Global Liquidity and the International Monetary System

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LIST OF FIGURES & TABLES

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Introduction

Global liquidity refers to the ease of international financing. It has been an important matter of concern ever since the global financial crisis when the central banks had to undertake urgent steps to restore liquidity. Beyond their usual bequeathed mandates of the employment and price stability, considerations of financial stability has been of utmost importance of the central banks as well as of international organizations ever since. In fact, the international regulatory institutions like IMF which were set up as part of the post-war Bretton Woods regime lack resources to exercise their duties in a world inundated with two-way gross capital flows. Since the collapse of the Bretton Woods, the international monetary regime which came into vogue has had "flexible" exchange rates with freer capital mobility. This was under the premises that the economies would have autonomy over monetary policy. However monetary policies of these economies continue to be linked to the US monetary policy.

This paper reflects on the contemporary concerns on global liquidity in the light of three important developments. Ever since the nineties, there has been a large increase in the share of the emerging and developing economies in the world economy and a growing demand for safe assets as growth has picked up momentum . Two, the co-ordinated effort of the Central Banks (in particular Federal Reserve, ECB , BoJ and BoE)through the unprecedented purchase of bonds in the backdrop of the two crises (The Global Financial Crisis as well as the Covid-19 crisis) had helped in keeping the global economy liquid even as the pressures of fiscal austerity without any rationale has been very strong. However, this has also resulted in a large flow of short-term capital with an intent of search for yield, further triggering asset price bubbles even when the world is not out of the deflationary environment. We explore the consequences of the same on developing countries. Thirdly, in the light of the dollar credit outside United States rising up to levels of more than $ 13 trillion, would the United States and its Fed Reserve be able to continue providing the emergency liquidity requirements as required? Would its exorbitant privilege in the international financial markets continue? This paper explores the same in the light of the concerns of the rising debt concerns triggered by the search for yield as well the

growing balance of payments and debt sustainability concerns of the developing world. Would the recent unprecedented increase in the allocation of SDRs suffice to address these issues, it asks.

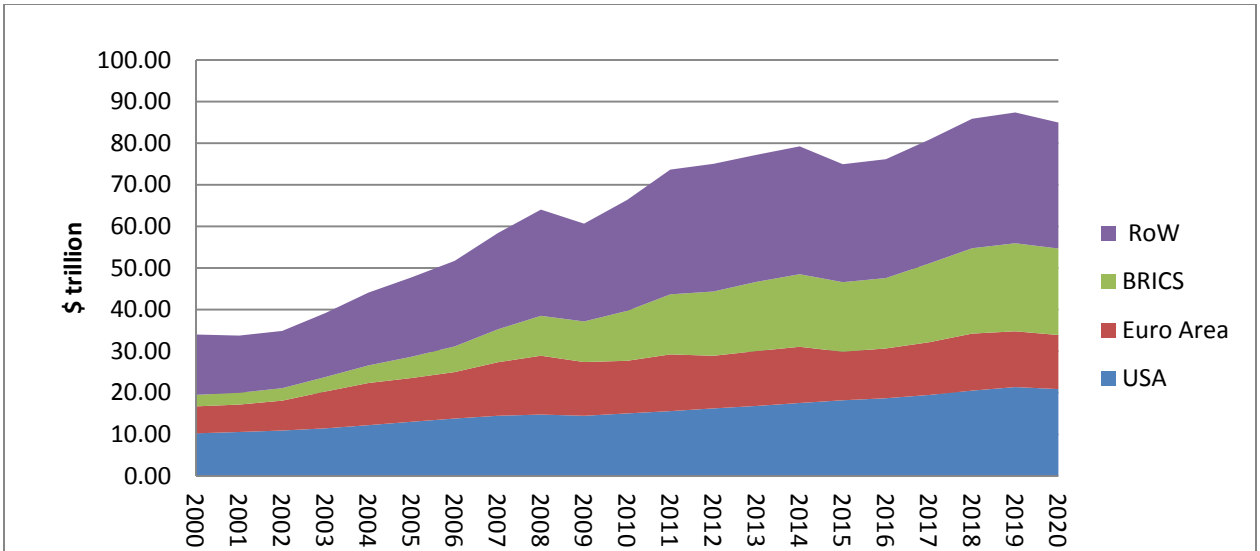
The paper is divided into four sections. In the first part, an attempt is made to sketch the changing contours of the global economy with a focus on global imbalances. The next traces the transition from the Bretton Woods system of fixed exchange rate system to the regime of managed/ flexible exchange rates which from 2000s have been characterised as Bretton Woods II. In the third section the policy steps from the central banks during the global financial and pandemic crises with respect to global liquidity is discussed. It ends with some remarks on the necessity of the reform of the international monetary system.

I

Changing Contours of the Global Economy

A stocktaking of some of the important changes in the global economy over the last twenty years would be of good purpose as we explore the issues of global liquidity in the international economy. Firstly, the last two decades have been witness to a realignment in the world economy with a perceptible increase in the share of the output generated in the emerging market and developing economies. The national output of China has reached levels comparable to that of the euro area. Even as the share of the United States had marginally decreased during this period, its position remains reasonably intact. The euro area which was comparable in size to the United States in 2000, however, has been witness to a distinct decline in its relative share. There has been a rising share of BRICS in the global economy (Figure 1). In fact, as has been observed by Amsden, the dominance of the advanced economies could be restrained only through the growth in the continental economies of India and China, which has become possible through the autonomous policy space which has facilitated the same (Amsden, 2007).[1]

[1] In her work Amsden argues that more policy autonomy do the developing economies have in determining their growth trajectory, the faster would they grow. This, she says, is clearly evident from the growth of economies of India and China



Source: World Economic Outlook Database 2021

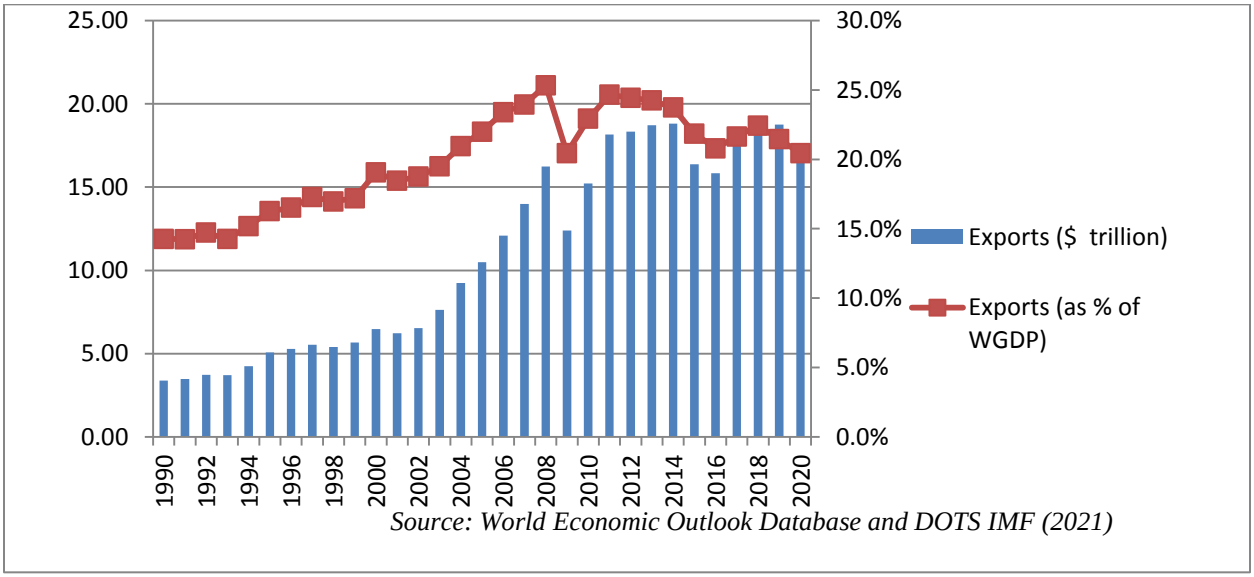
Figure 1: Composition of output of the world economy: 2000 to 2020

Second, there has been a rise in the level of exports of goods in the global economy, it has risen from $ 6.48 trillion in 2001 to $17.37 trillion in 2020. Though in 2020, the exports accounts for 20% of the world GDP, it has reached 26% of the world output in 2008. As per the data of Direction of Trade Statistics of IMF, the share of EMDEs in the total exports has increased from 22.4% to 37.1% during this period (Figure 2). Given that we are producing as part of the global value chain, these values in terms of gross exports tend to overstate the gains of the developing economies, the trade in value added is far lower.

With segmented production in different parts of the world, production has moved from the Fordist mode of assembly line to the global value chain of production. The asymmetries in the global value chain is too important to ignore, trade in value added share of developing countries has not increased by as much.[2] A substantial share of the value added happens in the advanced economies, with the role of the developing economies being confined to mere activities of assembly much to exclusion of design of the product or the marketing or retail.[3] Trade through the global value chain of production has resulted in large violation of labour rights, this has resulted in different initiatives particularly with respect to the sanitization of global value chain

[2] https://unctad.org/system/files/official-document/ecidc2013misc1_bp8.pdf (Banga, 2013)
[3] An illustrative study in this regard is the oen by University of California Davis which exposes the asymmetry in value addition through the case study of production of i-phone.

from the part of the ILO.[4] Subcontracting the work through contractors like Foxconn, the organisation of production is getting internationalized. The competitive race to the bottom has been keeping the wages from rising in the developing world. Even the labour in Europe too is now far from the social compact which was in vogue during the Golden Age of Capitalism with ideas of labour market flexibility picking up momentum. Hung up with the common currency of euro, the sole way out to improve their exports is to reduce their price levels which have been happening through nominal wage reduction. Most importantly, the growing share of the emerging and developing economies under the multilateral framework has been viewed with caution resulting in the mushrooming up of number of bilateral treaties between nations. The proliferation of regional trade agreements and megaregionals would have its own impact on the level of trade.



Source: World Economic Outlook Database and DOTS IMF (2021)

Figure 2: Exports in the global economy

Thirdly, the multinationals account for one-tenth of the global GDP, their sales account for one-half of the world GDP and the intra-firm transactions account for one-third of the global exports (UNCTAD, 2016). All economies in the world have been in a competitive race to bottom towards attracting the multinationals which have manipulated this to their advantage and resorted

[4] The collapse of the textile cluster at Rana Plaza had claimed over thousand lives necessitating the enhancement of inspection of labour rights in factories. Through outsourcing of activities, it has become possible for multinationals to wash their hands off these issues. However certain initiatives like Asia Floor Wage has been floated by certain organisations. For a critical appreciation of the same (Krishnakumar, Asia Floor Wage, International Labour Standards and 21st Century Issues, 2019)

to practices like transfer pricing, i.e., under-invoicing of exports and over-invoicing of imports resulting in huge tax losses for the country where production is undertaken. The studies by OECD have revealed that an annual loss of $100 to $240 bn for economies (roughly 4 to 10% of the global corporate revenue) on account of Base Erosion and Profit Sharing(BEPS).[5]

And, most importantly, far disproportionate to the level of output or trade in the global economy has been the increase in the external assets and liabilities of economies. According to the Ninth Triennial Survey of Foreign Exchange of 2019, foreign exchange transactions on a daily basis has increased to $ 6 trillion, far disproportionate to the annual value of world trade (18 trillion annually) or world output ($80 trillion). A substantial share of the same is on account of forwards and derivatives. ever since the global financial crisis, As per the BIS data after the steep increase in the gross notional value of the derivatives outstanding to $ 34.94 trillion in December 2008(it literally doubled from its value in December 2007) , ever since it has decreased to $12.6 trillion in June 2021. While the derivatives have been referred to as the weapons of massive financial destruction by Warren Buffet, others like Greenspan among others find in them an efficient mechanism to facilitate the diversification of risk[6].

It is pertinent to note that the large rise in income inequalities within countries have resulted in the rise of money managers who have at their disposal huge funds under their management. They are the new purveyors of global liquidity. Among the diverse groups of money manager firms are asset management funds like Black Rock, insurance companies like Allianz SE, AXA, Berkshire Hathway, Nippon, Metlife to Aviva, sovereign wealth funds like Temasek Holdings, pension funds worldwide from the both the developing and advanced economies like CPPIB have been flush with funds under management which have been in search for yield.[7] All of this is over and above the fund flows in the form of loans from the part of the banks. Ever since the large asset purchases made by the different central banks in the aftermath of the global financial crisis, there has been a huge increase in flow of capital for these funds crisis-crossing the world in search for yield.

[5] https://www.oecd.org/tax/beps/

[6] For Warren Buffet's argument in 2007 see this link: https://www.youtube.com/watch?v=7nHQzSpDncA ' [n]ew financial products –including derivatives, asset backed securities, collateralized debt obligations and collateralized mortgage obligations to disperse risk toward those able and willing to bear it, and ensure that economic shocks did not lead to cascading credit failure' (Greenspan, 2002)

[7] Norfield's book give a lucid exposition to the diverse institutions in the word of finance, the fourth chapter on Power and Parasitism would prove to be particularly useful (Norfield, 2017).

