Replacing the Dollar in International Payments: A Preliminary Assessment

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For citation: Flores, R., 2024. Replacing the Dollar in International Payments: A Preliminary Assessment. *Contemporary World Economy,* Vol. 2, No 3.

DOI: https://doi.org/10.17323/2949-5776-2024-2-3-27-42

Keywords: BRICS, geopolitical decisions, international trade payments, reserve currency, US dollar replacement.

The impeccable research assistance of Leonid Granitskiy as well as comments from an unknown referee are gratefully acknowledged.

Work concluded in May 2024.

Abstract

This paper examines the different issues and limits involved in the process of replacing the US dollar in a sizeable share of international transactions. One specific transaction, the payment of trade in goods, receives special attention. It also dwells on other important currency flows, discussing likely evolutions and pointing out the scarcity of data for effective evaluations of most cases. After outlining the complex array of changes involved in the overall replacement, a preliminary quantitative assessment of the prospects for the trade in goods payments is made. Results signal the possibility of attaining replacement shares of 40 and 35%, for total export and import flows, respectively. Other complementary measures and questions regarding international reserves, global clearing systems, and plastic or similar means for individual across-the-border settlements are addressed. The importance of a coherent and significant group of pro-replacement countries is highlighted, BRICS standing as the main candidate. The whole movement is a geopolitical decision: its limits, uncertainties, and purpose must always be kept in mind.

1. Introduction

Modern economic life cannot be dissociated from the monetary vehicle that not only eases the multiple transactions involved but also makes things come true. Adoption of a national currency as such an international vehicle is not a simple process. It poses questions similar, though not identical, to those that have led to the use of a single, government-controlled currency by each nation.

In the one-country case, power has played a role as important as credibility. Since the Middle Ages, ruling elites have realized that considerable gains could be extracted if an official currency would be imposed in their domains.

The *valor impositus* principle, which stated that the governmental act, made visible by the official stamp on the coins, added value and trust to the currency, was widely invoked by kings and rulers in general, despite having mixed success, to impose equal values on coins with different (usually lower) quantities of their underlying metal [Mann 1971].

In international transactions, since at least the 19th century, the currency of the hegemon has functioned as a standard, if not a means, to guide and perform the great majority of operations that were required. The currency of the British Empire, the pound, fulfilled this role practically unchallenged during the Pax Britannica century, from 1815 to 1914. After World War II, with the Bretton Woods framework solidly established, the US dollar progressively replaced the British pound. This dollar was attached to a gold standard, keeping, to some extent, the key tradition as well as the argument for a powerful, stable, internationally accepted currency: the equivalence between the banknotes in circulation and the state reserves—US ones in this case—of the precious metal.

When in 1973 the US left the gold standard (Britain had left in 1931), the US dollar became, beyond any doubt, the international currency *tout court*.

How did the dollar sustain its credibility and efficacy without the support of gold is still open to interpretation. Unquestionably, the uncontested power of the US—at the time and for decades to come—with armed forces and aircraft deployed in bases covering nearly every important point of the non-Soviet world, together with a superior navy patrolling the seven seas, was a major factor.

The possibility of replacements or currency competition, an idea also nurtured within a given country [Tullock 1975], seemed sometimes to come true.

Already in 1970–74, the IMF (International Monetary Fund), partially due to the efforts of the Belgian-American economist Robert Triffin, tried to transform the SDRs (Special Drawing Rights) into a universal currency. Something that still aired from time to time [Flor 2019], did not yet gain the support it needed.

There were hopes that the Japanese yen and, once created in January 1999, the Euro could, if not replace, at least grab a reasonable share of world transactions. Despite the outstanding Japanese banking sector, the limited scope and absent international clout of Japan did not help the yen; while the imperfect monetary union implicit in the Euro, a fragile symbolic currency, did the same for the European construct. Though figuring in several countries' international reserves, they cannot be considered as replacements for the dollar, and both are far behind the hegemon in terms of military capabilities.

The fall of the Soviet Union in December 1991, a few years before the creation of the Euro, gave the false impression that the unbridled US dollar would rule for good.

