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Jeremy Samer Srouji

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## Big money reigns, small money gains - but who will fix the International Monetary System?

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**Jérémy SROUJI**

*Attaché Temporaire d'Enseignement et de Recherche (ATER)*

*CNRS, GREDEG*

*Université Côte d'Azur*

*International Institute of Social Studies,*

*Erasmus University Rotterdam*

**Résumé :** The evolution of the international monetary system towards a more multipolar configuration is not only reflective of fundamentals but of increasing fragilities and uncertainty. In this paper, we map the trajectories of the big four (EUR, GBP, JPY, USD) and secondary currencies (AUD, CAD, CHF, CNY) in the past decade and argue that the system is increasingly ill-adapted to the reconfiguration of the global economy, bringing to the forefront the need, in particular, for a reliable alternative international reserve asset.

**Mots-clés :** currency internationalization, functions of money, international monetary system, international reserves, payments

## Introduction

The international monetary system is in a phase of transition. At the Institute of International Finance meeting in Tokyo in June 2019, then Governor of the Bank of England, Mark Carney, declared that a “rebalancing” of foreign exchange reserves was inevitable given the rise of emerging economies and global shifts in economic power, trade and financial flows<sup>1</sup>. While the dollar continues to hold a privileged position as a global medium of exchange and store of value, several studies have noted an evolution towards a more multipolar future where several currencies could share the international currency role (Farhi et al. 2011; Obstfeld 2013; Ocampo 2017).

What is the international monetary system? It is usually defined as the set of rules, institutions and conventions that govern the coordination of monetary policies and exchange rates among countries, as well as the provision of international liquidity<sup>2</sup>. One of its salient aspects is that, in the absence of a world central bank, national currencies compete to play the international currency role. This competition became more pronounced following the abandonment of dollar-gold convertibility in 1971, and the move from fixed to flexible exchange rates. A second notable aspect is that the international reserve role has been almost exclusive to the currencies of advanced economies such as the dollar, euro and yen, with the Chinese yuan emerging as a rare exception in recent years.

Studies related to international money often take international reserve currencies as the only indicator of interest (Chinn & Frankel 2008; Iancu et al. 2020; Arslanalp et al. 2022). This misses the heterogeneity present in the international monetary system, as well as overlooking other functions of money

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<sup>1</sup> MARK CARNEY, “The Growing Challenges for Monetary Policy in the Current International Monetary and Financial System - Speech by Mark Carney,” 2019, <https://www.bankofengland.co.uk/speech/2019/mark-carney-speech-at-jackson-hole-economic-symposium-wyoming>.

<sup>2</sup> EMMANUEL FARHI, PIERRE-OLIVIER GOURINCHAS, and HÉLÈNE REY, *Reforming the International Monetary System* (London: Centre for Economic Policy Research, 2011). p7

that may indicate important changes in the system. The ECB's annual *International Role of the Euro* does analyze the use of the euro across multiple indicators<sup>3</sup>, while the Federal Reserve also provides occasional reports on international use of the dollar<sup>4</sup>. In this paper, we adopt the approach used by De Conti & Magalhães Prates (2018), taking as a guide the functions of international money to map the structure of the international monetary system and matching these to the latest empirical data. This approach provides a useful framework for capturing the diverse uses of currencies and their evolution within the system. We also provide an analysis of payment currencies drawing on SWIFT data, as well as gold purchases by emerging market central banks, indicators that have been missed in most studies.

Our main finding is that contrary to claims of dollar decline, the dollar's position was stronger in 2022 than it was a decade ago across all except one of the six functions of international money. At the same time, the declining role of the euro, which still holds second position, has been compensated by the rise of secondary non-traditional currencies, in particular Australian and Canadian dollars and Chinese yuan. The emergence of these diversification currencies, however, is not only driven by fundamentals, but also by growing fragilities and uncertainty at the heart of the international monetary system.

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## I. The functions of international money

Economists typically define international money by its functions, as a medium of exchange, unit of account and store of value. At the international level, they distinguish between the activities of private agents such as corporations, and official bodies such as central banks. Distinguishing between

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<sup>3</sup> ECB, "The International Role of the Euro," June 2022, <https://data.europa.eu/doi/10.2866/104549>.

<sup>4</sup> CAROL BERTAUT, BASTIAN VON BESCHWITZ, AND STEPHANIE CURCURU, "The International Role of the U.S. Dollar' Post-COVID Edition," *FEDS Notes*, no. 2023-06-23-3 (June 2023), <https://doi.org/10.17016/2380-7172.3334>.

these private and official uses results in six functions of money at the international level, as described in Table 1, as a *means of payment (vehicle currency)*, *invoicing currency* and *investment currency*, for private uses, and as an *intervention currency*, *reference currency* and *reserve currency*, for official uses.

**Table 1: The Functions of International Money**

		Private usage	Official usage
<b>1</b>	<b>Medium of exchange</b>	Means of payment, vehicle currency	Intervention currency
<b>2</b>	<b>Unit of account</b>	Denomination and invoicing currency	Reference or anchor currency
<b>3</b>	<b>Store of value</b>	Investment and financing currency	Reserve currency

Source: Adapted from Krugman (1984)

This description has proved beneficial for understanding how international currencies compare against each other. For example, Cohen (2012) distinguishes between three tiers of international currency, with the US dollar fulfilling all six functions fully and extensively, followed closely by the euro and the yen, and third-tier currencies such as the Canadian dollar and Swiss franc, that have more limited international use. Recent studies (Aizenman et al. 2020; Arslanalp et al. 2022) distinguish between the “big four” (EUR, GBP, JPY, USD) and secondary diversification currencies (AUD, CAD, CHF, CNY, Other). While there is no agreed convention for classifying international currencies, that a “hierarchical arrangement” exists between them has been recognized for some time<sup>5</sup>.

Economists also recognize that important interdependencies exist between the functions. A currency widely used by private agents for trade and financial transactions, as a medium of exchange, in turn encourages its use as a

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<sup>5</sup> CHARLES P. KINDLEBERGER, *The Politics of International Money and World Language* (The MIT Press, 1967), <https://doi.org/10.7551/mitpress/1977.003.0021>. p4

denomination currency (i.e. unit of account) and store of value, for longer term investment and financing. This provides for the following sequence: medium of exchange → unit of account → store of value.

The intensity of these private uses, however, also influences official uses. A currency widely transacted by private agents benefits from lower transaction costs, encouraging monetary authorities to utilize it as an intervention currency, or to adopt it as a reference currency. Banks in turn will be motivated to also hold it in reserve. This establishes a two-way relationship, as the choice of reference currency in turn encourages private agents to transact, invoice and save in the chosen reference currency. The interdependence between official uses mimics private uses, as follows: intervention currency → reference currency → reserve currency<sup>6</sup>.