II

Transition from Bretton Woods system to "flexible" exchange rates

The post-war international monetary system characterised by capital controls and fixed exchange rates came to an end with the United States not being able to honour the demand for gold as against the dollar liabilities from the rest of the world. The system which was the outcome of the Bretton Woods Conference in which Keynes and Harry Dexter White represented Britain and United States respectively was under the structured under the premises that the currencies shall be pegged to the dollar, and for every $35 of liabilities surrendered to US, an ounce of gold would be given in exchange. Only under conditions of fundamental disequilibrium would the exchange rate be changed. United States, which in the immediate aftermath of the world war has started with formidable stock of gold found it getting depleted fast in the course of the sixties, with the gold stock with United States being far lower in comparison with the dollar liabilities which it has with the rest of the world. The issue which Robert Triffin had raised long before regarding the durability of the Bretton Woods system has proven out to be true.[8] The world was moving out of the fixed exchange rate regime and making its entry into a world of largely flexible exchange rates. The regime in the post-war period was run driven by the arguments and concerns about the currency experience in the inter-war years by Ragnar Nurkse and the ideas of Keynes. Friedman's case that the flexible exchange rates would allow for methods of automatic equilibrium as well as permit autonomy over monetary policy gained currency. The fear of destabilising speculation was set aside and the regime of Bretton Woods came to an end and an era of flexible exchange rates was born, with Richard Nixon announcing the closing of the Gold Window.

Far from being "flexible", the period from the eighties could at best be characterised as a system of managed float. Foreign exchange intervention by the central banks of advanced economies were orchestrated towards managing the value of the dollar. After the Volcker shock which resulted in the interest rates in United States rising to very high levels, there was a large flow of capital to the United States resulting in the relative value of the dollar increasing vis-à-vis the

[8] If United States ran deficits and provided for dollars, then its ability to honour its commitments in terms of gold would be under threat, and, if it did not provide for this, it would affect world trade and international liquidity. (Triffin, 1947)

other currencies. This had a deleterious impact on the savings organisations in United States. Given the appreciation of the dollar against the other currencies, US manufacturing exports suffered significantly. As part of the 1985 Plaza Accord, it was decided that the other advanced economy Central Banks would resort to the selling of dollar thus bringing down its value. Further while the competitiveness of the Japan and Germany were at risk too, there were interventions done. All of the same happened with the Plaza and Louvre Accord.[9]

With the restrictive capital controls which were in vogue under the Bretton Woods system coming to an end, the period was witness to steep increases in the stock of external assets and liabilities. The international financial integration ratios of economies increased, those of the international financial centres increased even more.[10] As economies liberalised and their exchange rates were no more rigidly linked like in the past to the peg, there were words of caution from economists across the world from Diaz Alejandro to Patnaik and Rakshit that the propensity to crisis would be on the rise.[11] It was argued by the proponents of capital account convertibility and untrammelled mobility of capital that capital would flow downhill.[12] The 1991 World Bank Conference ended up celebrating and making Thailand as Asia's fifth tiger. Through its openness to capital flows in the 1985 to 1995 period with high growth rate, it was projected as model for the rest of the world. In fact, this was being done despite the aversion of the Fund and the Bank to the high current account deficits of developing economies. Part of the reason why they found the external deficit to be acceptable was that the same was not on account of government deficits but because the private investment was more than the level of private savings (Jomo, 1998).[13]

[9] After the Plaza Accord, the dollar depreciated by as much as 25% against the other currencies and the exchange rate of yen as against dollar became 150 Yen to the dollar in 1987, compelling the leaders to meet towards stabilising the value of the dollar. This was the Louvre Accord. In 1988, with US interest rate increase, the dollar appreciated in value.

[10] The international financial integration ratio refers to sum of the external assets and liabilities divided by the GDP of the country concerned.

[11] In the haste with which the developing countries were resorting to financial liberalisation , Diaz-Alejandro cautioned that they might very well be getting rid of financial repression and ending up soon in financial crash (Diaz-Alejandro, 1985).

[12] For a critique of the same see (Rakshit, 2001).

[13] Discerning the crises which occurred in east Asia, this argument in specific was put forward by Chandrasekhar, Sen and Ghosh.

The east Asian region and growth it experienced was big break for the developing world; other than the oil producers who stood to benefit from the quadrupling of oil prices there were no other economies in the developing country stable which were able to register rates of growth to have significant impact on the lives of people in the course of two generations. With unfavourable expectations not only were there capital outflows, debt-creating in particular, from Thailand, but, due to similarity in the export baskets in the region, the currencies of the rest of east Asia also came under speculative attack, which could not be explained by any of the macroeconomic parameters.

Right from the time of the Plaza and Louvre Accord, it has been very clear that the international monetary system after the collapse of the Bretton Woods system was not a flexible exchange regime as usually mentioned. Through these accords, there were interventions towards managing the value of the dollar to begin with. Given that capital controls were removed by many of the economies, it was clear that the economies would be susceptible to crisis. Number of developing economies were witness to crises in the course of the nineties. The 1994 Mexican crisis, the Asian financial crisis which followed the crisis in Thailand in 1998 and the crises in Russia(1999) and Argentina(2001) were interspersed with the collapse of the Long Term Capital Management and the collapse of the dotcom bubble, which had repercussions for the global economy. With the emergency liquidity support from the IMF not being forthcoming for the developing economies embroiled in crises, they had to take upon themselves the responsibility of securing themselves against speculative currency attacks.

The East Asian currency contagion resulted in severe macroeconomic costs to the region and became the rallying point for those opposed to capital account liberalisation. India, too was readying with its proposals of capital account liberalisation with the Tarapore Report, but now things had to be shelved with Bhagwati arguing that "markets for foreign exchange should not be compared to the markets for widgets" (Bhagwati, 1998). Contrary to the extraordinary briskness with which the United States acted during the Mexican crisis, such efforts were not forthcoming from the part of the international organisations like the IMF. In fact, the developing countries were exposed to a peculiar situation wherein they had to think in terms of their own risks incurring costs. Even as the programmes were finalised and the grants been made, it was more

inclined to support the international bankers who have burnt their balance sheets by lending to the region.

The immediate effect of the same has been in the form of large scale accumulation of foreign exchange reserves done by the developing countries, they only knew so very well that they could not count on the IMF for liquidity facility during extraordinary times. Experience has taught them that that they should be least bothered about the social costs involved in the accumulation of foreign exchange reserves.[14]

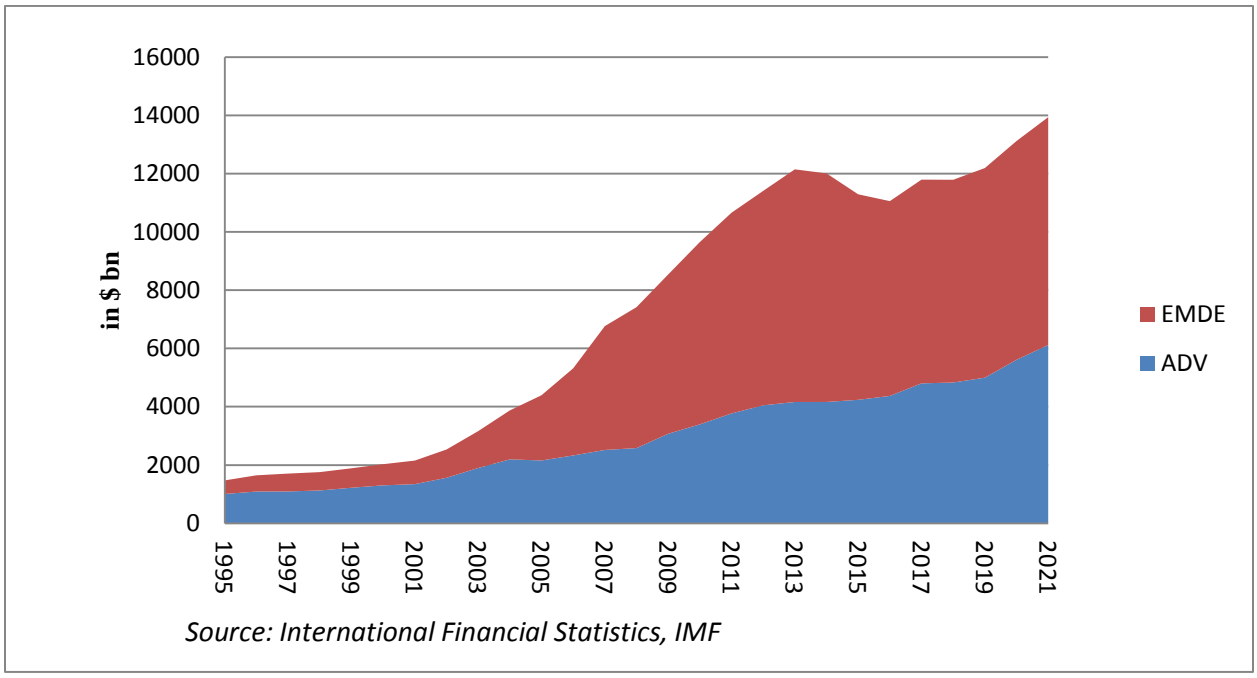


Figure 3: Foreign exchange reserves (excluding gold): $ billions

In India, when there was an inundation of capital flows in the 2003-08 period, not only had the the RBI done a large amount of intervention in the foreign exchange market, but had also initiated steps towards the promotion of investment abroad. Further, towards facilitating sterilisation of the same so that the money supply does not increase beyond a limit, there was the issuance of Market Stabilisation Scheme(MSS) bonds, the interests on which would be paid by the government. The financial flows to the emerging market economies were driven by all those

[14] Given the spread between the yields on reserve assets and costs of foreign borrowing, Rodrik estimates that the social cost of holding reserves to be at 1% of the GDP. Though this he considers to be a reasonable insurance against the occurrence of financial crisis, the developing countries could have reduced risks by reducing short term foreign liabilities. (Rodrik, 2007)

institutional investors, private equity funds, pension funds and hedge funds, reflective of the growing inequalities and declining government-directed social security measures.[15]

The first decade of the century was witness to steep increase in the accumulation of foreign exchange reserves from the part of the east Asians. At present, the stock of foreign exchange reserves in the world economy is at $13.94 trillion; 14.5 % of the world GDP, out of which the central banks in the EMDEs account for $7.9 trillion (Figure 3). This preference for the safe asset to hedge against speculative currency attacks from the part of the developing countries was not infrequently being characterised by economic policy circles in United States to be deliberate efforts towards enhancing the competitiveness of their exports.

The foreign exchange reserves of the emerging and developing economies witnessed a steep increase from $ 725 bn in 2000 to $ 4.25 trillion in 2007. In others words it increased from 10.1% of their GDP to 25.5%. As of 2021, the stock of forex reserves with the EMDEs is at $ 7.82 trillion. Three points are to be noted here. Firstly, a lion's share of the foreign exchange reserves is on account of China which has a stock of $ 3.3 trillion in 2021. Two, other than small subset of the developing country exporters in east Asia as well as the oil exporters in the Middle East, very few of the economies have their accumulation being done on the basis of current account surpluses; most of the accumulation is done on the basis of the net inflows on the capital/financial account. Thirdly, as part of the policy steps which are initiated towards nullifying the impact of the external capital inflows, the central banks in co-operation with governments are forced to undertake sterilisation exercises incurring heavy fiscal costs.

Here again, the foreign exchange reserves of India has been on the rise riding the tide of net inflows on the financial account. Worse, while the forex reserves as share of the external debt used to be at 135.5% in 2007, it has shrunk to 104.6% in 2021(Figure 4), whereas the absolute amount of the foreign exchange reserves of the country has increased from $ 266.98 bn in 2007 to $ 594.35 bn in 2021. Moreover, the short term external debt of residual maturity accounts for, as per the RBI estimates, 41% of the foreign exchange reserves in 2021.

[15] For more on the financial flows to the developing world and on details with respect to the same about India (Chandrasekhar, 2011)

The developing countries have been alleged as resorting to the accumulation of forex reserves towards enhancing the competitiveness of their exports. In the various editions of the Report of Macroeconomic Policies, attempts were made to draw attention to the same on the basis of the bilateral trade surpluses which the United States has with the country concerned, ignoring the very fact that the United States continues to have large balances on the services front.[16] Moreover, the extent of share of intra-firm trade in the global economy which accounts for 30% of the total trade also works to the advantage of economies like United States contributing to its net investment income.

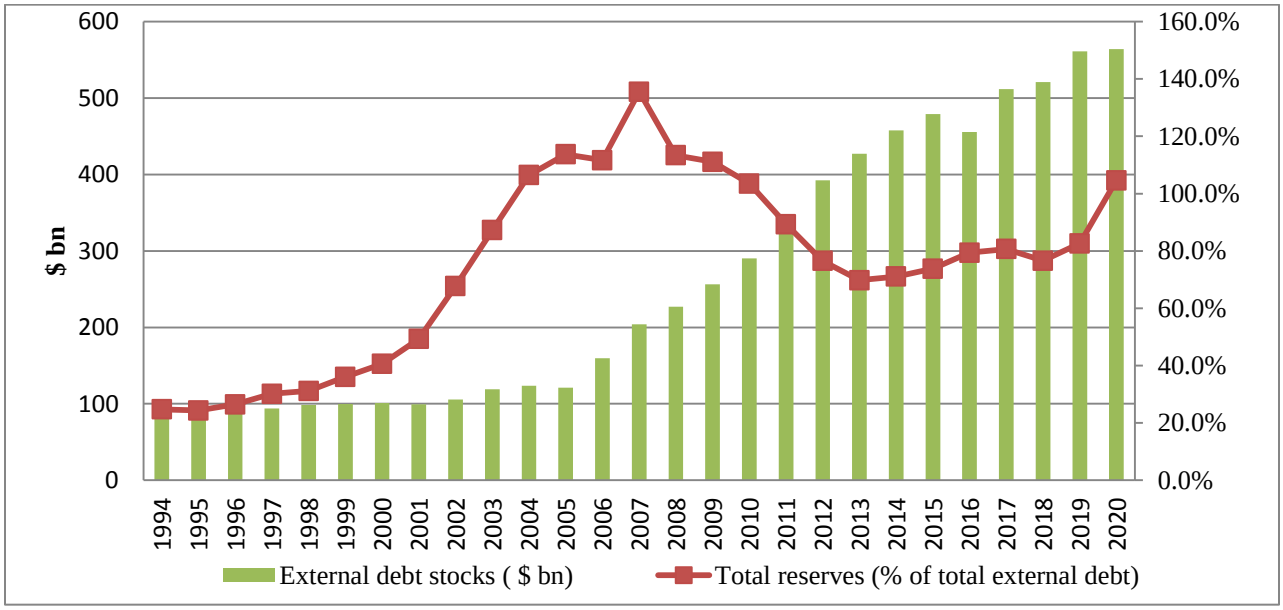


Figure 4: Forex reserves as share of external debt stocks of India. Source: International Debt Statistics, World Bank 2021

Notwithstanding the foreign exchange reserves, the effective exchange rates of set of developing economies as reported by BIS database reveals that other than China, Korea and Thailand their currencies have been depreciating (Figure 5). With the decision of the Federal Open Market Committee(FOMC) recently towards increasing the targeted federal funds rate, the currency markets of different emerging economies are already in disarray with huge capital outflows from them as expected.