However, two issues became progressively relevant.

The first is the continuous deterioration of the US deficit, that slowly but steadily erodes the credibility of its currency. The second is increasing international insecurity, which has risen steadily since the beginning of this century. Insecurity has unfolded into a series of local conflicts, involving directly or indirectly the US, the hegemon, and thus fueling more insecurity and expensive pre-emptive measures, many out of partially irrational fear. Concomitant use of financial and economic sanctions, including the freezing of sovereign assets of countries on "opposing sides," spreads uncertainty among most who counted on the dollar as a reliable reserve currency.

All this has contributed to the idea of the Global South, pooling together the majority of the countries outside the hegemon and its clear proxy, the European Union (EU); an informal alliance united by the desire to peacefully look for greater independence from both, notably the former. The dollar, if it is still in many ways an anchor currency, has lost its crucial intrinsic asset: credibility. Efforts aiming at its substitution have entered the agenda.

This paper is a preliminary examination of the process of replacing the US dollar in a sizeable share of international transactions. Even if restricted to one specific function, such movement involves a complex array of changes and replacements that may go down to a micro level of decisions, together with bold macroeconomic steps. Absence of detailed data is a major deterrent for better-grounded analyses in most cases. Indeed, with the exception of trade in goods, where a comprehensive and fairly reliable United Nations-managed database exists, for other instances of international currency flows, the lack of data is a problem.

Section 2 outlines the network of operations and procedures associated with a universal currency. Section 3 addresses, quantitatively, the prospects of a major first step: the payment for international trade in goods. Section 4 probes other functions and their possible assessments, within the limits of the insufficient information available.

Section 5 concludes with a view on the tasks ahead.

2. The currency of the hegemon: How far it goes

Replacing the US dollar as the money to pay for imports or to receive for one's exports, goes beyond the strict limits of the transaction alone. Ancillary services, such as insurance and logistics, for instance, require payments that, depending on the provider, are requested in US dollars. Firms and exports producers, especially if of a transnational character, may have their internal accounts in dollars and vary from reluctant to resistant in terms of accepting payments in other currencies; something that may turn out as an unnecessary nuisance for them.

A single currency eases comparisons among different international suppliers or buyers, particularly as regards the key issue of costs. Domestically, small exporters want to be able to schedule production and export revenues according to expected receipts. If these are to be accounted in a currency that is not universal and likely more

volatile, they may shed the corresponding destinations. Broadly, planning is inherent to all decisions involved in the trade realm, and plans (ideally) need solid, well defined and widely accepted monetary units.

Considerations may be enlarged, adding several instances that act as further arguments against a replacement. These may be more or less sound, depending on how the alternatives are fashioned. Their impact, or resilience, will be attenuated if the alternatives have a business or profit scale that encourages acceptance. Acceptance can even become tacit if the goods are essential, or supplied in quantities that no other competitor could cover.

The above suggests that replacement is more feasible if: a) a minimal group of *significant traders*, such as the BRICS countries, gives its support to dollar replacement; b) within this minimal group, together with other countries close to it, replacement is largely adopted.

Supposing that both conditions are met, the question of the currencies used in the transactions remains open.

Will each country pay in its own money and conversions among a group of currencies become a common and reliable practice, or will one of the currencies—again due to its scale—progressively reveal itself to be more convenient? This is a debate that brings back old discussions, usually in a domestic context, which have been held since the early 20th century *Freigeld* ideas [Gesell 1958], continuing to developments on the multiplicity of currencies [Klein 1975], and reaching the aforementioned arguments for the SDR, particularly as regards lower volatility and global stability [Tosolini 2016].

It is hard to forecast, at this moment, how things will evolve, but inclusion of a key trader like China in the pro-replacement group introduces a bias towards the renminbi (RMB). Nevertheless, transactions within a given geographical area may take place in Russian rubles or Brazilian reais. Secondary competitors, such as the euro and the yen, may also profit from the changes and increase—at least temporarily—their participation. The same applies to gold.