This interdependence between the functions contributes to a “self-reinforcing” dynamic within the international monetary system. Also known as *inertia*, this states that the forces that encouraged the use of a currency in the past will sustain its use into the future <sup>7</sup>. Technically known as frictions, the “costs of transacting, costs of calculation”, tend to favor the adoption of one money as the top international currency<sup>8</sup>. The consensus view among many economists is that the international monetary system tends towards a “natural monopoly” by one currency (Kindleberger 1967; Krugman 1984; McKinnon 2010). An interesting analogy for this process is provided by Kindleberger

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<sup>6</sup> AGNÈS BÉNASSY-QUÉRÉ, BENOÎT MOJON, AND ARMAND-DENIS SCHOR, “The International Role of the Euro,” Working Papers (CEPII research center, July 1998), <https://ideas.repec.org/p/cii/cepiddt/1998-03.html>. p11

<sup>7</sup> BARRY EICHENGREEN, ARNAUD MEHL, AND LIVIA CHITU, “Mars or Mercury? The Geopolitics of International Currency Choice” (Cambridge, MA: National Bureau of Economic Research, December 2017), <https://doi.org/10.3386/w24145>. p9

<sup>8</sup> PAUL KRUGMAN, “The International Role of the Dollar: Theory and Prospect,” NBER Chapters (National Bureau of Economic Research, Inc, 1984), <https://econpapers.repec.org/bookchap/nbrnberch/6838.htm>. p262

(1967), who likened the adoption of the dollar as the world money to the adoption of English as the international language<sup>9</sup>.

Nonetheless, a set of relatively recent studies have raised questions about the staying power of inertia in the international monetary system. Drawing on previously unexploited datasets, Eichengreen (2014) and Eichengreen & Flandreau (2010) demonstrate that by the late 1920s the dollar accounted for more than half of global foreign exchange reserves and equaled the sterling in the volume of trade acceptances, in the invoicing of oil imports, and in public debt obligations<sup>10</sup>. They argue that the swiftness of the dollar's rise requires a rethink of the staying power of inertia.

Specifically, the experience of the 1920s shows that “new sources of liquidity can acquire a role quite rapidly” and that “increasing returns are not so strong as to rule out the existence of multiple international currencies at a point in time”. For Eichengreen (2014), the sterling-dollar co-existence shows that viewing the international monetary system solely from the lens of a competition between currencies does not fully honor the historical record, with past experience suggesting that it can accommodate secondary currencies without fundamentally disrupting the global economy<sup>11</sup>.

This perspective is particularly interesting as we turn to consider how the international monetary system is changing, drawing on the latest empirical evidence to assess the evolution of currencies across the six functions of money: as a means of payment, invoicing and investment currency for private uses, and as an intervention, reference and reserve currency for official uses. Each subsection of Section II will provide some elements of theory or stylized facts related to the function, followed by descriptive statistics and analysis. Some concluding remarks follow.

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<sup>9</sup> Kindleberger, *The Politics of International Money and World Language*. p10

<sup>10</sup> BARRY EICHENGREEN, “International Currencies Past, Present and Future: Two Views from Economic History,” *SSRN Electronic Journal*, 2014, <https://doi.org/10.2139/ssrn.2580651>. p10-12

<sup>11</sup> Eichengreen. p18

## II. Mapping the international monetary system

### A. Private Usage

#### i. Private use: means of payment

The means of payment or vehicle currency role has a particularly important place in the literature. It is widely recognized as the primary conduit by which currencies come to play an international role. Krugman (1984) explains how as an emerging economic power gains a larger share of world GDP and trade, changes in the “structure of payments”, the money countries owe to each other in exchange for goods and services, can lead to changes in the “structure of exchange”, the actual currency in which countries choose to settle their payments<sup>12</sup>. Once the currency of a large country becomes established as an international means of payment, this swells the foreign exchange market in that currency, reducing transaction costs and motivating other countries to also transact, save and invest in that currency.

This is the “self reinforcing” dynamic at play and one of the principal reasons why only a handful of currencies come to be adopted as international mediums of exchange. Krugman distinguishes between the direct firm-to-firm market where the dollar has a privileged role, the firm-to-bank foreign exchange market where a large number of currencies are demanded, and the wholesale foreign exchange market composed of banks and foreign exchange (FX) brokers, where the majority of bilateral currency exchanges are intermediated through the dollar<sup>13</sup>.

The means of payment or vehicle currency function therefore relates to the transactional uses of currencies and can be analyzed by looking at statistics related to payments as well as foreign exchange turnover. While there are no consolidated statistics on international payments by currency, a good resource is the data provided by the Belgium-based Society for Worldwide Interbank

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<sup>12</sup> KRUGMAN, “The International Role of the Dollar.” p267-8

<sup>13</sup> Krugman. p264

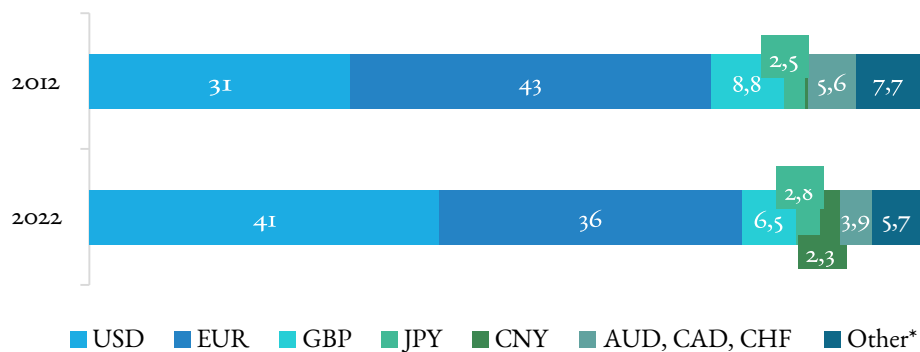


Financial Telecommunication (SWIFT). The electronic funds transfer system links more than 11,000 financial institutions across the world, and accounts for more than half of cross-border payments.

Chart 1 compares the shares of top payment currencies in 2012 and 2022. Overall, the big four currencies accounted for an average of 85 percent of the total value of SWIFT payments in both years. What stands out however is how the euro has fallen behind the dollar, declining from 43 to 36 percent across the period<sup>14</sup>, while the dollar has increased its share from 31 to 41 percent. Inflation, slow economic growth as well as the exclusion of Russia from the SWIFT platform in 2022 have all negatively impacted the euro as an international payment currency<sup>15</sup>.