[16] For a critique of the same see (Krishnakumar, 2018)

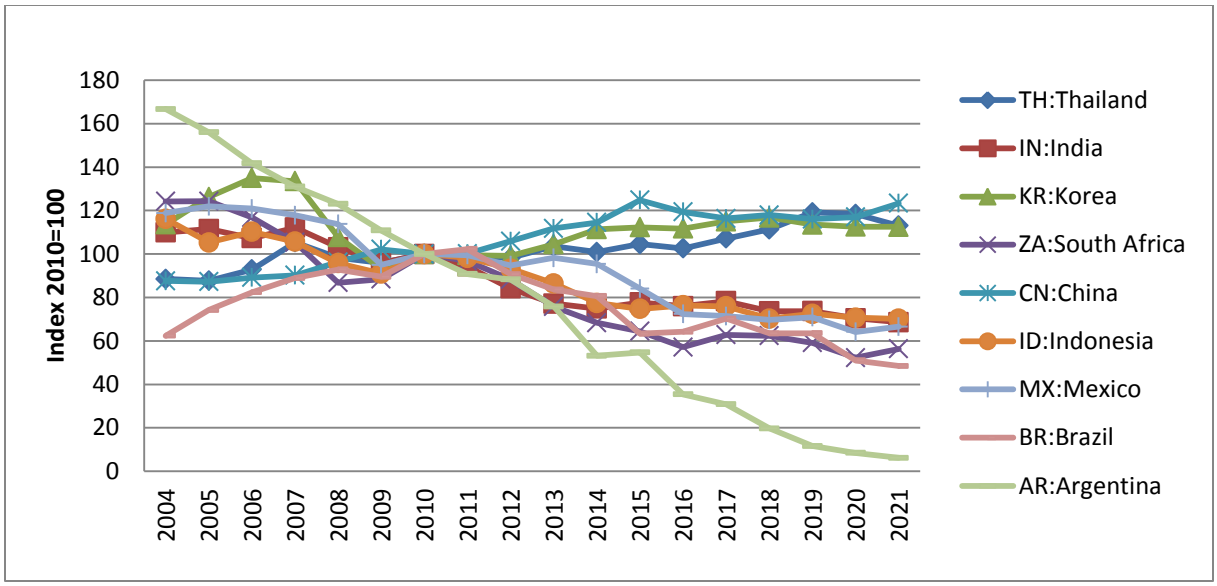


Figure 5: Effective exchange rates of EMDEs: 2004 to 2021

It is important to note here that in contrast to the period before the global financial crisis, the pace of foreign exchange reserve accumulation of the advanced economies have been on the increase. While it increased from $1 trillion to $2.5 trillion between 1995 and 2007, it was a steep increase from there to $ 6.1 trillion in 2021, i.e., 10.9% of their collective GDP. This rise in forex accumulation from the part of the advanced countries had resulted in their share of the total foreign exchange reserves increasing from 37.2% during GFC to 43.9% in 2021. In other words the rapid pace of forex accumulation done by the EMDEs which resulted in their share increasing from 36% in 1997 to 65% in 2008 has been reversed ever since. While a part of the reserve accumulation could be attributed to the reluctance to resort to investment given the risks and uncertainties, the rest of the same is also due to complications which two-way gross capital flows had had on the euro periphery, with the European sovereign debt crisis. This demand for safe assets and reserves from the part of the central banks has now added to the safe asset shortage problem in the global economy. It should be remembered that the unsatiated demand for safe assets in the run-up to the global financial crisis was met with the increase in the private labelled securities which were issued by the process of securitisation which had picked up momentum in the US economy in an unprecedented pace.

For any country *per se* the accumulation of safe assets would be best option, given the uncertainties in the international economy. But, one should not forget the fact that while all the

economies resort to the same, the demand for safe assets would increase, the price of the same would rise up and the return decreases, typically reflective of slowing global economy. The collective reserves of the global economy at present being at around 14% is also reflective of the sort of shortage of demand which is generated in the system, adding to the deflationary tendencies.

The Bretton Woods fixed exchange rate system had as one of its most important problems the issue of the exorbitant privilege which the United States had enjoyed by virtue of the fact that the rest of the world had to keep acquiring the low interest yielding bonds of the United States in order to maintain the peg with dollar. This, they did, knowing only too well that the United States did not have the gold stock through which it could honour the huge pile of external liabilities which were accumulating. Needless to say, the French Finance Minister Estiang had drawn attention to the exorbitant privilege with which United States was shopping the world.[17] But did this exorbitant privilege which was also instrumental in bringing down the Bretton Woods system disappear with the regime shift to flexible exchange rates? Before we undertake a calculation of the same on the basis of the data from the Bureau of Economic Analysis, let us look at some facts of the external balance sheet of the United States.

The United States has had net international investment position which has been negative ever since the 1989. At present, the NIIP of the USA is at (-)$18 trillion, which is -78% of the US GDP(Figure 6). The pace at which the external assets of United States has increased has been lower in comparison to the pace at which the liabilities of the United States has increased.

The external liabilities of the United States increased from $9.2 trillion (i.e., 90% of the GDP) in 2000 to $ 53.3 trillion (i.e.,232% of the GDP) in 2021(Figure 7). During the same period, the external assets of United States has increased from $7.6 trillion (i.e., 74% of the GDP) in 2000 to $ 35.2 trillion (i.e.,154% of the GDP) in 2021(Figure 8). It is pertinent to note here that the large scale accumulation of US Treasuries which gave them low rates of return from the part of the developing economies pick up in the beginning of the century. The United States was in this process reinforcing its role as the provider of safe assets in the global economy. Despite the

[17]For a brief biography on Valery Giscard d' Estaing who popularized the usage of exorbitant privilege(earlier coined by Jacques Rueff) to mention about the undue American advantage and whose whose interventions had gone into the making of the SDR and euro later, see https://www.omfif.org/2020/12/giscard-destaing-architect-of-euro-and-sdr/

external liabilities of the country far outstripping the external assets, the investment income inflows have been more than sufficient for all these years towards meeting the payments to be made on its external liabilities.

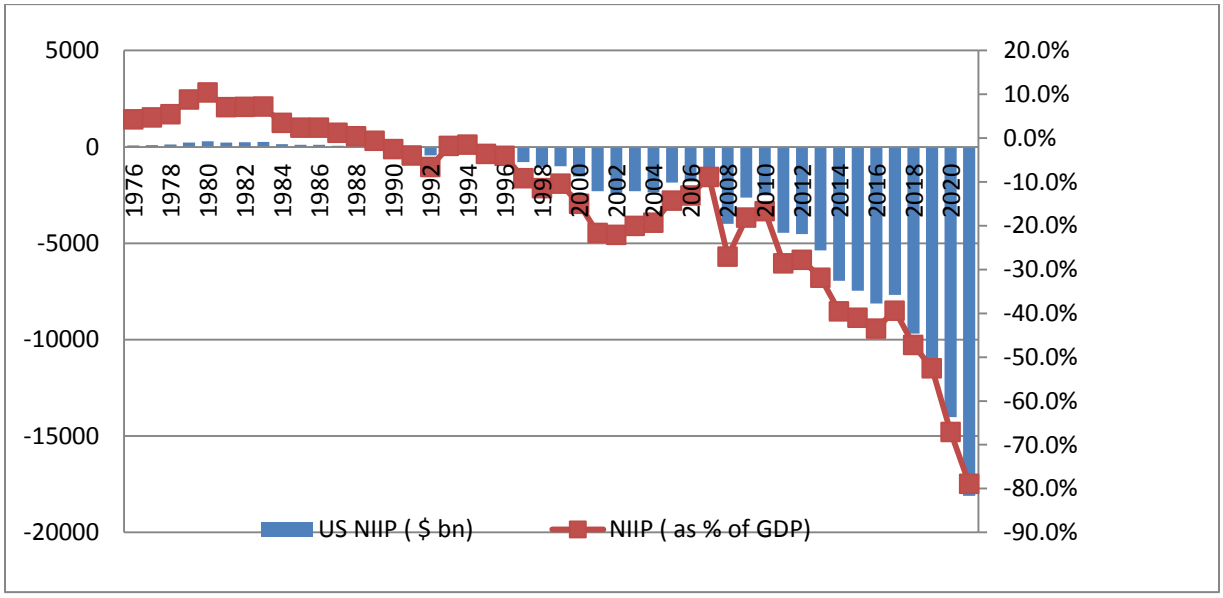


Figure 6: Net International Investment Position of United States.

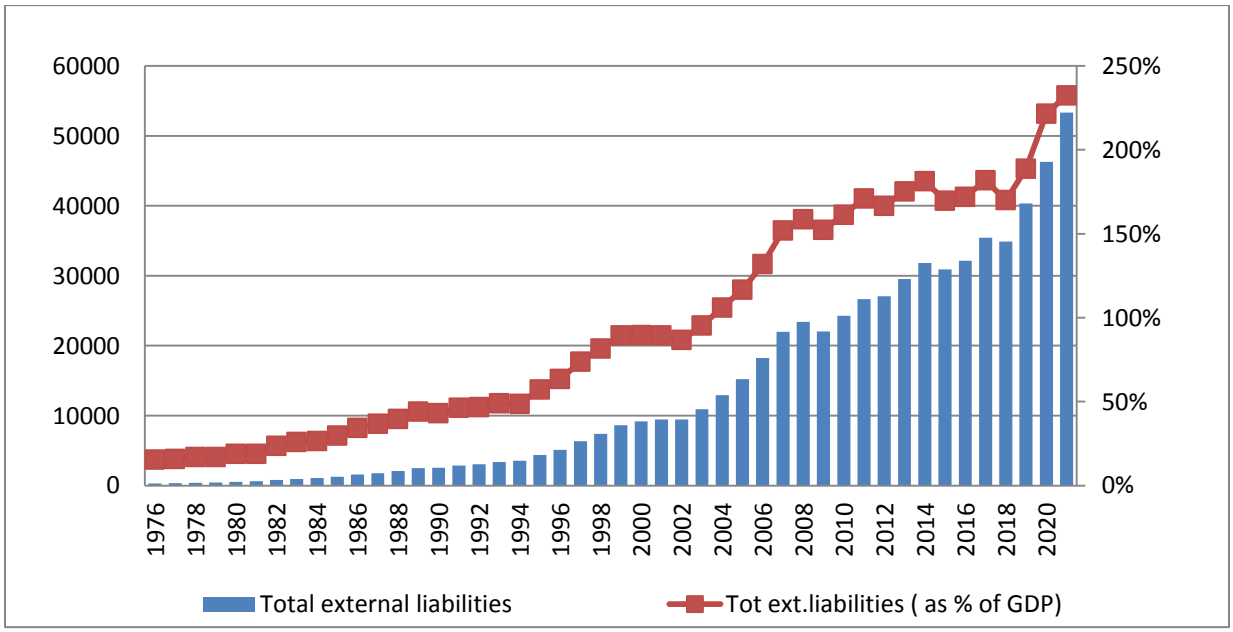


Figure 7: Total external liabilities of USA

To examine as to whether the exorbitant privilege of United States dollar continues, we try to calculate the rate of return on the assets and liabilities of the United States. For this we use the data from the Bureau of Economic Analysis of the United States.[18] Towards calculating the rate of return on the assets in year t, we divide the investment income in year t+1 by the value of the external assets in year t, and similarly we divide the investment income outflow in the year t+1 by the external liabilities in year t. We find that the exorbitant privilege, i.e., the difference between the return on assets and liabilities of the United States continues to hold. Though compared to the seventies both the returns on assets as well as liabilities have registered a decline, the difference in the return on assets as against the liabilities has consistently been positive. It is important to note that the return on the external assets have increased in the period after the global financial crisis compared to the return on assets. In fact, the wedge between the returns on assets as well as on liabilities has increased in the period post global financial crisis thanks to the extremely low yields on Treasuries (Figure 9).