A further point is that countries may accept replacement with certain partners, while practicing the US dollar standard with others. In fact, given the combined size of the US and EU markets, this will be the prevailing situation in a first stage for nearly all members of the replacement group. In the second stage, some may become more assertive and use alternative currencies for the majority of their transactions.

Beyond the universe of trade transactions, the currency of the hegemon naturally arises as a favorite choice for a country's international reserves. US Treasure Bonds, though not without problems, remain as the (financial theory's) world riskless asset, and figure prominently in all national baskets of monetary reserves. The International Financial System (IFS) remains heavily anchored to and coordinated by its US core, a far from negligible point.

Practical consequences, as control of international payments and bank transfer systems, are strategic and give added support to the hegemon's currency. The exchange rate market provides daily hefty receipts to all those involved in its operations, which eventually accrue substantial sovereignty rents to the US dollar, besides the exorbitant privilege already enjoyed by it.

Moreover, the reserve currency is also used as a reference to many international prices or moneys that are therefore pegged to it.

All this supports the belief that the least problematic path to starting partial de-dollarization seems indeed to be through trade payments. A core starting group can be, as mentioned, the original BRICS countries, possible other adherents being those strongly associated with them and the five new members. The core group must have a few goods for which they play a major role in world trade, as well as significant links among them and the Global South in general.

It is important to measure the progress of the replacement. Basic statistics are, for each pro-replacement active country, the amount and share of trade in other currencies and those in US dollars. Their shares in terms of world trade are also relevant. Information on payment for ancillary services and, in the case of logistics, on the transportation modes used is also relevant, though less easily available.

The same applies to other instances of sovereignty, another indicator could be the composition of national reserves. Individual measures, like the creation of alternative means of payment, novel credit card banners, or international transfers' platforms and new bilateral currency swaps, play an important role and must be individually assessed within the limits of the market at stake.

3. Quantifying possibilities in the trade flows

Table 1 (p. 32) shows, for 2022, global trade in goods flows—in value, Table 1a, and in shares, Table 1b—according to (the five original) BRICS members and three other world regions. Two will in principle stick to the dollar, the US and the European Union (EU), and the Rest of the World (RoW); together with the BRICS, they make for a four-region division of the world.

The message from the Table is nuanced.

As regards BRICS countries, those with a strong link with China seem more comfortable to switch a sizeable part of payments and receipts. Brazil is an emblematic case, since 30% of its exports go to the BRICS, and 28% of its imports come from them. A member like India presents a mixed situation, with a low share of exports (8%) but a significant one of imports (24%). Taking the BRICS as a whole, 34% of their exports go to the US and EU, while 18% of their imports come from them; *figures that should be taken as lower limits for no-replacement flows*.

Another important point is the key role of the RoW. It presents imports and exports shares nearly always above 40%, reaching, in the case of Chinese imports, the unavoidable figure of 75%. For the replacement movement to gain momentum, it is mandatory to move outside the BRICS-EU-US nexus.

However, there is a rather diversified group of countries that needs well-designed policies. It ranges from brand new BRICS members to the diversity of Asia, even without China and India, plus Africa and the whole of Latin America except Brazil, together with a complex zone like the Middle East and a more isolated one like Eurasia, with the old Silk Road countries. More pro-dollar countries, like Australia or Canada, are also part of it.

Identification of replacement candidates needs different strategies and deepens the question of multiple alternative currencies: while many may be comfortable using the RMB. others may prefer the ruble or feel at ease with different options.

Table 1. Trade flows – BRICS countries and a four-region division of the world. 2022
1a. Exports and Imports intra and extra BRICS (in billion US$)