**Chart 1: Global SWIFT Transactions by Currency, 2012 & 2022**

In percent (%) total value



Note: Euro excludes intra-Eurozone payments \*Other currencies: Hong Kong dollar, Thai baht, Swedish krona, Singapore dollar, Norwegian krone, Polish zloty, Danish krone, South African rand, Russian ruble, New Zealand dollar, Mexican and Chilean peso

Source: SWIFT, March 2023

Another notable evolution relates to the yuan (CNY). Ranked 16<sup>th</sup> in the SWIFT database in 2012 with a modest 0.4 percent share, the Chinese

<sup>14</sup> SWIFT data excludes intra-Eurozone payments

<sup>15</sup> MARY BIEKERT AND ALEXANDRE TANZI, “Dollar Steals Global Payment Flows From Euro Amid Market Turmoil,” *Bloomberg.Com*, September 22, 2022, <https://www.bloomberg.com/news/articles/2022-09-22/dollar-steals-global-payment-flows-from-euro-amid-market-turmoil>.

currency has gradually increased its share of cross-border payments to 2.3 percent, placing it in the fifth position just behind the yen in 2022. In 2012, the Singapore dollar (SGD) was in the eighth position, trailing behind the Swiss franc (CHF), but it had fallen to 12<sup>th</sup> position in 2022.

Foreign exchange market turnover, reported at three-year intervals by the Bank of International Settlements, is another important indicator for transactional uses of currencies<sup>16</sup>. The market is huge, with the BIS estimating turnover has doubled from an average of \$3.9 trillion per day in 2010 to \$7.5 trillion in 2022, across the full range of FX instruments, buoyed by increased trading between banks, hedge funds and prime brokerages as well as a growing role of digital platforms<sup>17</sup>.

An important feature of these reports is that as two currencies are involved in every exchange, the sum total of transactions is 200 percent. The BIS figures for 2022 show that the dollar was on one or the other side of 88 percent of all foreign exchange transactions, with its position virtually unchanged in 20 years, as outlined in chart 2.

Collectively, the big four are on one or the other side of 150 percent of foreign exchange transactions. Three notable trends concern the euro, the yen and the yuan. The European currency has seen its share of FX turnover decline from 39 percent in 2010 to 30 percent in 2022, and which in addition to the factors outlined above can be attributed to a decline in confidence following the Eurozone debt crises of 2011-12<sup>18</sup>. The yen, the world's third most traded

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<sup>16</sup> The BIS' Triennial Survey compiles data from 53 countries and 1,236 foreign exchange dealers which covers their transactions with counterparties including banks, insurance companies, mutual funds, central banks and non-financial corporations. MICHAEL R. KING and CARLOS MALLO, "A User's Guide to the Triennial Central Bank Survey of Foreign Exchange Market Activity," SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, December 1, 2010), (p75)

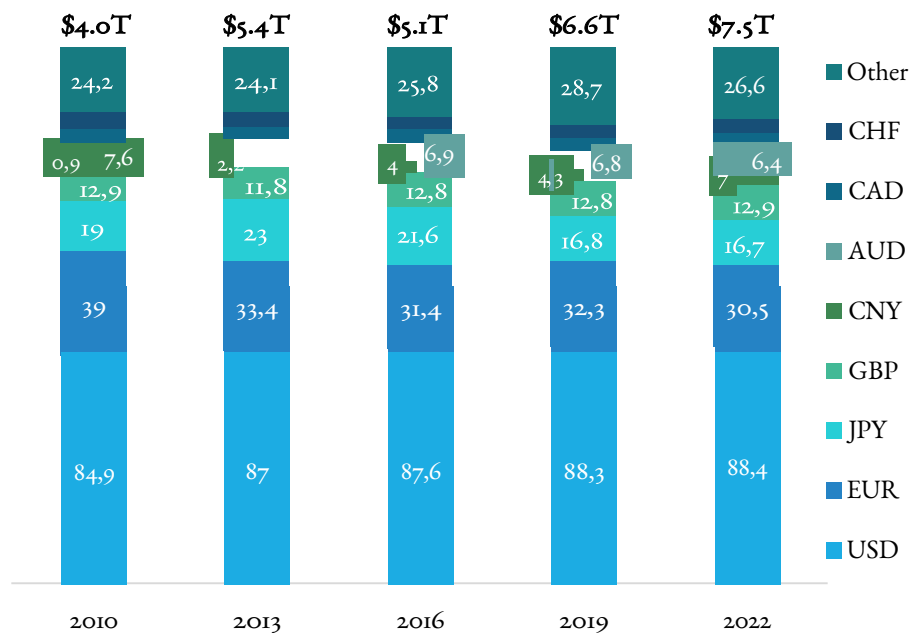
<sup>17</sup> ANDREAS SCHRIMPF AND VLADYSLAV SUSHKO, "Sizing up Global Foreign Exchange Markets," *BIS Quarterly Review*, 2019, [https://www.bis.org/publ/qtrpdf/r\\_qt1912f.htm](https://www.bis.org/publ/qtrpdf/r_qt1912f.htm).

<sup>18</sup> BENJAMIN J. COHEN, "The Demise of the Dollar? Plus Ça Change, plus c'est Pareil..." *Revue de La Régulation*, no. 18 (October 19, 2015), <https://doi.org/10.4000/regulation.11501>. (p9-10)

currency, has also witnessed a relative decline since 2013, due to a slowdown in the JPY-USD market as well as the depreciation of the yen against other major currencies in the past few years<sup>19</sup>.

**Chart 2: Currency distribution of foreign exchange turnover, 2010-2022**

Net-net basis, percent (%) share of average daily turnover for April for each year and dollar trillion



Source: drawn from BIS, Triennial Survey of FX and OTC derivatives, 2022

The most notable evolution is that of the yuan, which takes the fifth position behind the British pound in FX turnover in 2022, from a meager 0.9 percent of transactions in 2010. Given restrictions on its convertibility, the yuan's rise has been facilitated by offshore clearing houses in London, Singapore, New York and Hong Kong. The bulk of clearing traditionally takes

<sup>19</sup> BIS, "Foreign Exchange Turnover in April 2019," September 16, 2019, [https://www.bis.org/statistics/rpfx19\\_fx.htm](https://www.bis.org/statistics/rpfx19_fx.htm). p4; YOSHIKI NOHARA, ENDA CURRAN, AND SANO HIDEYUKI, "Yen's Historic Fall Signals Rewrite of Global Currency Playbook," *Bloomberg.Com*, April 28, 2022, <https://www.bloomberg.com/news/articles/2022-04-28/yen-s-historic-fall-signals-rewrite-of-global-currency-playbook>.

place in Hong Kong, which accounted for 74 percent of the total value settled in late 2020, with the UK increasingly gaining in prominence as a hub.<sup>20</sup>

## **2. Private use: invoicing currency**

The use of a currency as a unit of account to denominate trade and financial transactions closely follows its use as a means of payment. Nonetheless, the literature does present some stylized facts related to invoicing currencies. The first is that in trade among advanced countries, the exporters' currency is usually preferred. For example, 60 percent of Eurozone exports to non-Eurozone countries are denominated in euro, as outlined in chart 3. Secondly, a higher share of exports than imports will be invoiced in the domestic currency, and third, the currencies of large economies are more widely used than those of small ones<sup>21</sup>. Finally, when two developing countries trade, they will normally settle the transaction in a selected international currency, when neither of their currencies are widely used in cross-border settlements.