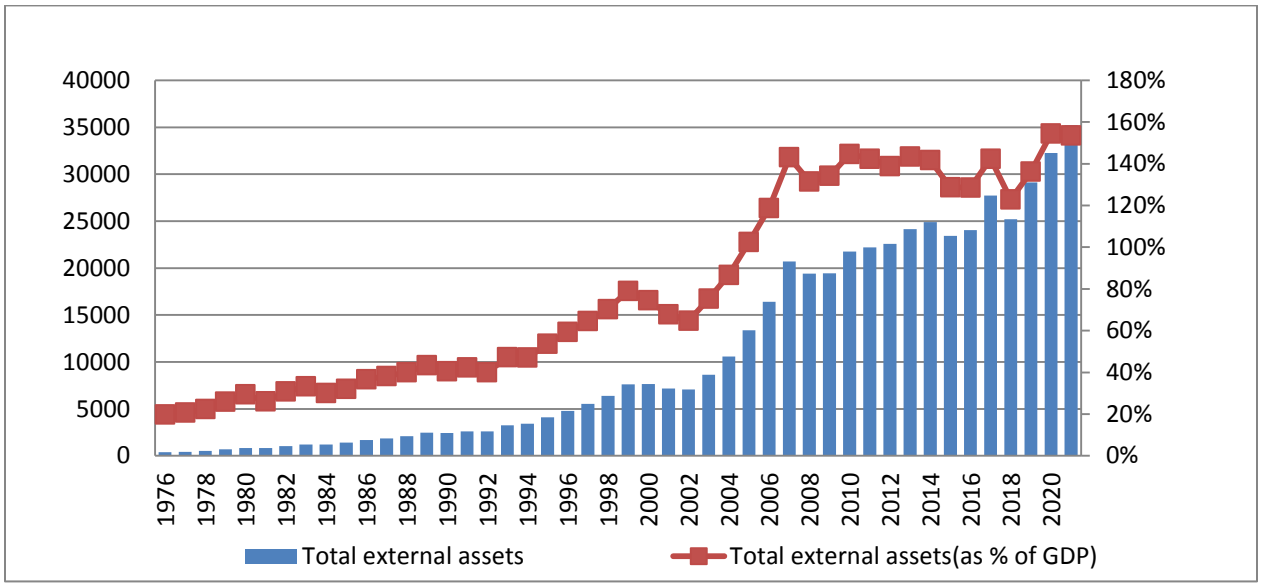


Figure 8: Total external assets of USA($ bn)

In other words, the rate of return on the external liabilities continue to be far less in comparison to the returns received from external assets that the exorbitant privilege of the United States

[18] Specifically the data of the external assets and external liabilities of United States from Table 1.2: US Net International investment Position as well as the data relating to investment income from Table 1.1 US International Transactions.

which was the major bone of discontent during the Bretton Woods period continues to hold under the new regime. Though the share of the foreign direct investment in the liabilities of the United States were at 13% of the total external liabilities in 2008, it has increased to 29% in 2021. Is this to be seen just as a result of high increase in the market valuation of Untied States stocks, or is the world viewing United States an important avenue of investment like in the 1994 to 2000 period. With the advantage which United States has in the field of technology and digital platforms as well as in the business of retail and fintech, we would have to watch in the immediate future for the changes in this regard.

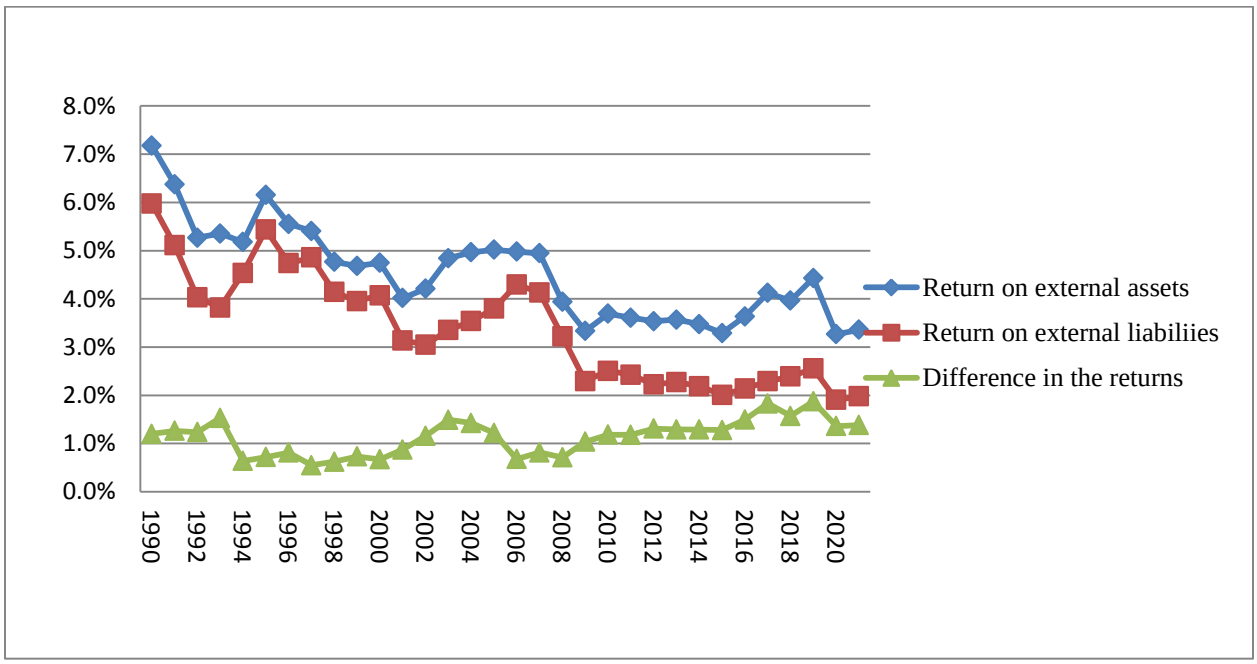


Figure 9: Difference in the rate of return on external assets and liabilities

It should also be noted that as the trade or current account deficit of United States increases, the exchange rate of the same depreciated, but by virtue of the huge assets which it holds abroad by virtue of the appreciation of those assets abroad, its net international investment position (NIIP) did not deteriorate by as much as the deterioration in the current account.[19] Moreover, during the time of crises like the global financial crisis, there is the flight to the dollar by virtue of which

[19] Though between 2002 and 2006, the current account deficits of the United State were around 5% of the GDP annually, during this period there was no change in the net international investment position of the United States. If the cumulative current account deficits of the United States from 1983 to 2005 totaled at $ 6 trillion, the NIIP only deteriorated by $3 trillion. Drawing attention to the same in detail are (Lane & Milesi-Ferretti, 2009)

dollar appreciates resulting in the decrease of the value of the assets abroad decreasing in value and their being a net wealth transfer to the rest of the world during extraordinary times.

The informal international monetary system of sorts which took shape in the course of the initial part of the current century is referred to as Bretton Woods II. This has the United States continuing to be centre and the emerging economies like Asia being major resource accumulators. Dooley and others characterised this as the Bretton Woods II model in which there is the core, i.e., USA, the trading economies and the capital account economies. The objective of the core economy USA in this system is to retain its reserve currency status in the international financial market, notwithstanding its growing current account deficit. With its surplus labour and cost advantage, the trading economies are willing and only too ready to accumulate dollars to preserve the value of their currency against the dollar. They do not want their currencies to appreciate with their trade surpluses. So we have system wherein the trading economies use the surpluses, both on account of current and financial account towards accumulation of dollars in such a manner that currency does not appreciate and the peg is maintained. The US, on the other hand benefits from the source of finance it receives from the rest of the world by virtue of the demand for its Treasuries. The leader country did not have anything to bother about the burgeoning current account deficits on the value of the dollar, the surplus economies of east Asia and the oil-rich Middle East as well as the others with net financial account surpluses were only too willing to accumulate the US Treasuries indeed to keep the exchange rates of their currencies at a depreciated value. This system is modelled as Bretton Woods II by a set of authors (Dooley, Folkerts-Landau, & Garber, 2003). They argue that with the labour reserves in some of the current economies getting exhausted, there would be others who would graduate in as the periphery trade account economies.

Though the set of developing and emerging economies which have been accumulating dollar securities are doing it with a self-insurance motive, this has been characterised as enhancing their competiveness of exports (trade account countries). The capital account economies, which includes the rest of the advanced economies would invest only for better returns. This system worked significantly in favour of United States which as a centre country was only interested in shoring up the price of its dollar and reaping the advantage of the reserve currency despite the growing current account deficits.

The source of demand provided by the United States in the post-war period had played an important role in the initial development of the east Asian economies. In the new system, the US treasuries in which the developing economies stay invested would serve as some sort of a collateral against the foreign direct investment which US and other advanced countries are undertaking despite the political uncertainties. Not only does this preserve the value of the dollar as against weaknesses but also enable the developing countries to get larger markets abroad for their currencies are not appreciating despite trade surpluses. For a brief period, though this conceptualisation was true also, as is evident from the figure on current account imbalances in the global economy, matters have gone for big change ever since the global financial crisis.

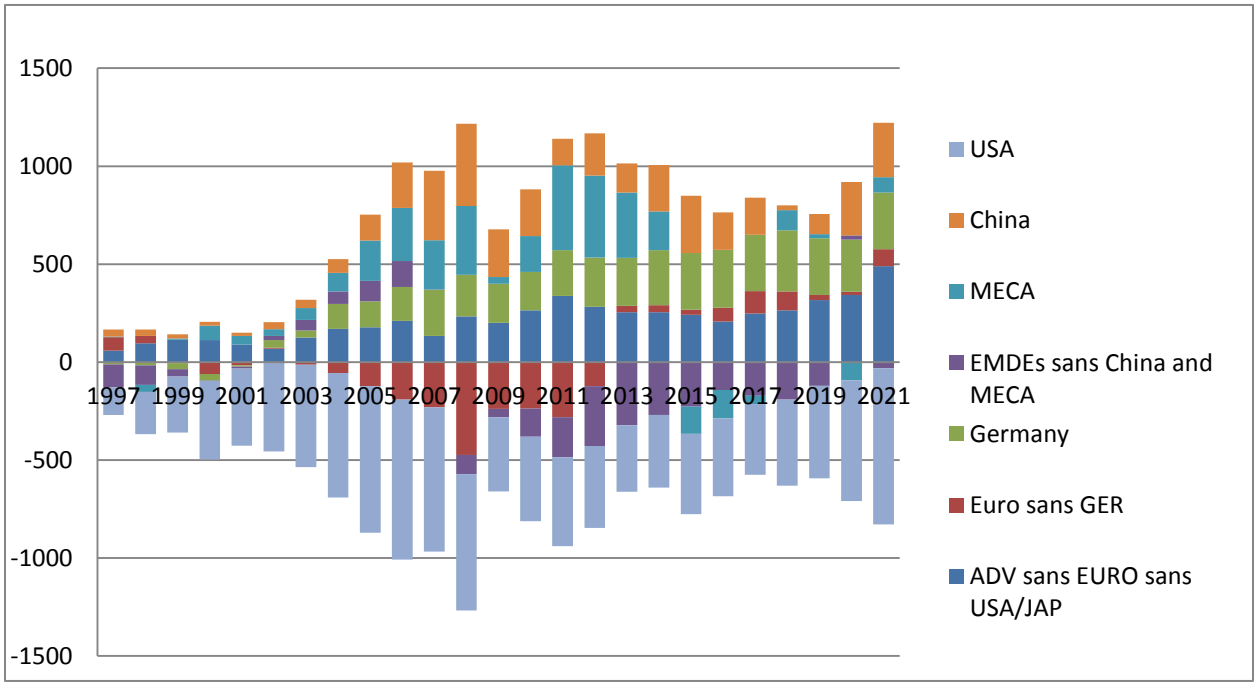


Figure 10: Global Imbalances in the world economy ($ bn)

The current account surpluses of China and the east Asian economies increased in the first decade of the century, in particular, till the global financial crisis. The surplus of China increased from $ 21 bn in 1999 to $ 420 bn in 2008. The MECA group which include the oil producers also saw their surplus increasing to $ 350 bn in 20008. It is also to be noted that the EMDEs other than China and oil producers also had a surplus, though small in the run-up to the financial crisis. In this period , though we find that the current account surpluses of Germany has been on

the rise from a deficit of $31 bn in 1999 to a surplus of $ 213 bn in 2008, the rest of euro area was in deficit. During this period the current account deficit of the United States has increased from $286 bn to $ 696 bn, with deficit being the maximum at of over $ 817 bn in 2006, i.e., 6% of the US GDP (Figure 10). In others words, the leader country of the world was able to assure higher level of consumption than its level of output with the assurance that the Asian developing countries with far lower per capita incomes would be ready to continually accumulate US Treasuries ensuring a lower level of interest rates. We had the advocates of financial liberalisation making a case against capital controls suggesting that capital would flow downhill to the developing countries. Per contra, we have significant net resource transfers occurring to the United States, i.e., adding up the current account deficit with the net income earnings had indeed been formidable during this period which is modelled as Bretton Woods II.[20]

It is important here to note that the abundance of global liquidity was triggering growth and demand in the system during the period prior to the global financial crisis. There was a burst of activity with financial innovation in the creation of securitized products and associated derivatives. The sudden downturn in the American residential prices, and with it, the reduction in the prices of the asset backed and mortgage backed securities *pari passu*, resulted in the number of European banks which had a heavy exposure to the same suffering a severe loss landing them in crisis. Indeed, the banks in Europe were to go through long process of deleveraging reflected in the large decrease in the international claims of banks to world GDP ratio which fell from 66.8% to 40% as per the BIS data (Figure 11).

[20] Borrowing from the Greek epics, in an important work, Yanis Varoufakis characterises the ability of the United States to gobble surpluses from the rest of the world in his work Global Minotaur.