	Brazil	India	Russia	China	S. Africa	BRICS	US	EU	RoW
Brazil		9.7	8.6	62.0	0.7	81.0	46.4	44.3	120.3
India	6.3		40.6	118.5	8.2	173.7	45.1	49.7	464.1
Russia	2.0	2.9		76.1	0.3	81.3	1.5	57.7	53.1
China	89.7	15.1	114.2		22.1	241.1	156.4	239.7	1956.0
S. Africa	1.7	8.3	0.6	24.2		34.7	6.9	27.6	42.1
BRICS	99.8	36.0	164.0	280.8	31.3	611.8	256.3	419.0	2582.5
US	38.2	80.2	15.1	582.8	12.6	728.8		527.5	2116.6
EU	52.4	71.1	195.6	657.7	27.6	1004.4	372.4		1780.6
RoW	144.2	265.4	197.4	2072.4	49.6	2728.9	1115.2	1761.8	
Total	334.5	452.7	572.0	3593.1	121.1	5073.9	1743.8	2708.2	6532.7

Total exports are along the columns, and imports run along the rows[1]

1b. Shares* of exports and *imports*** between BRICS countries and four world regions

	Brazil	India	Russia	China	S. Africa	BRICS	US	EU	RoW
Brazil						*0.28*	*0.16*	*0.15*	*0.41*
India						*0.24*	*0.06*	*0.07*	*0.63*
Russia						*0.42*	*0.01*	*0.30*	*0.27*
China						*0.09*	*0.06*	*0.09*	*0.75*
S. Africa						*0.31*	*0.06*	*0.25*	*0.38*
BRICS	0.30	0.08	0.29	0.08	0.26	0.12 *0.16*	*0.07*	*0.11*	*0.67*
US	0.11	0.18	0.03	0.16	0.10	0.14			
EU	0.16	0.16	0.34	0.18	0.23	0.20			
RoW	0.43	0.59	0.35	0.58	0.41	0.54			

* Due to rounding up, shares may add up to 0.99 or 1.01; ** in italics.

Source: UN Comtrade. Exports' shares are in the columns; imports' shares in the rows; the latter are in italics.

[1] See the Appendix on the reliability of the trade figures.

In order to highlight a basic view on the dollar dependence by BRICS members, Table 2 (p. 33) displays the combined US-EU imports and exports shares for them. In terms of exports, all are clearly dependent on the standard Western market, with Brazil the least dependent with 27%. In overall terms, India and China—naturally, given their size as trade actors—are less dependent than the other three. Dependence is, however, nuanced; while for China it is roughly balanced between the two submarkets, for Russia there is much less trade with the US, as previously shown in Table 1b.

Table 2. BRICS members, combined US-EU shares of their imports and exports, 2022

	Brazil	India	Russia	China	S. Africa	BRICS
Imports	0.31	0.13	0.31	0,15	0.31	0.18
Exports	0.27	0.34	0.37	0,34	0.33	0.34

Source: Table 1b.

Table 3 (p. 34)—to be read the same way as Table 1a—provides a glimpse into the diversity of the RoW, with a few select partners in non-African countries. To put the figures in perspective, their exports and imports to the US and the EU are also shown, together with—from the BRICS—the Chinese flows.

Again, a mixed picture appears, with important players like Saudi Arabia, Vietnam or Japan, standing next to more modest ones. Geopolitics plays a major role, as whether or how far Japan and Saudi Arabia, for instance, will engage in the replacement remains an open question at the moment.

All countries in the table, China excepted, import more from the BRICS than from the combined US-EU market; while for the Asian countries, Indonesia excepted, the combined Western market is a key destination for their exports.

As regards African countries, values are lower and a diversified situation, deserving careful analysis, is apparent. Angola, Ghana, Mozambique, Nigeria, and Senegal, for instance, import more from the BRICS than to the combined US-EU market, but only Angola, Mozambique, and Senegal export more to the BRICS rather than to the US-EU market. Angola and Nigeria are emblematic examples. The former exports $28 billion to the BRICS in contrast to $15.4 billion to the Western bloc, while for the latter the values are $12.1 billion and $33 billion, respectively. As for imports, BRICS again (slightly) dominate in Angola, with $5.9 billion against $5.1 billion from the US-EU, while Nigeria now stands as a kind of (African) champion, with $29.6 billion of BRICS imports, against $22.6 billion from the other bloc.