Krugman (1984) also distinguishes between invoicing patterns for manufactured versus primary goods. Manufactures are likely to be denominated in the exporters' currency, except where the importer is significantly larger than the exporter. An example of this is Japanese exports to the United States, invoiced in US dollar. For agricultural or low value-add products such as soybean, wheat and rubber, these are almost exclusively denominated in dollars, with commodity exporters largely compelled to being price-takers on international markets.

Data on trade invoicing can be disparate<sup>22</sup>. Boz et al. (2020), a recent effort by the IMF, has filled some gaps with data for 102 economies for 1990 - 2019. A sample of findings for 12 economies are presented in charts 3 and 4.

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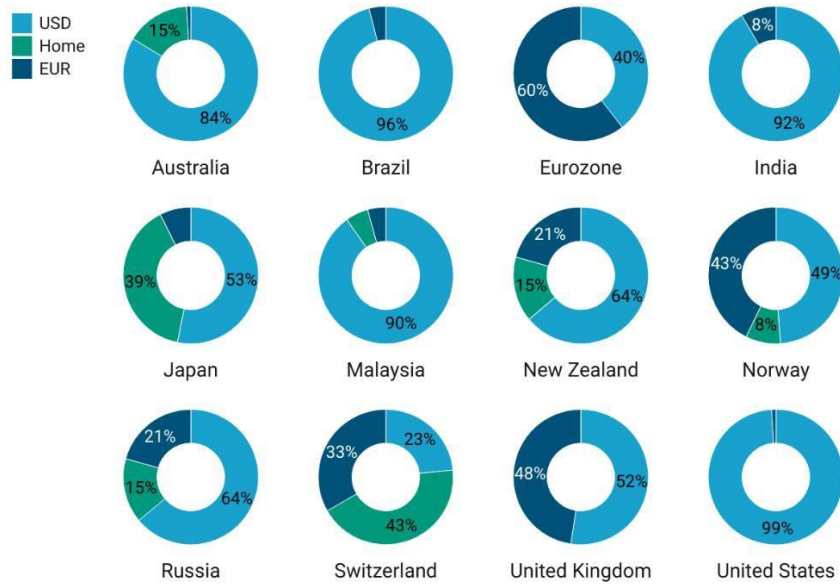
<sup>20</sup> SWIFT, RMB Tracker, Nov. 2020

<sup>21</sup> KRUGMAN, "The International Role of the Dollar." (p270)

<sup>22</sup> Ito & Kawai (2016) have studied invoicing using the Deutsche mark, US dollar and yen. Faudot & Ponsot (2016) analyze the use of the US dollar in trade invoicing and denominating debt instruments.

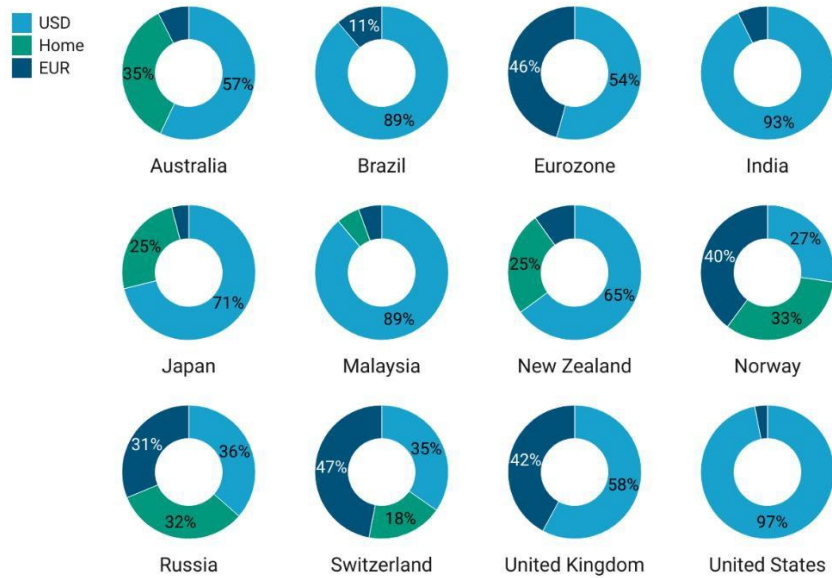
### Chart 3: Invoicing currency of exports for 12 economies

Percent share in US dollar, home currency and euro



### Chart 4: Invoicing currency of imports for 12 economies

Percent share in US dollar, home currency and euro



Source: drawn from Boz et al. (2020); ECB (2022)

What stands out is the wide use of the dollar, particularly on the export side, in all countries outside the European periphery such as Australia, Brazil, India, Japan, Malaysia, New Zealand and Russia. As expected, the euro dominates Eurozone exports but not imports, where the dollar has a larger share. Countries in the Eurozone periphery – Russia, Switzerland, and Norway – display a more or less even distribution between the dollar, euro and the home currency in imports invoicing. Finally, it is interesting to note that contrary to the stylized facts, in Australia, New Zealand, Norway and Russia a larger share of imports than exports are denominated in home currency. This may be because the four countries are major commodity exporters, likely making their currency an attractive one to hold.

### **3. Private use: investment and financing currency**

The choice of currency for investment and financing purposes by private agents covers cross-border lending by banks, as well as the financial assets that institutional and individual investors choose to hold as part of their portfolios. In this section, we will analyze cross-border lending by banks, international debt securities issued by banks and non-financial corporations as well as developing and emerging market public debt obligations.

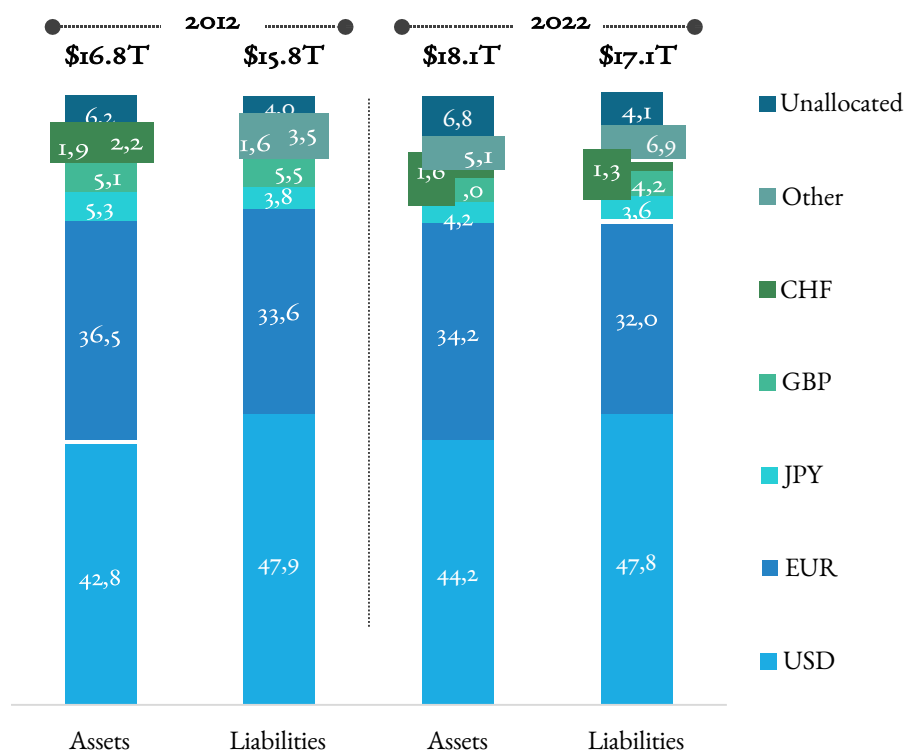
#### **Cross border assets and liabilities of banks**

