through some channel (even if intermediated through correspondent banking or whatever) could this advance the international use of the CNY? Yes, it could if it significantly lowered transaction costs on CNY deals and this both encouraged wider use of CNY invoicing and wider use of the CNY in FX markets, and at the same time there was general confidence in the bona fides of the Chinese central bank.

However, there are likely to be unintended consequences of CBDC introduction and other central banks may benefit from a watch-and-wait strategy. The CNY is sufficiently underdeveloped as an international currency that a rapid switch from USD use is very unlikely, and if there are significant teething problem with the CBDC this could work the other way and delay expansion of CNY use. Also problematic is the possibility that one attraction of CBDC for the Chinese authorities is the fact that they will be able to monitor transactions, when they cannot monitor transactions in cryptocurrencies (hence the ban).

Thus, it is likely that if a CNY CBDC became available and it proved an immediate success AND started to affect international payments, then other central banks would soon react (as they have been studying this issue for some time) and this could neutralise any advantage that the CNY had picked up from its first-mover status.

All of this is highly speculative so, for the time being, all that can be said is that this could be a significant issue for the future so watch this space.

7. Conclusion

The status quo of a dominant dollar in the world economy and the international monetary system, with a significant secondary role for the Euro, seems to be firmly established. The growth of China has dramatically altered the structure of world trade in the past two decades, but so far this has done surprisingly little to change currency use in the international economy. What happens in the future will depend on politics as well as economics, but it is

likely that the international role of the Yuan (renminbi) will grow, at least in China's sphere of greatest influence and thus we may be heading for three-currency world economy rather than a monopoly international money.

We conclude, as we started, with a quote from Barry Eichengreen, one of the most eminent historians of the global monetary system:

"...The fundamental fallacy behind the notion that the dollar is engaged in a death race with its rivals is the belief that there is room for only one international currency. History suggests otherwise. Aside from the very peculiar second half of the twentieth century, there has always been more than one international currency. There is no reason that a few years from now countries on China's border could not use the renminbi in their international transactions, while countries in Europe's neighbourhood use the euro and countries doing business with the United States use the dollar.....There may have been only one country with sufficiently deep financial markets in the second half of the twentieth century, but not because this exclusivity is an intrinsic feature of the global financial system," (Eichengreen, 2011)

This assessment seems highly plausible vis a vis currency use in trade and credit flows, but it remains to be seen if any currency can displace the dominant role of the dollar as the medium of exchange in FX markets. To answer the question posed in the title of this paper: there may be threats to the dominant role of the dollar ahead, but there are few signs of them at present. Indeed, if anything the dollar (and to a lesser extent the Euro) seem to be strengthening their positions relative to all other currencies.

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