The above cases illustrate the complexity of the African case, where replacement will often be a balanced reality, strongly influenced by geopolitical decisions. In the figures in the previous paragraph, three points lie behind any explanation: the importance of one commodity, oil, common to many African nations; the sizeable flows to and from China; and the EU as, still, a key partner for many countries on the continent.[2]

[2] To give an example, for Nigeria, out of the $33 million exports to the West, $28.6 million went to the EU, and of the $22.6 million imported from the same bloc, $19.4 million came from there.

Table 3. Trade in goods flows – BRICS members and select countries, 2022: Exports and imports, non-African countries (in billion US$)

	China	BRICS	Argentina	Iran*	Saudi Arabia	Indonesia	Vietnam	Japan	US	EU
China		241.1	7.9	6355.1	78.0	65.9	72.8	144.5	133.8	239.7
BRICS	280.8		26.1	7162.4	134.2	93.6	86.1	169.7	256.3	419.0
Argentina	12.8	29.7		1.4	1.1	0.4	1.0	0.9	11.0	10.5
Iran	9.4	15.6	0.7		NA	0.2	Н.д.	0.0	0.0	4.3
Saudi Arabia	38.0	51.5	1.2	NA		2.0	0.7	5.1	10.8	32.8
Indonesia	71.3	87.0	2.1	14.6	5.5		4.5	15.1	9.6	9.4
Vietnam	147.0	158.6	3.2	NA	1.9	8.3		19.0	9.5	13.2
Japan	172.9	208.6	0.8	35.2	42.4	24.8	24.2		72.3	73.0
US	582.8	728.8	6.7	11.2	24.1	32.8	135.9	139.8		527.5
EU	658.6	1004.4	11.2	1112.0	46.4	24.8	53.8	73.3	372.4	

* Exceptionally, in million US$.

Source: UN Comtrade.

Pushing the reasoning in this section further, the lower limits established in Table 2 can signal a way to construct an educated guess on the possibilities of replacement, taking into account global world trade flows.

In order to achieve such figures, all the countries present in the Comtrade file were considered, with their 2022 trade flows—the last year for which there is information available on all them. The EU, the US and the UK were taken as a bloc, a single unit for which the six bilateral exchanges between them were disregarded, as well as the import and export flows within the EU. Only the total imports of the bloc, coming from the outside, as well as its total exports to the same outside, are computed.

Two key figures emerge: the ratio between the total exports of the bloc and the grand total of world exports (the bloc naturally included); the ratio between the total imports of the bloc and the grand total of world imports (the bloc included). These are, respectively, 0.16 for exports and 0.25 for imports.

This allows us to make two sorts of statements. Lower limits for the dollar non-replacement shares are 0.16 for world exports and 0.25 for imports. Open zones of 0.84 for exports and 0.75 for imports remain as possibilities for replacement. In these zones are the BRICS+ flows and those with their closer partners, together with all the possibilities discussed in Tables 1, 3 and on Africa.

It seems reasonable to suppose from the above that half of the latter flows may move to replacement currencies. *This produces the educated guess of, in the midterm, around 40% of world exports and 35% of imports moving away from being settled in US dollars.*

4. Other dimensions and agents

This section deals with other instances of international payments, in order to give an overview of what lies ahead. The process started with the trade flows will inevitably spread to other dimensions of the International Monetary system, something that poses manifold questions to be addressed as soon as possible. The approach here is preliminary, to raise issues and identify progress already in motion. No attempt at modeling the various competitive processes is made, though, at a later stage, simple though sophisticated models like those of Farhi and Maggiori (2018) may provide additional insights.

International reserves

The universal international currency besides dominating flows is top also as regards stocks. It anchors the basket of financial assets that make up the international reserves of most countries.

Table 4 (p. 35) shows the total composition of the reserves' basket, in value and shares, for all IMF reporting members, for three points in time, 2002, 2012 and 2022.