Cross border assets and liabilities of banks, presented in chart 5, consist mainly of long-term loans as well as a small proportion of debt securities. Assets are the loans extended by banks or the debt securities invested in, while liabilities are the loans received or debt securities owed.

The chart shows how dollar-denominated cross-border assets for banks have moderately increased in 2022 compared to 2012, while liabilities have stayed the same. The share of cross-border bank lending in euro, yen, British pound and Swiss franc has declined compared to 2012. The main gains have been for “other” diversification currencies which have doubled in value across the period. Diversification and the search for higher risk-returns are likely behind these trends, particularly with the soft interest rates that have dominated between 2008 and 2022.

**Chart 5: Total bank cross-border assets and liabilities, 2012 & 2022**

In percent and US dollar trillion



Source: drawn from BIS, Locational Banking Statistics, 2023

### International debt securities

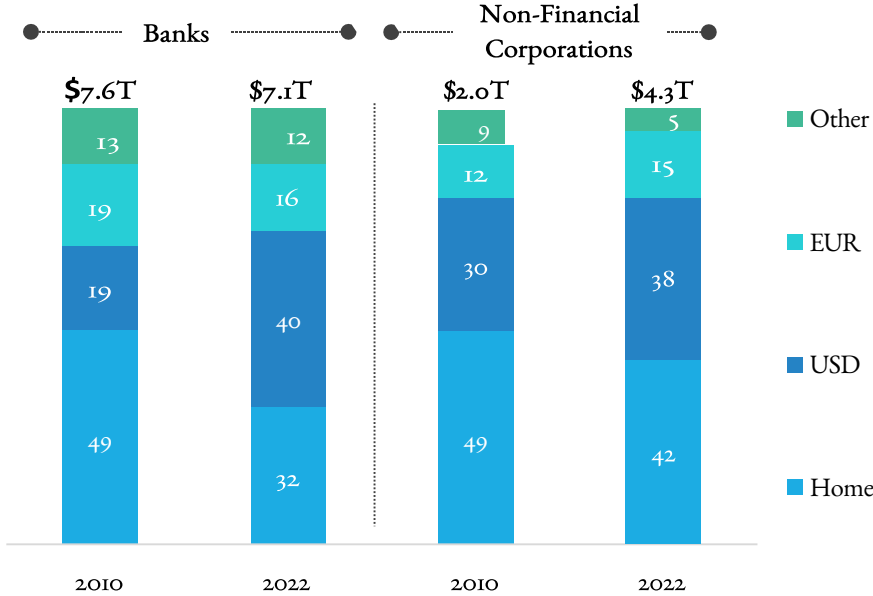
International debt securities covers financial and investment instruments with maturities over 12 months including bonds and other long-term obligations, issued and traded on primary and secondary markets. We analyze the currency denomination of international debt securities issued by banks and non-financial corporations. Chart 6 shows how much this market has changed comparing 2010 to 2022.

In 2010, the euro held an equal share to the dollar in the international debt obligations issued by banks. The onset of the Eurozone debt crisis fundamentally shifted this market with the dollar's share in 2022 double what

it was a decade ago. Nonetheless, the euro’s share in debt securities issued by non-financial corporations has increased relative to 2012. The other notable trend is the stagnation of bank-issued debt obligations which had declined to \$7.1 trillion in 2022, compared to the much stronger growth of debt securities issued by non-financial corporations, which doubled over the period.

**Chart 6: International debt securities issued by banks and non-financial corporations, 2010 & 2022**

In percent and US dollar trillion



Source: drawn from BIS, International Debt Securities, 2023

The trend is reflective of a tangible shift towards market-based financing following the Global Financial Crisis in 2008. In advanced economies, the debt securities of non-financial corporations have grown from an equivalent of 3.9 percent of GDP in 2009 to 6.8 percent in 2020, while in emerging economies they grew from 1.2 to 2.2 percent during the same period. Low US interest rates made it particularly attractive for emerging market corporates to issue US-dollar denominated debt either directly or through



affiliates located in offshore financial centers, enabling them to access a wider investor base<sup>23</sup>.

### **Developing and Emerging Market Public Debt Obligations**

Governments in emerging and developing countries are often required to supplement their resources through the issuance – either domestically or on international capital markets - of foreign-currency denominated public debt obligations. These can be used to pay for infrastructure projects, to increase social spending or to pay for needed imports. We include public debt obligations under *private use: investment and financing* currency because the majority these are held by private entities such as banks and hedge funds and are often actively traded on secondary markets.

In 2021, 61 percent of the total \$3.6 trillion of external public debt of low- and middle-income countries was held by private creditors, including individual and institutional bond holders, up from 46 percent in 2010<sup>24</sup>. Chart 7 outlines the currency composition of public debt obligations in developing and emerging markets by region.

As would be expected, the dollar dominates across all regions, accounting for over 90 percent of all long-term public debt obligations in Latin America and the Caribbean, and 66 percent in the Middle East and North Africa (MENA). Close to 20 percent of obligations in MENA and in Europe’s periphery are denominated in euro, while the yen takes a small but significant share in South Asia, in East Asia and the Pacific. The “other” category includes bond issuances in the home currency, as well as a small share funded by IMF-issued Special Drawing Rights (SDR) or secondary currencies such as the CHF.