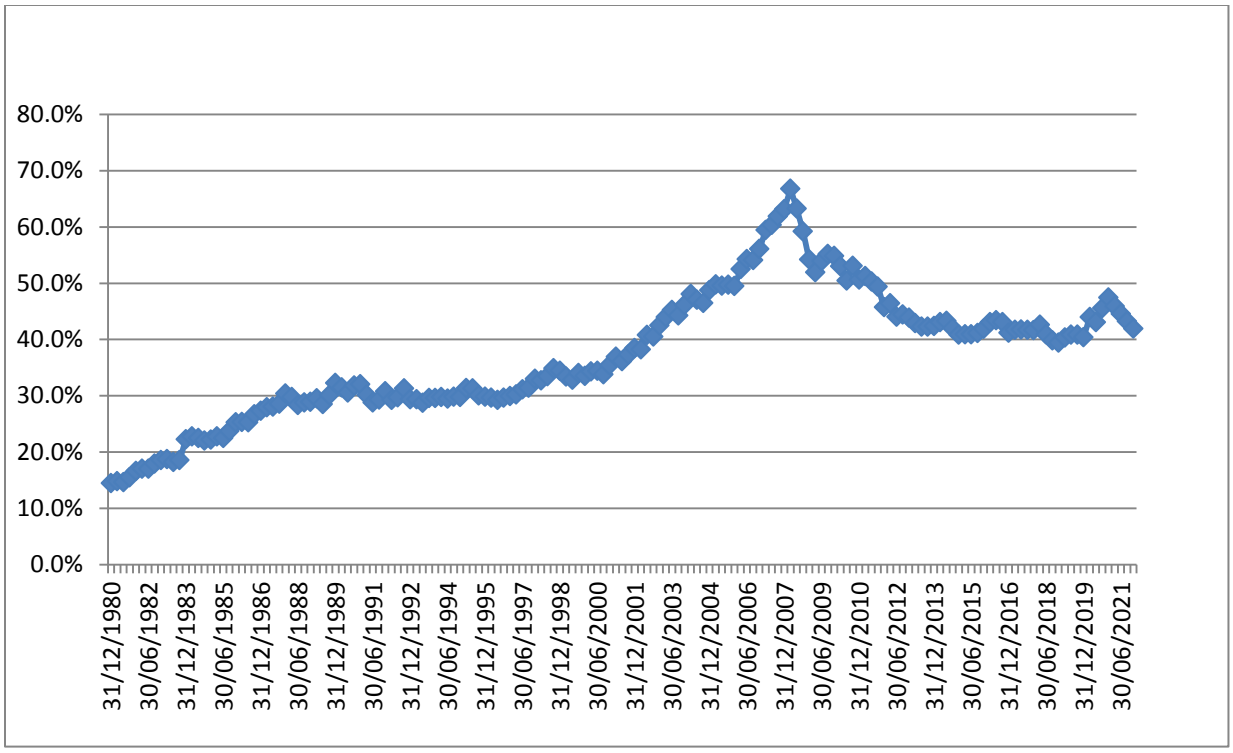


Figure 11: International claims of banks on all sectors (as % of world GDP)

Not only did Germany have a current account surplus in the runup to the crisis, but the current account of the whole of the euro area was also in balance. Nonetheless they ended up in a severe crisis.[21] This brings us to the fact that even when the current account is reasonably balanced, the countries could end up in crises, for most of the crises in these days of financial globalisation are associated with the capital or financial account. In this case, the European banks had borrowed short in the wholesale dollar market to invest long in these securitised products and their derivatives. When suddenly, it could not be rolled over, the European banks had their balance sheets in disarray.

Post-global financial crisis with the reduction in the current account deficit of the United States, it is important to note that the surplus of China has dwindled from $ 420 bn in 2007 to $ 103 bn in 2019. During the same period, we find the current account balances of the MECA registering high level of volatility with changes in the price of oil. Most importantly, the EMDEs other than China and MECA which used to have small surplus in the period prior to the global financial crisis found the same registering deficits from 2011 to 2019 and are finding the financing of their

[21] In his recent work on the crisis Crashed, Adam Tooze uses the word Great Atlantic Financial Crisis rather than Global Financial Crisis. He attributes this nomenclature to Rakesh Mohan.

deficits a significantly difficult task. The outbreak of the pandemic has made things even worse, there have been various efforts in the direction of the rescheduling of the debt. In other words, even as the accumulation of foreign exchange reserves has been keeping the dollar away from trouble, the financing problems of the developing countries have come back with a redoubled strength. Over and above this, Germany has been able to consolidate on its current account surpluses. The rest of the advanced economies have also been improving on the current account surpluses, though the deflation in those economies is responsible for the same.

In sum, the phase after the collapse of the Bretton Woods system was characterised by freer mobility of capital. Though generally characterised as a period of flexible exchange rates, the exchange rate of even the leader country was managed. With the preponderance of financial crises which rocked the emerging economies across continents, there was an unprecedented accumulation of foreign exchange reserves from the part of the developing economies. Given the large demand for US Treasuries from the part of the central banks across the world, the cost of financing became cheaper for the United States. It was the exorbitant privilege of the United States dollar which was contested by Estiang and Schmit during the Bretton Woods period, but the same continues with the rate of return on external assets of United Sates being far more than the rate of return on its external liabilities. It is in fact the compulsions of the emerging economies of accumulating foreign exchange reserves which has been allowing the dollar to hold fort. Given that it was the inability to receive emergency liquidity assistance during times of crises from the international financial institutions like IMF which were pushing them to this compulsion, shouldn't the intentional monetary system be reformed to suit the grammar of international finance in the contemporary world? About the same we came to in the next two sections.

III

Global liquidity and the Policy Initiatives During the Global Crises

Global liquidity refers to the ease of international financing. If in a period, one is successfully able to dispose of an asset without incurring any capital losses, it implies that there is a favourable tide of global liquidity. The sudden shifts in the risk perceptions gets transmitted from one part of the world to another with such speed that in the current global economy, the

conditions in one part of the world gets transmitted to the rest of the world fast. Such swift transmission has its implications on asset and property prices, and, most importantly on exchange rates. Most of the developing countries who have been basking in the glory of the huge inflows of debt creating inflows would be caught in a risky situation under these circumstances. It is known fact that a large share of the capital flows in the global economy has been of a debt-creating nature, and, a lion's share has been of a short-term nature which is done towards benefiting from the interest rate differentials across countries.

Given the denomination of liabilities in foreign currencies, this sudden shifts in global liquidity could very well push different corporations to a state of illiquidity and bankruptcy, particularly so, if they have not hedged against the risks involved. Both in the case of banks as well as non-financial corporations which rely on short-term borrowings, the renewal and rollover of their loans becomes very risky under unfavourable conditions. The rollover of short term liabilities is of paramount importance for the big banks for most of them rely in the current world on wholesale liabilities rather than retail deposits towards financing their deposits.

Institutions should have a more nuanced understanding about the liquidity/ illiquidity of their assets. The quick transformation of market illiquidity to funding illiquidity with even traditionally highly liquid interbank markets finding severe squeeze in liquidity was unprecedented during the global financial crisis.

Increase in international assets of banks worldwide happened in the first round with the quadrupling of oil prices in the seventies. The international banking system was inundated with petrodollars and interest were at lower levels. Through syndicated deals, consortium of bankers were pushing loans to the developing country governments, particularly so, Latin America. All of that came to an end with the increase in interest rates, the Volcker shock, which hiked the targeted federal funds rate with an intent of fighting inflation. The increased interest rates in the global economy coupled with the deterioration in the terms of trade pushed he Latin American economies to the debt crisis.[22] There was yet another upswing with respect to global liquidity which ended with the Asian financial crisis.

[22] The efforts towards rescheduling the loans picked up momentum when it was discovered that number of American banks too had a large exposure to the region. The Brady Plan and the Baker Plan and the shifts in the terms of negotiation is history. Nonetheless, the debates around the international debt crisis, needless to say , evoked

There was steep increase in the international bank claims which picked up momentum after the lull after the Asian financial crisis. The reduction in the US federal funds rate in the period just after the bursting of the dotcom bubble (the collapse of the hyped values of the tech stocks in United States) added to the same. As per the Consolidated Banking Statistics of the BIS, the international claims of banks was witness to steep increase from $ 8.3 trillion in 1999 to $ 32.3 trillion in 2008, the stock of international claims have almost quadrupled during this period. (Figure 12). Our calculations show that the international claims as a ratio of the world GDP increased from 33% to 66.8% during this period.

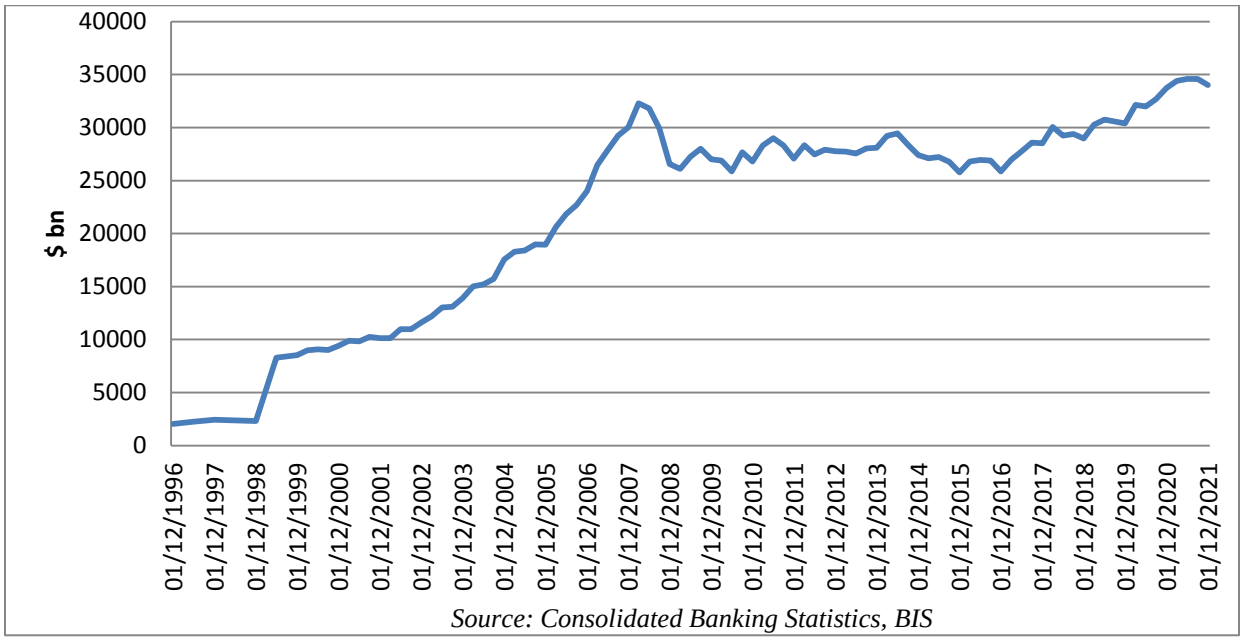


Figure 12: Amount outstanding ($ bn) of international claims of all reporting nationalities

The years of boom which were running piggyback on the great credit upswing was coming to a halt. Even when the median wage earnings in the United States had not registered much of an increase since the eighties, the debt-driven boom with low interest rates as well as the private wealth effect which many of the citizens in United States experienced with the rise in the asset prices of property and stocks as well the easy availability of credit more than substituted for the stagnant rate of growth of real wages (Brenner, 2000). The favourable conditions of global

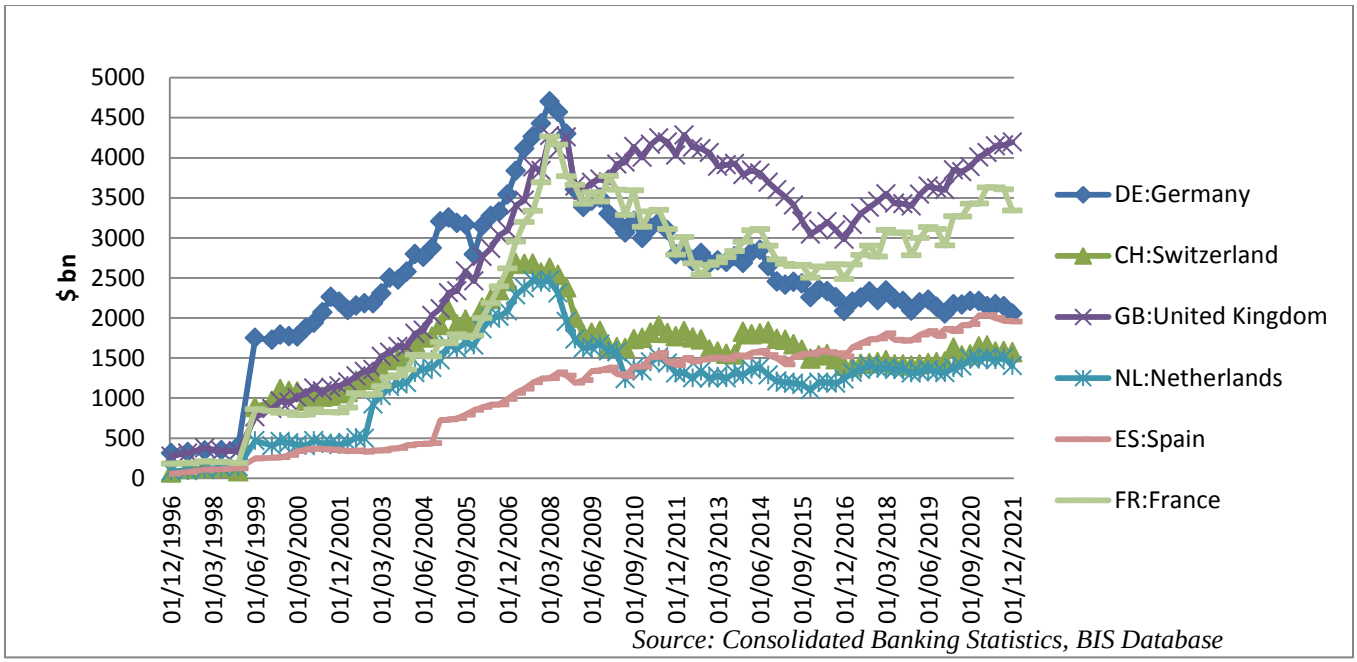
arguments ranging from profligacy of governments in Latin America to the readiness to banks to shoulder any risk under the surety that the governments and international financial institutions would stand up for them, the similarities of the negotiation strategies continue even when the countries involved in the recent past included advanced European economies. Any case the debt driven growth of Latin American economies had pushed them to two decades of no or slow growth.

liquidity which used to facilitate large scale leveraged buyout operations in the international economy suddenly waned. Such huge swings in global liquidity pushing the global financial system to risks and uncertainty forced the central banks to experiment with new tools.