Table 4. Foreign exchange reserves, all IMF members, at three points in time

	2002	2012	2022
According to the main currencies used, in billion US$			
Total Foreign Exchange Reserves	2408.9	10 948.4	11 917.8
Allocated Reserves	1795.8	6084.7	11 040.0
Claims in US dollars	1194.2	3741.9	6460.2
Claims in euro	424.7	1464.7	2252.1
Claims in Chinese renminbi			287.8
Claims in Japanese yen	88.7	248.8	608.2
Claims in pounds sterling	52.5	246.0	543.1
Claims in other currencies	35.7	383.3	383.6
Unallocated Reserves	613.1	4863.7	877.8
According to the main currencies used, in percentages			
Allocated Reserves	100	100	100
Claims in US dollars	67	61	59
Claims in euro	24	24	20
Claims in Chinese renminbi	0	0	3
Claims in Japanese yen	5	4	6
Claims in pounds sterling	3	4	5
Claims in other currencies	2	6	7

Source: IMF (International Monetary Fund).

Considering the euro also as a core currency—something debatable—its joint share together with the US dollar, in all baskets, fell from 91% to 79% in 20 years, with a greater drop for the latter. The yen and the British pound experienced a slight increase, while "other (non-defined) currencies" remained stable in the two last points. The novelty is the Chinese renminbi appearing with a 3% figure in 2022. Excluding the four mainstream currencies, during the time interval shown, *new stock options* moved from 2% to 10% of all reserves, with the appearance of the RMB. Perhaps a significant start, heralding greater changes.

If the replacement in the trade in goods flows comes true in a five-year horizon, approximately, this dynamic is due to accelerate.

Unfortunately, the IMF does not publish a disaggregated composition for all its members. Brazil is the exception, in 2022, among the original BRICS. Table 5 (p. 36) shows what is available for them, India excluded, in two points in time. It is worth noticing that, in 2022, China had more than 10% of the composition of their currency reserves in moneys outside the SDR basket, while Brazil had already around 5% of its reserves in RMB—though with 74.4% still in US dollars.

Table 5. Foreign Exchange Reserves – currency composition of reserves (available disaggregation), for four BRICS members, in billion US$; two time points

	2022	2012	2022	2012	2022	2012	2022
	China	Brazil		South Africa		Russia	
Currency composition of reserves (by groups of currencies)	3306.5	373.1	324.7	50.7	60.6	537.6	582.0
currencies in SDR basket*	2974.1	333.3	318.9	50.7	57.5	520.9	
Currency Composition of Reserves, Denominated in Chinese Renminbi	NA	NA	16.1	NA	NA	NA	NA
Currency Composition of Reserves, Denominated in Euros			14.5				
Currency Composition of Reserves, Denominated in Japanese Yen			5.6				
Currency Composition of Reserves, Denominated in UK Pound Sterling			9.7				
Currency Composition of Reserves, Denominated in US Dollars			241.6				
currencies not in SDR basket	332.5	39.8	5.8	0.1	3.1	16.7	

* Special Drawing Rights basket, made up of the five currencies displayed below in the Table.

Source: IMF (International Monetary Fund).

International payments systems

For payments to take place around the globe they must change hands at a distance, something performed by the world network of banks and associated (electronic) transfer platforms. Both play a crucial role in easing any given transaction and actually making it functional. If one excludes the incipient cryptocurrencies market, standard[3] bank

[3] In terms of widely accepted and used.

transfer systems are just a few, inevitably linked to the corridors of power, directly or indirectly controlled by the hegemon. The better known and widely used is SWIFT—the Society for Worldwide Interbank Financial Telecommunication—an entity under Belgian law linking more than 11,000 financial institutions in over 200 countries.[4] The interaction between the banks and the system is close and complex; exclusion of one country or bank from the SWIFT may seriously damage its international financial life [Caytas 2017].

Side systems—often using offshore financial facilities, or bilateral currency swaps—and direct, customized bank to bank payments may provide alternatives, whose meaning and efficiency will be highly dependent on the volume of transactions at stake. More details follow below, for two key actors. The issue of properly quantifying changes in this area remains open.