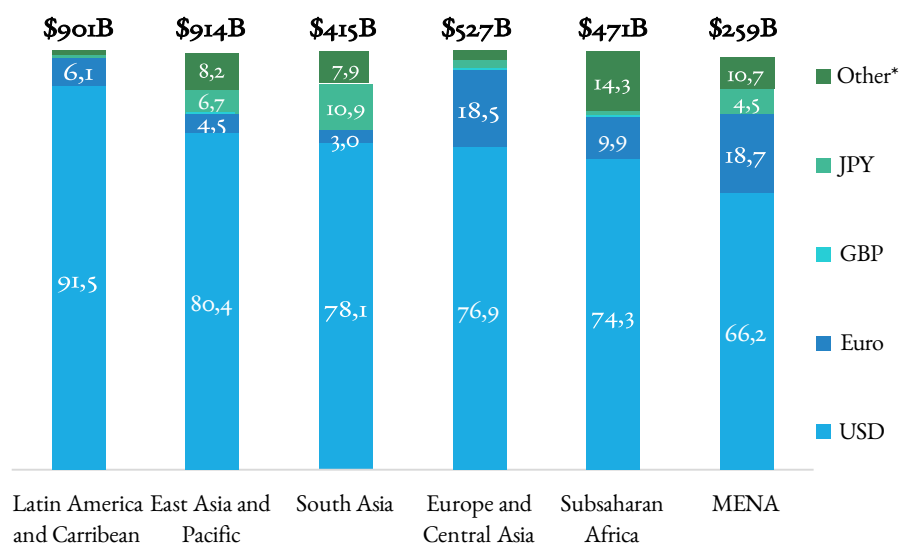
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<sup>23</sup> IÑAKI ALDASORO, BRYAN HARDY, AND NIKOLA TARASHEV, “Corporate Debt: Post-GFC through the Pandemic,” *BIS Quarterly Review*, 2021, <https://ideas.repec.org/a/bis/bisqtr/2106b.html>.

<sup>24</sup> World Bank, *International Debt Report 2022 : Updated International Debt Statistics* (The World Bank, 2022), <https://doi.org/10.1596/978-1-4648-1902-5>.

**Chart 7: Public debt in emerging and developing regions, 2021**

In percent and US dollar billion



Source: International Debt Statistics, World Bank, June 12 2022

\*Other: includes SDR, CHF and other

## B. Official Usage

### 4. Official use: intervention currency

When it comes to official usage, the functions of international money as a medium of exchange, unit of account and store of value are completely intertwined. Intervention currency covers the activity of central banks intervening in FX markets to stabilize their exchange rates, exchanging domestic currency for foreign currency or vice versa. As participants in the foreign exchange market, their activity is therefore captured in the foreign exchange turnover figures displayed in chart 2.

### 5. Official use: reference currency

Countries will often adopt a major international currency as a reference either in the form of a formal anchor or informally, by closely managing the

fluctuations of their exchange rate against a chosen currency or basket of currencies. Close to 80 percent of countries in the world in fact implement exchange rates with limited flexibility, taking the dollar, euro or other major currency as a reference, and intervening in FX markets to manage fluctuations, even where exchange rates are officially declared as floating<sup>25</sup>. The choice of anchor is typically determined based on the importance of trade linkages with major economies, with some countries opting for a basket peg to two or more currencies instead of just one<sup>26</sup>.

McKinnon (2007) and Ilzetzi et al. (2017) see in the reference currency role the most important determinant of the strength of an international currency. “That so much of the world chooses the dollar as its anchor / reference currency underscores the broad importance of the dollar across global markets,” write Ilzetzi et al. (2017)<sup>27</sup>. They note that the choice of the dollar as a reference currency has significantly expanded since the 1990s, with currently 62 percent of countries in the world integrating the dollar into their exchange rate arrangements.

Subramanian & Kessler (2013), for their part, similarly traced the rise of the yuan as an international currency through a focus on the reference currency role. They found that after 2010, the exchange rates of seven out of 10 major East Asian economies were tracking the yuan more closely than the dollar, a key indicator of the growing international role of China’s currency<sup>28</sup>.

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<sup>25</sup> ETHAN ILZETZKI, CARMEN REINHART, AND KENNETH ROGOFF, “Exchange Arrangements Entering the 21st Century: Which Anchor Will Hold?” (Cambridge, MA: National Bureau of Economic Research, February 2017), <https://doi.org/10.3386/w23134>. p6

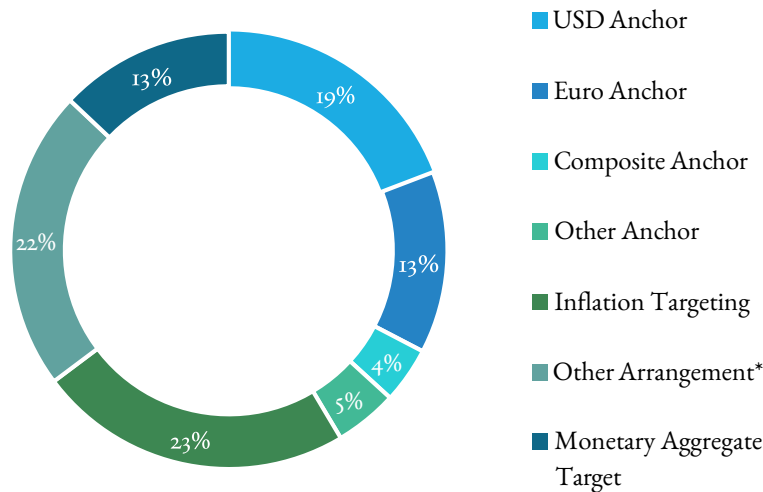
<sup>26</sup> CHRISTOPHER M. MEISSNER AND NIENKE OOMES, “Why Do Countries Peg the Way They Peg? The Determinants of Anchor Currency Choice,” *Journal of International Money and Finance* 28, no. 3 (April 2009): 522–47, (p10)

<sup>27</sup> ILZETZKI, REINHART, AND ROGOFF, “Exchange Arrangements Entering the 21st Century.” p5

<sup>28</sup> ARVIND SUBRAMANIAN AND MARTIN KESSLER, “The Renminbi Bloc Is Here: Asia Down, Rest of the World to Go?,” Working Paper Series (Peterson Institute for International Economics, 2013), p13

The IMF’s annual report on exchange rate arrangements reported that 41 percent of countries maintained a formal anchor arrangement, with 19 percent anchoring uniquely to the dollar, 13 percent to the euro, and 9 percent maintaining a composite anchor to two or more currencies, as set out in chart 8. ‘Other anchor’ arrangements include maintaining a band or crawling peg against one or more major currencies. Alternative arrangements adopted mainly in countries with more flexible or floating exchange rates include inflation targeting, used by 23 percent of countries, and monetary aggregate targeting, used in 13 percent of countries.

**Chart 8: Exchange rate arrangements as reported by the IMF, 2021**  
Percent of all countries



Source: drawn from IMF (2022) \* “Other Arrangement” is for countries with no explicit nominal anchor, or where the approach to monetary policy is unclear.