The European banks which had a big exposure to the assets based on the sub-prime mortgages in United States suffered a severe setback in their balance sheets. The big European banks which were the major intermediaries of global liquidity through the wholesale borrowing which they did in the US money markets found that the markets for the asset-backed and mortgage-backed securities had become illiquid with the collapse of the property prices in United States. The situation became even worse with the inability of the banks to rollover their loans from the wholesale money market (funding illiquidity) forcing them to sell-off their securities resulting in the spiraling down of the asset prices. This quick transmission of the decline in property prices in United States to the market for ABSs and MBSs and from there to the markets which funded them resulted in number of European banks being forced to go through the process of deleveraging.

With the global financial crisis, the stock of international claims have been on the decline particularly so due to the deleveraging of the European banks, and it was only in recent past that with the stock of international claims have crossed the levels which they have reached in 2008(Figure 12).

Being unable to renew their liabilities in the US money markets, the European banks which had a big exposure in the market of asset backed and mortgage backed securities had to resort to selling them sustaining losses. The great deleveraging resulted in the international claims of the German banks decreasing from $ 4.7 trillion in 2007. As of 2021, it is at $2.05 trillion. The same holds true with respect to banks headquartered at France, Switzerland as well as Netherlands (Figure 13). In the case of Britain though the international claims has decreased between 2008 and 2017, ever since it has increased to $ 4.15 trillion in 2021.

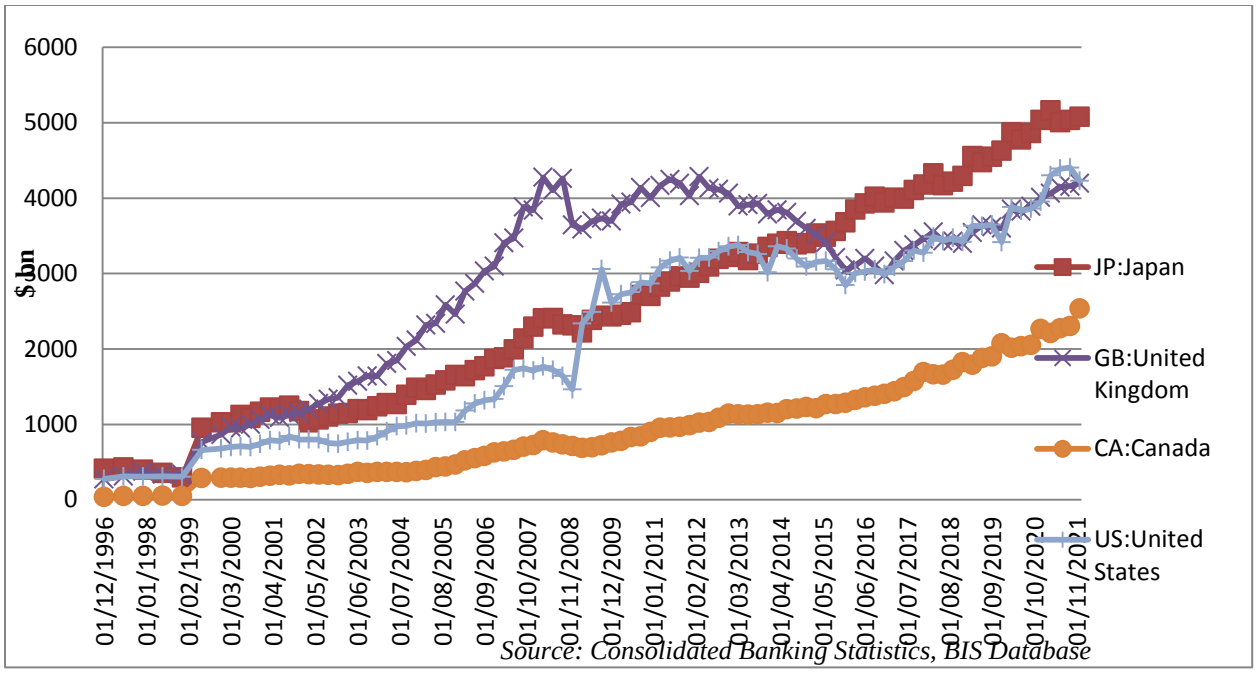


Source: Consolidated Banking Statistics, BIS Database

Figure 13: Deleveraging of European banks during the Global Financial Crisis

The intensity of deleveraging was not the same across nationalities. The banks headquartered around Spain did not suffer much due to their reliance worldwide on local liabilities towards the conduct of the international banking activities rather than relying on cross border loans which were linked more to the conditions of global liquidity. Since the crisis, its international claims have witnessed an increase, marginal though. In fact the global financial crisis was also witness to the international claims of other banks being on the rise. The international claims of the Japanese and Canadian banks have been on the rise; while the international claims of the Japanese shave increased from $2.29 trillion to $5.03 trillion between 2007 and 2021, that of the Canadian banks have increased from $724 bn to $2.5 trillion. We are not able to capture the effective rise of the Chinese banks in the international system because they have not been reporting data under the Consolidated Banking Statistics to BIS. Given the growing trade relationships which they have with a number of emerging market economies, the Chinese banks have been able to make it to the list of the banks in the current world economy.[23]

[23]Among the leading banks headquartered in China which figure in the list are Industrial and Commercial Bank of China Ltd., China Construction Bank Corporation, Agricultural Bank of China Ltd and Bank of China Ltd.



Source: Consolidated Banking Statistics, BIS Database

Figure 14: Amount outstanding of banks on a nationality basis ($ bn)

The table illustrates the details relating to foreign claims of the different reporting banks of various nationalities as of end December 2021 of $34 trillion, Japan(14.9%) , United States(12.4%), United Kingdom(12.3%), France(9.8%) and Canada(7.5%) account for the largest share (Table 1).

With the squeeze of liquidity in the international financial markets, given the interconnected nature of the global economy it was not possible for the central banks to watch this spectacle, they had to put their act together in co-ordination. The Federal Reserve had to take up the responsibility for the provision of dollar liquidity, they had opened up dollar swap lines with number of central banks. All the central banks had resorted to massive purchases of securities.

Table 1: Foreign claims of banks of different nationalities

Summary of Foreign claims of immediate counterparty (as on Dec 2021)		
	$ bn	as %
All bank nationalities	34007.9	
Japan	5078.7	14.9%
United States	4227.6	12.4%
United Kingdom	4195.7	12.3%
France	3342.1	9.8%
Canada	2535.8	7.5%
Germany	2053	6.0%
Spain	1955.1	5.7%
Switzerland	1571.4	4.6%
Netherlands	1403.1	4.1%
Italy	1009	3.0%
Australia	811.9	2.4%
Singapore	649	1.9%
Austria	471.3	1.4%
Finland	460.5	1.4%
Chinese Taipei	424	1.2%
Sweden	360.2	1.1%
Denmark	331	1.0%
Belgium	268.3	0.8%
Korea	246.3	0.7%
Brazil	118.7	0.3%
India	109.8	0.3%
Portugal	104.3	0.3%
Ireland	101.7	0.3%
Greece	85.1	0.3%
Panama	28.1	0.1%
Turkey	24.1	0.1%
Chile	16	0.0%
Mexico	4.7	0.0%
Hong Kong SAR	NA	
Luxembourg	NA	
Source: Consolidated Banking Statistics BIS Database		

The Federal Reserve was pushed to resort to this unconventional monetary policy because there was no scope left in federal funds effective rates which has reached zero level with the interventions made to address the sub-prime market issues from August 2007. It is in this context that the Fed Reserve took to the large scale asset purchases (LSAP) of agency mortgage backed securities(AMBS), agency debt and long term bonds of the government , with the maximum of purchases being of the AMBS. This part of the purchases done starting in 2008 is referred to as QE1. In fact, lending was done by the Fed Reserve against commercial paper too. Further under QE2, in October 2010, only purchases of long-term government bonds, that too, at smaller quantities was undertaken. Further there was an attempt towards sterilization of the purchases of long term bonds through the sale of short term bonds, popularly called the Operation Twist, which was initiated in September 2011. The FOMC decision on QE3 in 2012 was made in the context of the looming European sovereign debt crisis, there was an open-ended commitment from the part of the Federal Reserve to keep purchasing $ 40 bn a month of mortgage backed securities indefinitely and also to assure that the interest remains at near to zero levels till 2015.[24]

The purchases of assets continued till assets of the Fed Reserve reached $ 4 trillion by 2013. It was during this period that the remarks made by President Ben Bernanke with respect to the tapering of bond purchases being in the offing as the conditions in the economy improved created a havoc with large outflow of capital from different emerging market economies. This resulted in the massive depreciation of the exchange rates resulting in the corporate balance sheets of EMDEs being in disarray due to the accumulation of foreign liabilities in a low interest environment. Another round of expansion occurs with the Covid-19 outbreak, with the assets of the Federal Reserve reaching $ 8.9 trillion, almost 40% of the US GDP (Figure 15).

[24] All of these details from the relevant minutes of the Federal Open Markets Committee accessed from the Federal Reserve

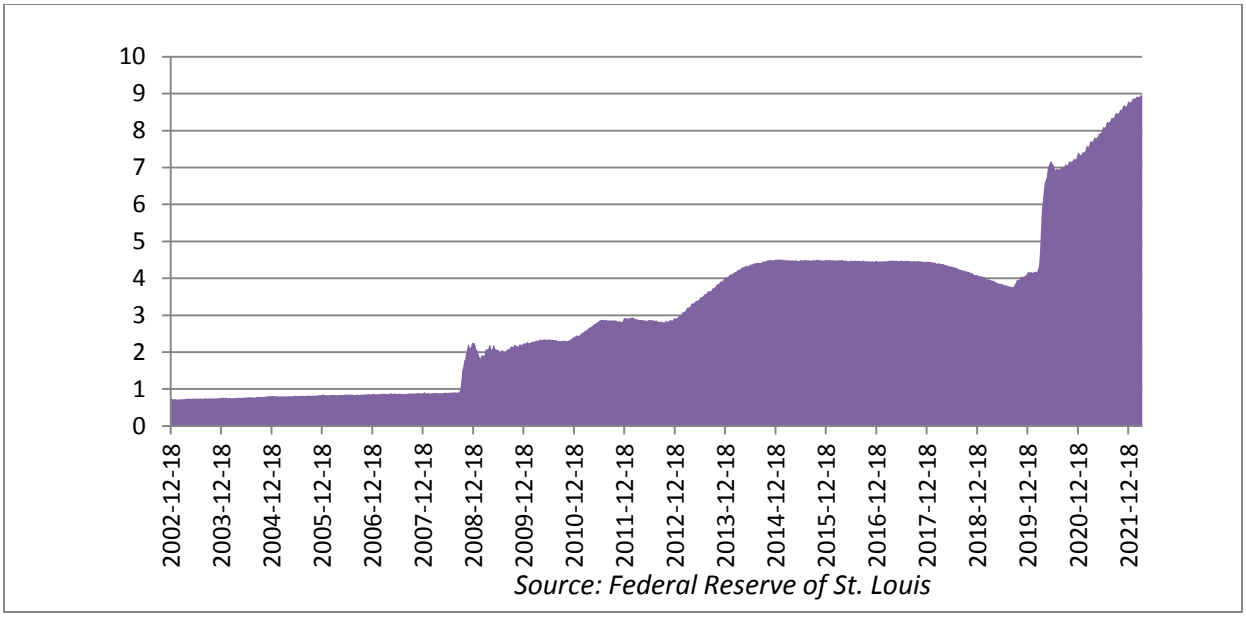


Figure 15: Total Assets of the Federal Reserve ($ trillion)

Though massive asset purchases were resorted towards the provision of liquidity through asset purchases both in the aftermath of the global financial crisis as well as the Covid-19 period, the ECB was far slower with respect to the taking decisions. Though the balance sheet of the ECB has expanded to 8.7 bn euros, there were litigations with respect to whether it was within its mandate towards resorting to specifically buying up securities of certain government bonds of which the yield weren't falling as desired by the ECB. In this context, the pathbreaking intervention made by Mario Draghi through his speech *Whatever It Takes*, the ECB has tried to exercise its level of autonomy notwithstanding the differences with the Bundesbank.[25]

Indeed far before the world was struggling with the issues of the conduct of the monetary policy with zero interest rates, Japan has been witness to the deflation since the nineties and, its policy rate were near to zero even back into the nineties. The central bank policy rates touched near to zero levels by 2008 that they all had to take to unconventional monetary policies. The figure gives the central bank policy rates of Federal Reserve, ECB, Bank of Japan and Bank of England (Figure 17). Asset purchases by the Bank of Japan have resulted in its balance sheet expanding to more than 100% of its GDP. These exercises of bond purchases have not been supplemented with fiscal expansion, without which it is difficult to achieve recovery. There have been many

[25] For this see the conference proceedings of the paper presented by the author on Whatever It takes to Coronabonds: Exploring Asymmetries in the Eurozone at the 25th Annual Conference of the Indian Political Economy Association held on 24th to 25th March 2022

adherents to the doctrines of fiscal austerity who fail even to distinguish between the differences of public debt and private debt.