Chinese and Russian banks

Two BRICS countries—actually three, as India's is also quite closed—display a relatively well-developed internal banking system, less connected to the IFS: Russia and China. The former has suffered manifold sanctions by the US and the EU, which triggered a series of measures to switch, as smoothly as possible, from mechanisms ultimately controlled by the leading Western power, without cutting the country's international connections. A Russian SWIFT has been created, also operating domestically, as well as a national payment system anchored in the Mir card.

China, meanwhile, launched, in 2015, CIPS, the Cross-border Interbank Payment System, which in principle allows any established bank in the world to operate RMB transactions with Chinese banks. CIPS, which is connected to SWIFT, has transferred 45 trillion RMB in 2020, and nearly 80 trillion in 2021. Though these figures are still lower than the volume of transactions in RMB taking place through the offshore network, there are prospects for the system to become increasingly relevant.

Individuals' international payments

Another important dimension is that of international means of payment for the global citizen himself or herself. The (international) credit card, though not the single option, still seems to be the prevailing means available. Reminding us that the IFS is a unified nexus, it is no wonder that the credit card business deeply interacts with the previous dimensions and agents and, eventually, remains under the hegemon's umbrella.

Table 6 (p. 38) shows, for the four main credit cards, the share of purchase transactions. Union Pay, a Chinese payment system, enjoys a significant position, outnumbering MasterCard.

Union Pay's performance is somewhat confirmed in Table 7 (p. 38) , where, for the same banners, the yearly number of (purchasing) transactions—credit or debit—cards in the hands of the public and total value of transactions are showed. This monetary mass though accounted, measured and transiting via the main currency, the US dollar, also

[4] For a fairly detailed history of SWIFT, see Scott and Zachariadis (2014).

takes place in RMB, thanks to the Chinese banner. The figures below must be regarded with care, as they also involve domestic transactions.

Table 6. Yearly shares (over 100.0) of purchase transactions for the four main credit cards

Year	Visa	MasterCard	Union Pay	American Express
2020	40.2	24.1	32.3	NA
2021	38.9	24.1	34.1	NA
2022	38.7	24.0	34.1	1.6

Source: Statista.

Table 7. The four main cards: selected yearly indicators

Year	Visa	MasterCard	Union Pay	American Express
5a. Total number of transactions (credit or debit), in billions				
2020	188	113	151	NA
2021	226	140	198	NA
2022	242	150	213	10
5b. Total number of cards in the hands of the public, in billions				
2020	4.6	3.8	NA	NA
2021	4.7	4.0	NA	NA
2022	4.9	4.2	NA	NA
5c. Total volume of payments, in US dollars, in trillions				
2020	4.4	2.7	NA	NA
2021	5.2	3.3	NA	NA
2022	5.9	3.7	NA	NA

Source: Statista

Since 2022, Visa, MasterCard and American Express cards issued abroad do not work in Russia. This is an additional step in the direction of lower financial integration and another incentive for the creation of alternatives to the US-dollar dominated system.

A note on cryptocurrencies

Parallel developments may also change trajectories and targets. One refers to blockchain-based currencies, which have nowadays a market of their own. Worried with their acquired niche, central banks have been pursuing the idea of the CBDCs—Central Bank Digital Currencies, as not exactly a competitor to them but rather a way to occupying (regulated) space in this new market. Individual central banks share different views on this new product, with China leading in experiments and implementations, since the e-CNY, started in 2014 and considered the first CBDC to be tested. The views in Roubini

(2022) should not be disregarded,[5] and digital currencies still pose major energy and speed-of-transactions problems, meaning they cannot be seen as an encompassing solution. They are left here outside the replacement discussion.

5. Conclusions

Replacing the dollar in international payments is often confused, deliberately or not, with the debate on whether US dominance is coming to an end or not. Though related, the two issues can and should be tackled independently.

This text is a preliminary attempt to probe the possibility of partially replacing the dollar in international transactions, notably as regards trade flows. For other instances in international transactions, the approach has been broader, though the process will inevitably affect them, perhaps sooner than expected.

The evidence gathered suggests that replacement in the trade flows payments is not only feasible: it can be significant. Moreover, as is informally known, the process has already been gaining momentum.