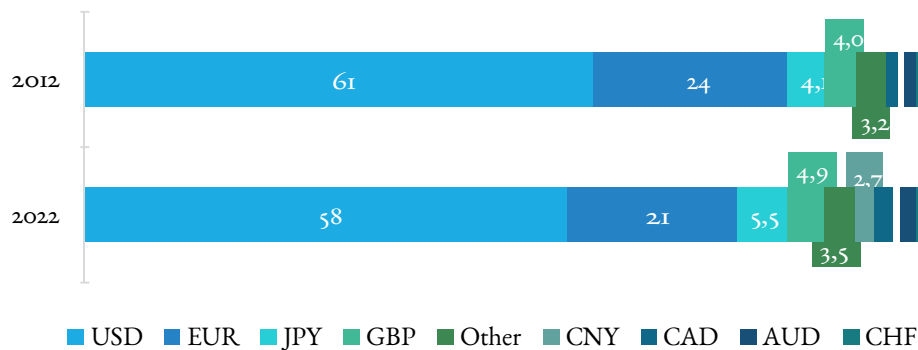
## 6. Official use: reserve currency

Foreign reserves are an essential source of liquidity for countries, providing a buffer against exchange rate volatility, but also needed for supporting domestic businesses and investment, as well as for covering balance

of payments deficits. These liquid assets are usually held in the form of US Treasury Bills or other official debt obligations of major economies such the Eurozone, Japan and the UK.

**Chart 9: Currency composition of international reserves, 2012 & 2022**

Percent share of each currency



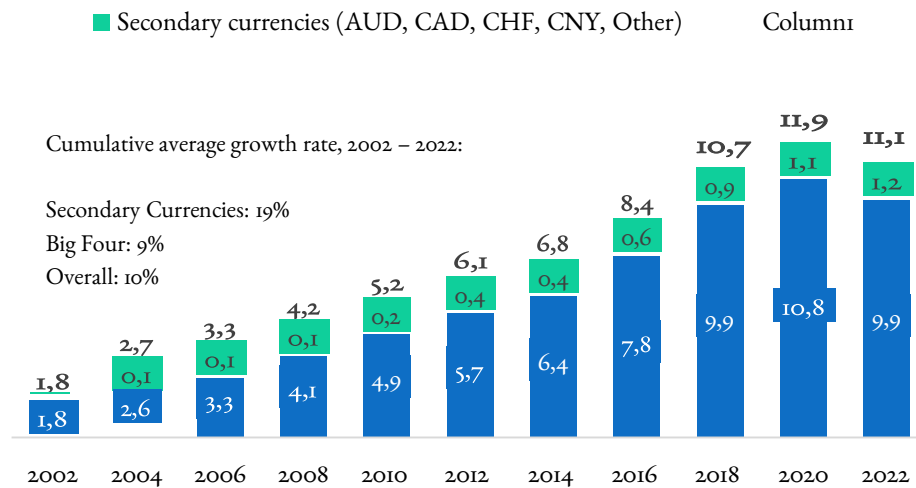
Source: drawn from IMF, Currency Composition of Official Foreign Exchange Reserves (COFER), April 2023

A currency’s share of official foreign exchange reserves held by central banks is often taken as a pre-eminent indicator of international currency status. In 2022, the dollar’s share of reserves was 58 percent, with 20 percent held in euro and 10 percent shared between the British pound and yen, as outlined in chart 9. Both the shares of dollar and euro have declined over the decade, with the yen and the British pound gaining slightly. There has been much interest in movements in international reserve currencies in recent years, in particular the reserves “surge”, presented in chart 10, and which has seen these grow by a factor of six since 2002.

Dooley et. al. (2003; 2014), authors of the *Bretton Woods II thesis*, explain the surge by arguing that East Asian economies are purposely reinvesting their trade surpluses in US debt obligations to maintain undervalued exchange rates, supporting a continued export-led growth model. This *mercantilist* view of Bretton Woods II has been refuted by Obstfeld (2013) and Ilzetzki et. al. (2017), who propose that it is more likely *self-*

*insurance* motives that are driving reserves accumulation, providing emerging economies with a buffer against the destabilizing effects of large capital flows and economic downturns<sup>29</sup>.

**Chart 10: Central bank foreign reserves, the “surge”, 2002-2022**  
in US dollar trillion



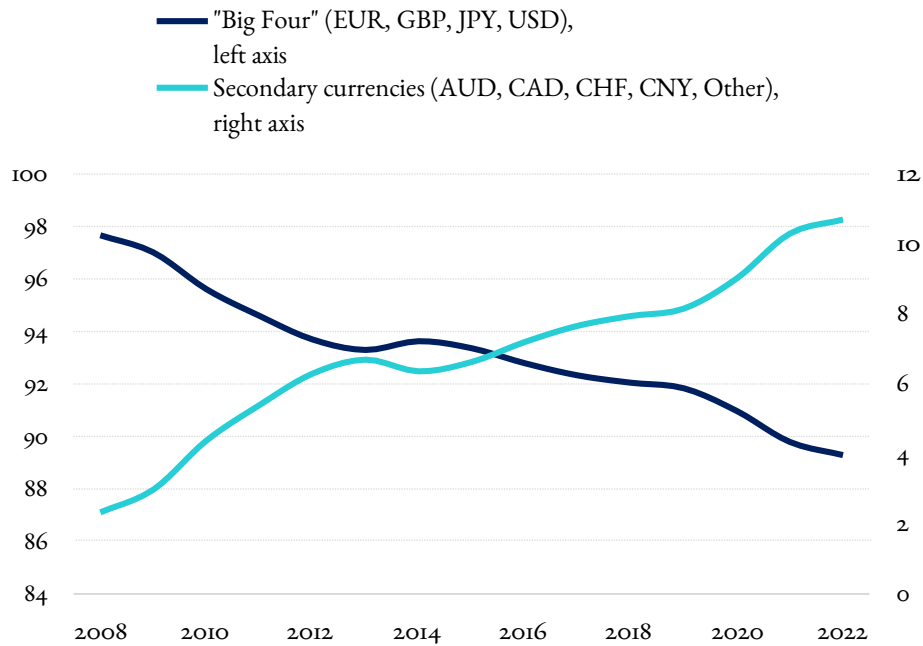
Source: *ibid.*

What is not in doubt is that demand for international reserves, which have grown at an average of 10 percent per year, has significantly outpaced global economic growth. This has raised questions about whether the traditional reserve-issuing countries such as the US, Eurozone, Great Britain and Japan, are capable of meeting world demand for reserves, particularly as emerging economies have grown at a consistently faster pace than these advanced economies. The concern is also about the levels of US debt required to keep supplying the world with dollar-denominated reserve assets, and which, in the medium to long term, could provoke a confidence crisis in the dollar (Farhi & Maggiori 2018).