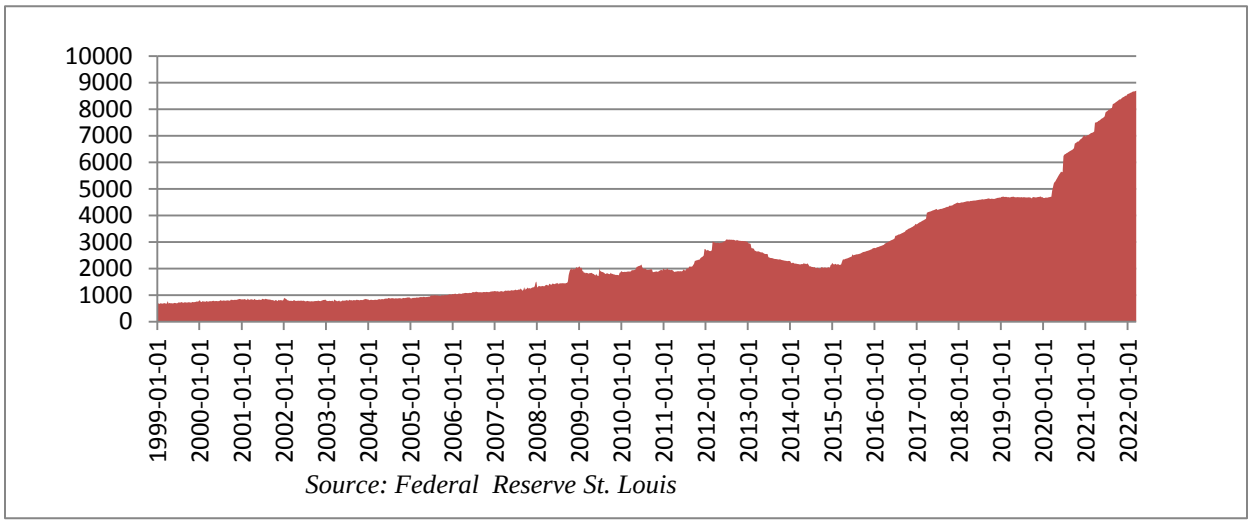


Figure 16: Assets of the European Central Bank (bn euros)

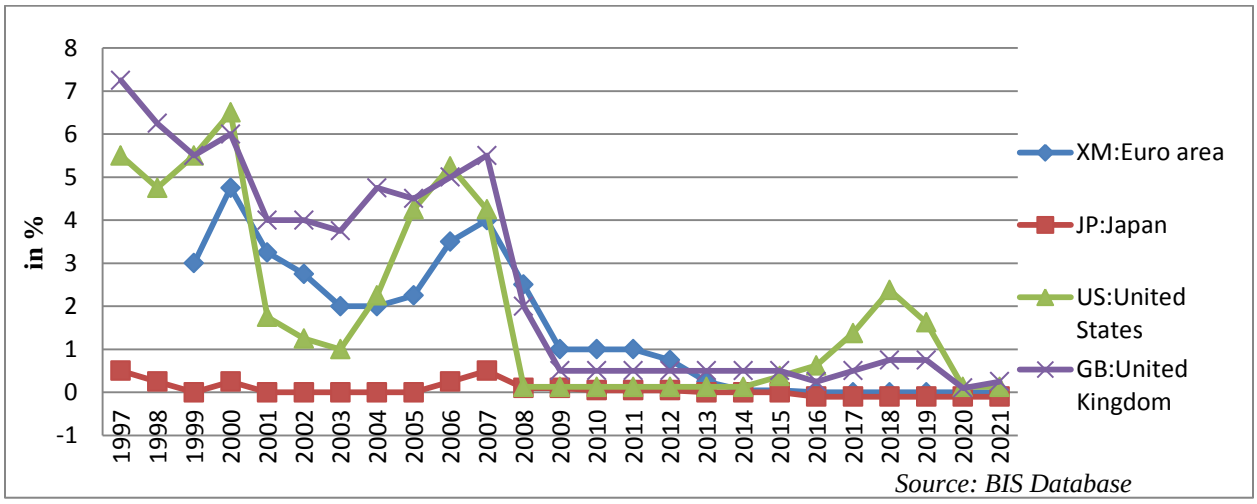


Figure 17: Central Bank Policy Rates: 1997 to 2021

As per the Bank for International Settlements, the credit outside the main currency regions to non-banks is considered to be a major indicator of global liquidity. The 2021 Q3 data from BIS reveal that the stock of dollar credit outside United States is at $ 13.4 trillion, of which $4.2 trillion is held by emerging market economies. For the euro and the Japanese yen the corresponding figures are €3.7 trillion and €0.8 trillion; and ¥45.9 trillion and 6.99 trillion respectively.

Table 2: Total credit to non-bank borrowers by currency of denomination

Total credit to non-bank borrowers by currency of denomination, 2021 Q3			
	$ bn	€ bn	¥ bn
Total credit outside currency region to non-banks	13414	3681	45924
Bank loans	6209	1555	25659
Debt securities	7205	2126	20265
Emerging market economies	4212	799	6996
Bank loans	2118	476	4287
Debt securities	2094	323	2709
Source: Global Liquidity Indicators, BIS Database			

By converting the yen and euro at the prevalent exchange rates, the stock of euro and Japanese Yen credit outstanding in dollar terms is $ 3.9 trillion and $ 0.34 trillion respectively, implying that between these three main currencies, dollar credit accounts for 75.97%, and euro and yen credit outside their borders accounts for 22.1% and 1.9% of the total credit. Collectively, of the credit extended outside their main currency regions as per the stocks outstanding of 2021 Q3, 28.94% of the same is to the emerging market economies.

The loose monetary policies in the advanced economies have been pursued with a policy objective of increasing the rate of growth of credit within United States. Data from BIS reveal that the dollar credit outside United States has been increasing at a faster pace in comparison to within United States. Moreover, with the low interest rates in the advanced economies, these currencies have served as funding currencies through which large borrowings have been undertaken by the non-financial corporations in the emerging markets.

Given that the intermediary role of banks suffered a setback in the immediate aftermath of the global financial crisis, there was an upswing with respect to mobilization of funds by different corporations (both financial and non-financial) through the issuance of international debt securities. Needless to say that joining their counterparts in the advanced economies, different firms from the developing and merging economies have also been successful in the same and have ben benefiting from the lower interest rates. Indeed, while the outstanding stock of international debt securities issued by India is $122.71 bn in 2021(Figure 18) and has been witness to an increase from $ 36 bn in 2007. On a residence basis, it is only $78 bn, implying

that the rest of the bonds were issued abroad towards financing investment or acquisitions elsewhere. Given that this does not enter into the balance of payments record of the country, the policymakers have to be cautious about risks undertaken.

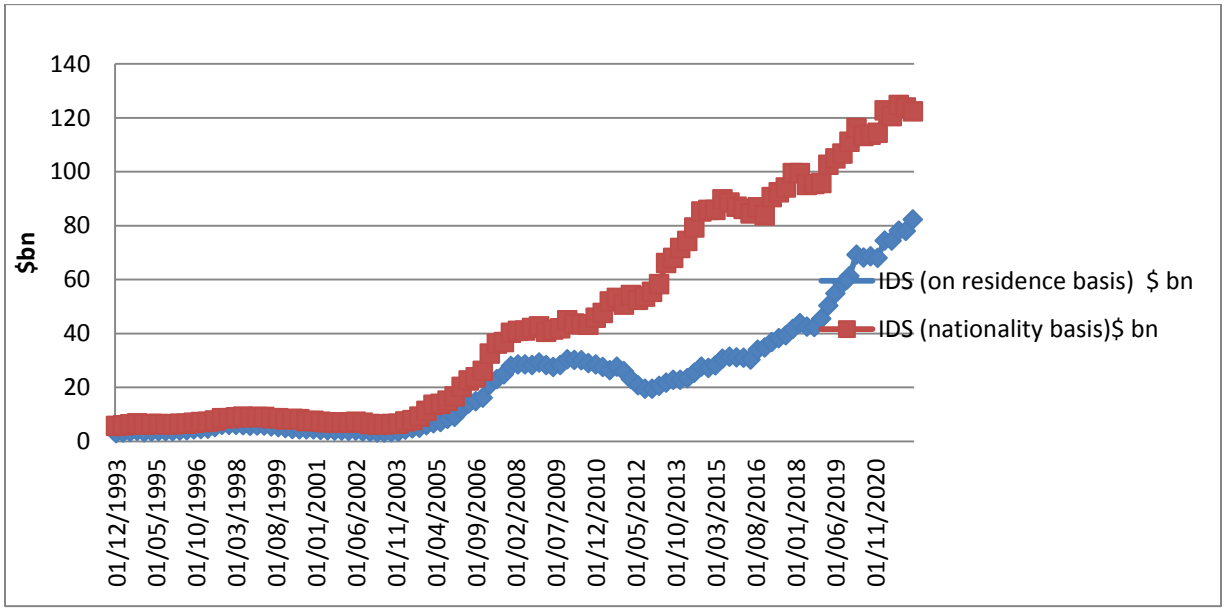


Figure 18: International debt securities outstanding of India ($ bn)

Moreover, there has been an array of institutional investors with huge funds at their disposal. Some authors categorise the institutional investors like sovereign wealth funds, hedge funds and exchange traded funds and private equity funds as "alternative" institutional investors given that the data of theirs with respect to various matters is not forthcoming as against the other traditional institutional investors like the pension funds, mutual funds and insurance funds (Çelik & Isaksson, 2013). All of these with huge assets under management have been looking upon the emerging market universe as providing opportunities to gain from short term-interest rate differentials, thus exposing the emerging market economies to huge capital inflows. Certain estimates suggest that the assets under management of these organisations are far more than the assets of the banks at the international level.

As per the OECD Global Pension Statistics, the assets under management of the pension funds in the OECD block increased from $ 29.1 trillion in 2010 to $ 54.1 trillion in 2020. As per the data, United States leads the list with over $ 20 trillion in the asset sunder management of pension funds, amounting to 95.8% of its GDP. Among the OECD block where the assets under

the pension funds as share of their GDP is very high are Netherlands (210.3%), Iceland (194.3%), Switzerland (149.1%) and Australia (128.7%). With the defined benefits scheme giving way to the contributory pension scheme, it is only logical that their amount under management of these funds have increased from $ 10 trillion in 2001 to $54 trillion in 2020 . In this regard, it is important to note that in a study on the returns on public pension reserve funds for a ten year period from 2009 to 2019, a high level of volatility with respect to returns on funds is observed . The ten year average for these OECD funds range from 11.3% to 1.8%, with the maximum values ranging from 24.1% to 5.4% and minimum values ranging from -9% to 2.6%.[26] Paradoxically, the social security system in itself is now subject increasingly to the volatility of finance as against the defined benefits scheme which had a large element of certainty.

The flows in the private equity which has entered into the startup ecosystem into India has not been solely from the usual financial firms of the North American region like Sequoia Capital, Blackstone, Black Rock, Tiger Global, Warburg Pincus, KKR and Silver Lake Investments. The firms from the rest of the world like Soft Bank from Japan, sovereign wealth funds from east Asia (like Temasek Holdings of Singapore and Khazana of Malaysia, Korea Investment Authority) and the different funds from Middle Eastern oil-rich economies like Saudi Arabia and Qatar like the Abu Dhabi investment Authority, Qatar Investment Authority, Mubbadala Investments have also been putting their funds in India. Needless to say, they have played a role in transforming 2021 as the year of unicorns for India. All of them expect quick returns as these firms go for listing in the bourses. They have been important players in the bourses of number of emerging economies. But what drives them is their search for yield, which makes the reversal of unconventional monetary policies in 2022 to be of serious consequence for not just India, but other emerging market economies too. The recent pronouncements of the Fed Open Market Committee with respect to increase in interest rates is sure to lead to an unwinding of investments by these portfolio investors.

As per the Global Private Equity Report 2022, the buyouts deal values has tripled between 2016 and 2021, it almost doubled in 2021 to $1.121 trillion. Most importantly this is higher than the value before the global financial crisis of $804 bn. In fact, the Global Private Equity Report of Bain & Co. itself acknowledges the monetary stimulus for the same . "…. public and private

[26] https://www.oecd.org/finance/private-pensions/Pension-Funds-in-Figures-2021.pdf

investors have benefited mightily from the trillions in monetary stimulus that central banks have pumped into the global economy since March 2020 to combat the effects of Covid-related shutdowns" But all of this risk loving nature of activity is happening because of the high leveraging which could be done at such low interest rates, even when the real activity worldwide has not been showing robust signs of recovery. We will have to watch out for the changes in the coming year.

The low interest rates in the international economy has triggered a search for yield resulting in different economies being inundated with capital flows. The borrowing done by the non-financial corporations to benefit from carry trade has also added to increase in the money supply (M3) of these economies, thus triggering a faster process of credit creation in economies even when the rates of growth of these economies are far from desirable. To worsen matters, there have also been bouts of appreciation of the currencies in countries where there has not been sufficient intervention in the foreign exchange markets by the central banks. Unimpressive growth and deflationary tendencies apart, there has been a steep increase in the credit to GDP ratios of developing economies, which has been a matter of serious concern from its impact on financial stability. The BIS has been publishing data related to credit to GDP ratio as well credit-GDP gaps keeping in mind the consequences for financial stability in case of some exogenous shocks. In this case, the data with respect to China is of importance. The credit GDP ratio of China which had increased from 99.7% of its GDP to 140.8% in the period from 1995 to 2008 has been witness to a steep increase ever since. In 2021, it is at 288.7% of the GDP, implying that the credit to GDP ratio of China is now comparable to that of the United States (Figure 19). Though the credit to GDP ratios of Korea has also been on the increase and is to levels close to that of USA and China, it has been increasing over these years at a slower pace.