A natural outcome is the creation of an area—in fact, a group of countries—where use of the US dollar would be significantly reduced. A strong candidate seems to be the BRICS, or rather BRICS+ and the set of nations closer to them. This does not imply that members of the area, like Brazil, China, or India, would completely abandon the dollar, especially because the combined US-EU market is important for all of them.

Notwithstanding this, the initial step within the trade in goods realm may then spread to other domains, encompassing other kinds of international payments and reinforcing ancillary important measures, like the use of new credit cards. Eventually, the replacement dynamics will overflow the trade realm and issues like transfer payments platforms or international plastic money should be fully and seriously tackled.

Substitution of the dollar leads to two major questions: by which currency? How to manage a transition period, with, most probably, different currencies in use?

Though transactions may take place in Russian rubles or Brazilian reais, the present dynamics points towards the RMB assuming a larger proportion of the function of the US dollar. Studies on its ability to become a reserve currency start to abound, Eichengreen et al. (2022) being a cogent example. On the other hand, SDR adepts, for instance, continue to be active, and a period of several alternative main currencies might be expected. Elaboration on this point goes beyond the scope of the present exercise and deserves deeper consideration.

Management of a period with several currencies in use is not necessarily a novelty for the IFS. There are pros and cons to this situation and it must also be the subject of a separate work.

The very dynamics addressed here is highly affected by geopolitical decisions and the persistent will, by a core of key countries, to push forward a replacement. There is no signal that such a trend will be reverted, but in the present volatile world, surprises

[5] Specifically, in chapter six.

may take place, accelerating or hindering developments. It is advisable to incorporate this, both in the planning of future steps and in the measurement of progress achieved.

Identifying key feasible policies and ways to continuously measure their results is mandatory. Progress measurement in a systematic way, to gauge the successive achievements and keep track of alternative solutions, will require specialized staff.

The list of things that must be done is extensive. A sharper, more focused and detailed analysis of the trade flows nexus is a vital next step. The important educated guess of 40-35%, for exports and imports, must be refined and carefully assessed on a periodic basis. Better statistics must be obtained on the other possible transactions, to support creative, novel alternative products and systems.

The number of tasks ahead is great, but we must never lose sight of their geopolitical dimension and their wider meaning as a peaceful effort to change things for the better, in a world that is under threat.

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Appendix: A note on trade statistics

Trade data

When one departs from "standard" Western countries, trade data may become less reliable. Even the source used here, UN Comtrade, perhaps the best one available, demands careful attention. South Africa, for instance, presents discrepancies in its reported flows with Brazil, China, India, and the US, the latter showing incongruences with (again) South Africa, China, and India. Discrepancies usually refer to large differences between an FOB-export reported by country A to country B, and the corresponding CIF-imported value reported by country B, differences that may amount to 90% of the smaller value.

The table below gives an idea of the discrepancies in 2022:

Export-Import Discrepancies (values in millions, US dollars)			
	Export FOB	**Import CIF**	**(CIF-FOB)/FOB %**
S.Africa → Brazil	499	952	91
S.Africa → India	5.217	11.166	114
S.Africa → China	11.685	32.543	179
S.Africa → US	10.590	14.657	38
US → India	38.351	51.772	35
US → China	133.825	178.957	34
US → S.Africa	5.521	8.204	49

Source: UN Comtrade.

For the tables in the text, a discrepancy was considered when the relative difference (the third column in the above table) was higher than 25%. In this case, the average between the two values was used.

Problems may also be due to missing data. They occur with Russia and the RoW, as well as with Iran, Saudi Arabia, Indonesia, Vietnam, and, again, Russia (it also applies to African countries, including those with significant trade volumes like Angola, Ghana, or Nigeria). Many may be due to delays in reporting the 2022 data, while the 2021 information is available.

This implies that, for some countries, the corresponding column values are not their declared exports but the CIF-imports declared by the country-line; a general rule in all rows related to the European Union.

Other sources

IMF data may be improved and combined with individual, country-based sources; an effort that can be demanding.

For other products, like credit cards, the amount of noise in the data is unknown. More work is needed regarding most alternative sources.