<sup>29</sup> ILZETZKI, REINHART, AND ROGOFF, “Exchange Arrangements Entering the 21st Century.” p8

**Chart 11: The rise of secondary international reserve currencies, 2008 – 2022**

In percent total of allocated international reserves



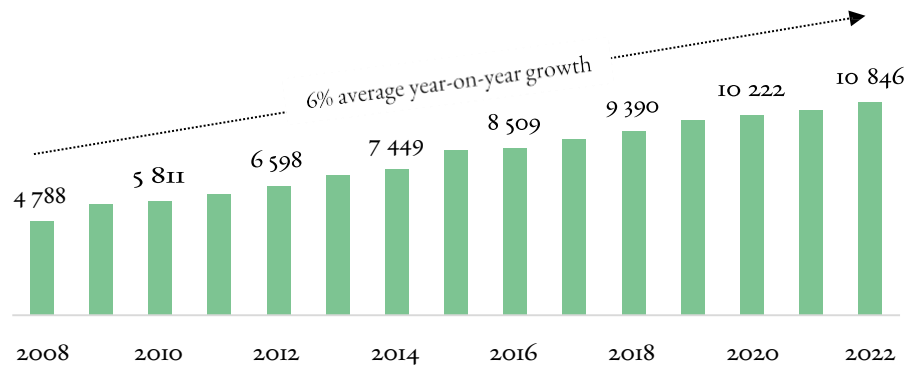
Source: drawn from IMF, Currency Composition of Official Foreign Exchange Reserves (COFER), April 2022

The growing scarcity of “safe assets” in the global economy along with concerns about the outlook for the dollar has led to a visible move away from the big four reserve currencies towards secondary currencies such as the Australian and Canadian dollars, Swiss franc and Chinese yuan. As outlined in chart 11, these diversification currencies accounted for just over ten percent of the foreign exchange reserves held by central banks in 2022, compared to only around 2 percent fifteen years earlier.

The diversification towards secondary currencies represents active diversification by central banks, a trend that has accelerated following the Global Financial Crisis (Aizenman et. al 2020; Arslanalp et al. 2022). Another indicator of the scarcity of safe assets in the global economy is the resurgence of gold purchases by emerging market central banks, including China, India and Russia. A valuable alternative source of liquidity for central banks, net gold purchases were equivalent to 1,136 tons in 2022, the highest annual volume on

record<sup>30</sup>. Overall, gold holdings of emerging and developing country central banks have doubled in the past decade, as outlined in chart 12, following years of only modest increases.

**Chart 12: Gold holdings of emerging and developing countries, 2008-2022**  
Official holdings in metric tons



Source: drawn from IMF, International Financial Statistics, May 26, 2023

Overall, the scarcity of safe assets and growing uncertainty around the US dollar as the world’s main reserve asset have fueled calls for reform of the reserve currency system. The BRICS<sup>31</sup> economies have been particularly vocal about the need for reform, with proposals to establish a common BRICS currency that could operate in parallel to the current dollar-based system<sup>32</sup>. Underlying these proposals are fundamentals related to the share of the global economy commanded by the BRICS group, which has grown from 10 percent

<sup>30</sup> DARIA MOSOLOVA, “Central Banks Load up on Gold in Response to Rising Geopolitical Tensions,” *Financial Times*, April 23, 2023, sec. Central banks, <https://www.ft.com/content/631003da-2bfo-4e08-aece-6a8ade9260d2>.

<sup>31</sup> Brazil, Russia, India, China and South Africa

<sup>32</sup> MIHAELA PAPA, “A BRICS Currency Is Unlikely to Dislodge Dollar Any Time Soon – but It Signifies Growing Challenge to Established Economic Order,” *The Conversation*, June 22, 2023, <http://theconversation.com/a-brics-currency-is-unlikely-to-dislodge-dollar-any-time-soon-but-it-signifies-growing-challenge-to-established-economic-order-206565>.



in 2004, to 26 percent in 2022, surpassing the share of the United States<sup>33</sup>. Other recommendations include expanding the role of the SDR to make it a true global reserve asset<sup>34</sup>. Carney (2019), for his part, has proposed a global digital currency backed by six or seven central banks of the major economies, arguing that this would decrease reliance on the dollar and better shield the world from swings in US business cycles<sup>35</sup>.

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## Conclusions

Contrary to claims of dollar decline, mapping the evolution of the international monetary system across the six functions of money reveals that in all but the reserve currency role the dollar is in a stronger position than it was a decade ago. Its role has expanded as a payment currency, in cross-border bank lending, and most visibly, in its share of international debt securities issued by banks and non-financial corporations. The same can be said for its role as an anchor and reference currency, which has only become more prominent.

A second major trend relates to the euro, which continues to hold second place behind the dollar across the functions of money, but with a smaller share than it did a decade ago. The decline is particularly striking as a payment currency, where the euro was ahead of the dollar on the SWIFT platform in 2012. It had also equaled the dollar share (19%) in bank-issued international debt securities in 2010, with its share falling to 16 percent in 2022. Overall, the

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<sup>33</sup>In current dollar terms the BRICS accounted for a 26 percent share of global GDP in 2022, the United States, 25 percent, the Eurozone, 14 percent, and the rest of the world, 35 percent, as reported in the IMF's World Economic Outlook, April 2023.

<sup>34</sup>JOSÉ ANTONIO OCAMPO, *Resetting the International Monetary (Non)System*, vol. 1 (Oxford University Press, 2017). P68

<sup>35</sup>KELLY OLSEN, "Bank of England's Carney Says Dollar's Dominance Is under No Immediate Threat. But Changes Are Coming.," CNBC, June 6, 2019, <https://www.cnbc.com/2019/06/06/boes-carney-says-the-dollars-dominance-is-under-no-immediate-threat.html>.

Eurozone debt crisis, slow economic growth and the outbreak of the Ukraine conflict have had negative repercussions for the euro's international role.

The third finding relates to the progress made by secondary diversification currencies (AUD, CAD, CHF, CNY, Other). The main trend relates to the yuan, which has risen from relative obscurity a decade ago to taking the 5<sup>th</sup> position in payments and in foreign exchange turnover, behind the yen and the British pound respectively. There is equally evidence of its growing role as a reference currency in East Asia, and as a reserve currency, where it accounts for 2.7 percent of global foreign exchange reserves, ahead of its peers. If the medium of exchange role is the conduit of currency internationalization, as many economists argue, then the expansion of the yuan's role as a unit of account and store of value should follow. Diversification currencies have also achieved a more prominent role in international bank lending.

While collectively the diversification currencies held over a 10 percent share of international reserves in 2022, this transition towards a more multipolar arrangement is not only a reflection of fundamentals but also of growing fragilities and uncertainty at the heart of the international monetary system. A scarcity of safe assets, concerns about US debt levels, and the resurgence of gold purchases by emerging market central banks are indicative of a system increasingly ill-suited to changing patterns in global investment, trade and financial flows.

Indeed, with a quarter of global output now centered on the BRICS, it is increasingly unrealistic to expect the big four reserve issuers to keep up with world demand for debt assets in EUR, GBP, JPY, USD. With the return of geopolitical conflict between great powers complicating all efforts at international cooperation, the need to reform the international reserves system and establish a more inclusive and horizontal international monetary architecture has never been more pressing.

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