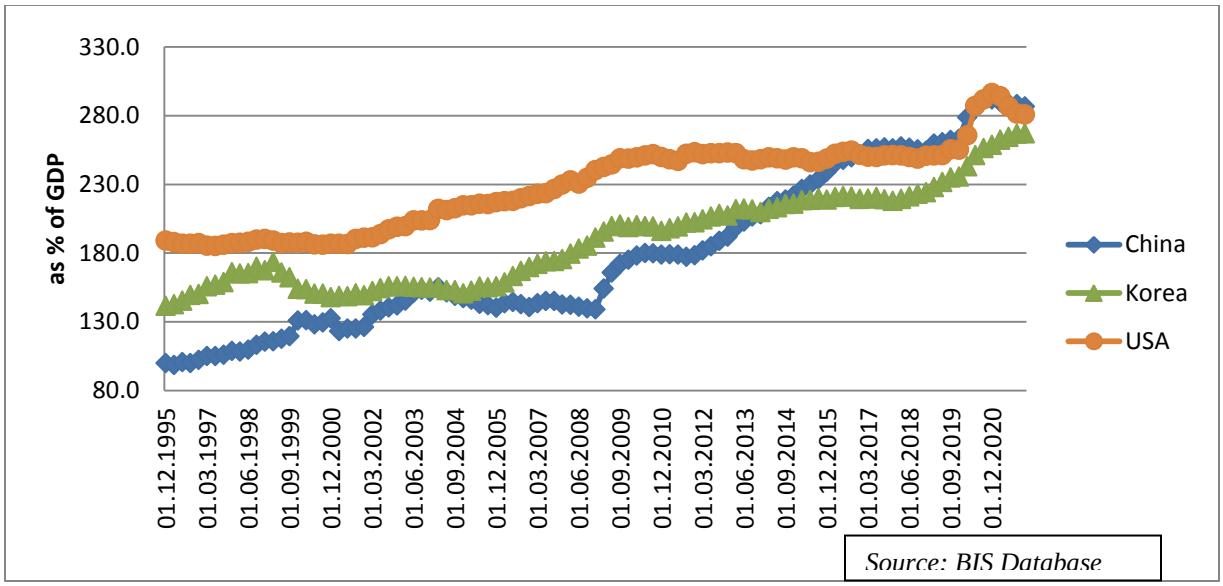


Figure 19: Credit to GDP ratios of China and Korea

One would be curious to know as to what would be the credit to GDP ratios of the India and the other developing economies. In fact, the credit to GDP ratio after having increased during the early phase in the run-up to the global financial crisis from 138.3% in 2001 to 185.5 % in 2009, when there was a growth regime in the country which was underwritten by the banks. That period from 2003 to 2008 is elsewhere referred to as India's Dream Run (Nagaraj, 2013). The period which was witness to unprecedented inflow of foreign capital was characterised by large increases in investment ratio, savings ratio, and rates of growth and the highly leveraged private corporate sector was supported by the banks. Ever since the global financial crisis, the credit to GDP ratio has not changed much, it has been at 175% of the GDP in 2021. Might be the reversal of the rates of growth and the accumulation of non-performing assets in the banking system in the aftermath of the global financial crisis as well as the taper tantrum episode has made the Indian bankers wary. It is important to note that the current period has been witness to Thailand reaching its high credit to GDP ratio of the 1997 just before the Asian financial crisis. Its value of 230.5% is close to that of 249.3%, which was its value in 1997 , prior to the crisis. Indonesia was witness to only marginal changes in credit GDP ratios which increased from 51.5% in 2010 to 83.4% in 2021 (Figure 20). Though historically at far lower credit GDP ratios in comparison to India, the figures of Brazil are almost close to that of India's in 2021 at 179%. Are all these increases in credit to GDP ratios occurring in tandem with real rates of growth in the macroeconomy?

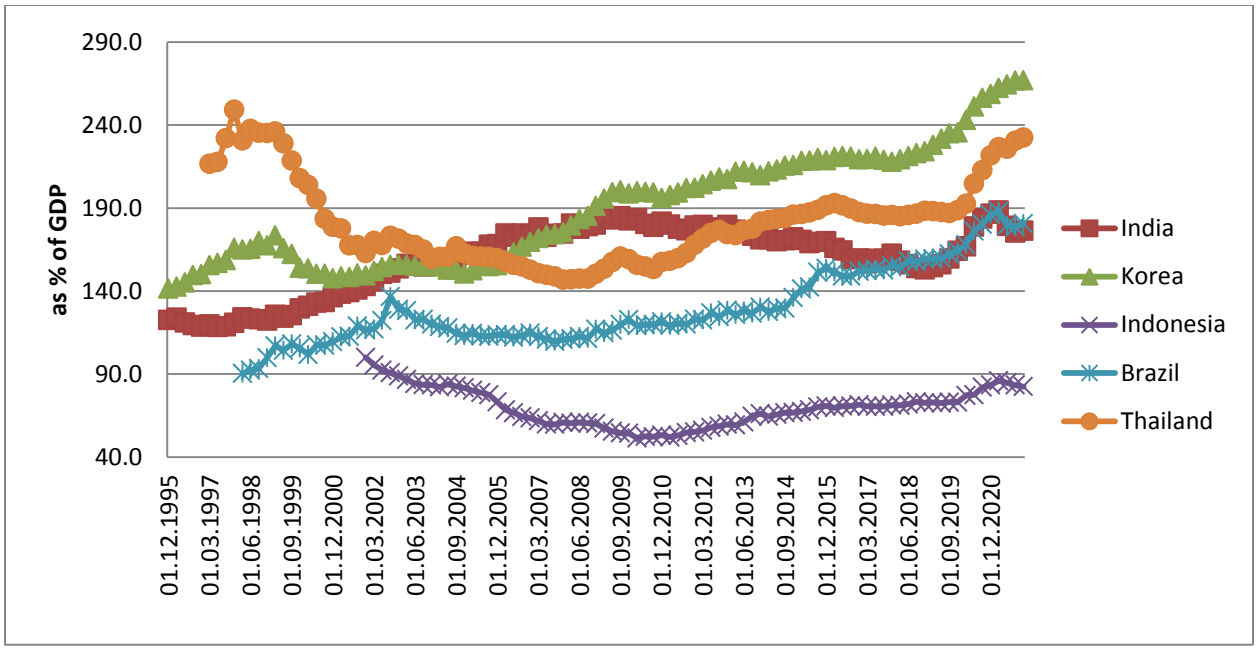


Figure 20: Credit to GDP ratios of developing economies

To test as to whether the increases in credit GDP ratios are related to increases in the constant rates of growth of the economies, we did an empirical exploration testing for the correlation coefficient between credit to GDP ratios and the rate of growth in constant prices of some of the emerging economies. For all the economies, the data relating to credit to GDP was extracted from the BIS database and the rate of growth in constant terms was extracted from the WEO Database. The averages of all the quarters reported by BIS for a year was used for credit to GDP ratio.

While the time period for China, Korea and India was from 1996 to 2021 , the starting year for Thailand, Brazil and Indonesia are 1997, 1998 and 2001 respectively. The result of the same is illustrated (

Table **3**). The positive sign expected was there for none of the economies in our set other than India for which too the value of the coefficient was very small at 0.066. For all of the other economies: China, Korea, Indonesia, Brazil and Thailand, the values are negative, which indirectly implies that the rise in the credit to GDP ratios of the economies has nothing to do with any underlying growth in the economy. This cautions us again about the possibility that the rising credit to GDP ratios in these countries driven by the financial flows from elsewhere could prove to be risky to the larger financial system.

Table 3: Correlation between Credit to GDP and rate of growth constant prices

Credit -GDP vs rate of growth constant prices	
	Correlation coefficient
China	-0.633
India	0.066
Korea	-0.445
Indonesia	-0.489
Brazil	-0.398
Thailand	-0.577
Source: BIS Database, WEO Database	

A number of empirical studies on non-financial corporations have revealed that in this wave of global liquidity, these firms have become more like financial intermediaries tapping funds from abroad through the issuance of debt securities and gaining from the high interest rate prevalent within their domestic economies (Shin & Zhao, 2013). Given the low level of economic activity as well as sagging investment ratios, at best ,some of them have resorted to prepayment of the loans which they have taken earlier. Though of course, with the experience of the depreciation of exchange rates which many of them confronted in 2013 during the taper tantrum, it is expected that they would have hedged against the exchange rate risks. Needless to say, the possibility of hedging becomes less during favourable times of global liquidity, but the quick disappearance of the same had resulted in huge corporate deleveraging in 2013.

Apart from this is the new issue associated with the rising importance of institutional funds in Asia which invest on behalf of their customers in dollar denominated securities. Given that the hedge instruments in the foreign exchange market are of short term duration and the assets are of long-term nature, there is problem associated with the rollover. This has been due to a steep increase in the external portfolio assets of different Asian economies. (McGuire, Shim, Shin , & Sushko, 2021) This has now been taken to a different level with a sudden spurt in the demand for dollars which in March 2020 resulted in sales of huge US Treasuries forcing the United States Federal Reserve to keep open the option for the holders of Treasuries to go ahead with repo borrowing against the same.

With private non-financial sector debt to the world GDP reaching unprecedented levels of 170%, the Committee on the Global Financial System (CGFS) has brought a report on the implications of the same (CGFS, 2022). Many economists , particularly of the Post-Keynesian tradition, have highlighted the role played by the steep increase in credit ratios in the runup to the crisis. This report suggests the importance of macroprudential policy requirements to stabilize the system. It recommends proper maintenance of capital requirements of the banks as well maintaining reasonable loan to value ratios to be given priority. It expresses caution at the rising share of non-banking institutions as lenders in the system. Further, it highlights the growing share of zombie firms who have been in receipt of loans during this large upscaling of credit. It further expresses caution on the short-term foreign currency denominated loans. One fails to understand as to why despite a nuanced understanding of the issue, particularly on the basis of the feedback from different central bankers, it stops short of making an advocacy for capital controls.[27]

IV

Concluding thoughts on the international monetary System

Ever since the global financial crisis and the sudden liquidity squeeze which forced coordinated action from the part of the leading central banks through the expansion of their balance sheets, there has been demand for the designing of a new international monetary system. In a world with a stock of dollar credit outstanding to non –bank borrowers being at $13 trillion dollars, dollar liquidity has become of utmost importance. The efforts from the part of the Federal Reserve during extraordinary situations to go ahead with the expansion of dollar swap lines with other central banks was of immense benefit, but it has been limited to a set of central banks. Thanks to the low interest environment in the global economy, with the growing search for yield, at least 30% of this dollar debt outside is that of firms based in emerging market economies like India. With the recent pronouncements of the FOMC with respect to increase of interest rates, as we have seen the exchange rates of emerging economy currencies have been witness to steep depreciation. Two of the global crises have clearly exposed the interdependent nature of the global economy and how the international financial institutions have not been able to address

[27] For a detailed overview about the importance of capital controls, see (Korinek, 2011)

the pressing liquidity concerns of the developing world. Therefore some of the recent developments provide some hope.

Highlighting the compulsions of the developing country central banks, Dr Y V Reddy had once opined "It is noteworthy that the developing countries had to contend with excessive volatility in the current and capital accounts with little assurance of safety net from the global financial institutions. Hence they had to seek self-insurance in the form of forex reserves …… (p.25)" (Reddy, 2011). The Chinese counterpart Xiaochuan (2009) opined that it was due to the reluctance to adopt the suggestion of Keynes for bancor which resulted in the collapse of Bretton Woods. He further opined that due the new Triffin Dilemma, it would not be possible for the current system to cater to the demand for the growing demand for reserves (Xiaochuan, 2009).[28] Though American foreign policy experts like Bergsten had opined that the suggestion of Xiaochuan for the expansion of SDRs would be good option not just for the world but also for the United States (Bergsten, 2009), the leadership of the country was never ready to endorse the same. Their faith and hope in the dollar centered international monetary system was strong as ever, and, it knew only so well that the demand for reserves from the rest of the world could help maintain the value of the dollar too and it could benefit from being the dominant source of provision for reserve services.

In the interregnum, the growing demand for liquidity came to be addressed by the three rounds of quantitative easing in United States as well as the expansionary monetary policies pursued by the other Central Banks. To support the demand for liquidity, the Federal Reserve have even expanded the swap facilities to a number of its friendly central bankers. But the dollar could not stand on its feet when in March 2020, different central bankers desperate for liquidity had to sell off Treasuries, which forced the Fed Reserve to open the facility of repo financing as against the reserves held, over and above the swap lines facility with central banks.[29] In the context of this precarity, the United States found that it would be opportune to support the call for an increase in the allocation of SDRs, that it extended its support for the unprecedented increase in

[28] "The frequency and increasing intensity of financial crises following the collapse of the Bretton Woods system suggests the costs of such a system to the world may have exceeded its benefits. The price is becoming increasingly higher, not only for the users, but also for the issuers of the reserve currencies. Although crisis may not necessarily be an intended result of the issuing authorities, it is an inevitable outcome of the institutional flaws."Xiachoun remarks giving a call for the reform of the international monetary system through the larger issuance of SDRs.

[29] For the details on this see the special writeup on the same in the Financial Stability Report 2020 November

SDRs announced in August 2021. As per the recent allocation, the advanced economies are in receipt of SDRs worth $ 400 bn, middle income countries of $230 bn and the low income countries $ 21 bn. With the world economy in the grip of Covid-19 and growing demand for debt suspension from the part of the developing countries, the issuance of the SDRs, it was hailed by the international community would serve as big solace.

Given the large private dollar debt which has accumulated worldwide, any shortage of liquidity would end up hurting the developed country bankers for sure, and, so too, for this round of SDR issuance of IMF, the United States had to extend its support. There is serious question posed by the large accumulation of foreign exchange reserves which has been adding to the process of deflation. As as of late, the advanced economies have also started accumulating foreign exchange reserves in a big way. There should be a serious engagement with respect to the reorganization of the international monetary system.

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