Policy Contribution
Issue n°25 | December 2018

The euro as an international currency

Francesco Papadia and Konstantinos Efstathiou

KONSTANTINOS EFSTATHIOU (konstantinos.efstathiou@bruegel.org) is an Affiliate Fellow at Bruegel

FRANCESCO PAPADIA (francesco.papadia@bruegel.org) is a Senior Fellow at Bruegel

Executive summary

TWO QUESTIONS SHOULD be answered in relation to the international role of the euro: is a more important international role for the euro worth pursuing, and what measures would achieve this result, if it is worth pursuing? The most significant benefit for the euro area if the euro played an increased international role would be less dependence on the dollar and a reduced ability of the United States to pursue its political objectives, which are possibly inconsistent with European Union objectives.

HISTORICALLY, INTERNATIONAL FUNCTIONS have been shared between currencies and the international weights of currencies have evolved according to a limited number of variables. The most important of these are the economic size of the issuing country, the level of development and stability of the underlying financial market, openness to capital movements, a policy stance that encourages currency internationalisation, and political and military power. With the exception of financial stability, these factors do not vary substantially in the short run and give rise to persistent, long-term trends. Thus, in the first twenty years of its existence, the euro has consistently been the second most used international currency, while the dollar has maintained the first position it has held since the second world war.

THE GAP BETWEEN the dollar and the euro is greatest in the invoicing of commodity trade and as vehicle for foreign exchange transactions, and smallest in cross-border payments. While the ranking of the dollar and the euro has not changed, the euro's share has fluctuated, particularly in its use in international finance, in correlation with the stability of the euro financial market. This has confirmed that a necessary condition for the euro to play a greater international role is the stability of the euro-area financial system.

IN ADDITION, the completion of banking union, progress on capital markets union, the issuance of a common bond, and more generally the completion of the institutional architecture of the euro area and progress on a common foreign and defence policy would promote a wider role for the euro. The European Central Bank should also move beyond its neutral attitude towards the international use of the euro.

MOST OF THESE policies would have effects well beyond the international use of the euro and, while in principle desirable, are not easy to achieve. Proposals on the international role of the euro published in December 2018 by the European Commission were the start of a journey rather than a decisive step towards a greater international role for the euro.

bruegel

1 The welfare implications of the wider international use of a currency

In his 2018 State of the Union address, European Commission president Jean-Claude Juncker raised an issue that had been somewhat dormant over recent years: the international role of the euro. He said the Commission would present, before the end of 2018, a plan *"to strengthen the international role* of the *euro"*[1]. The Commission published the plan on 5 December (European Commission, 2018a).

While Juncker did not explicitly describe the motivations behind the plan, his announcement was a reaction to the increasing use by the Trump administration of the dollar's dominance as a tool of foreign policy, possibly against the interests of Europe. The case of Iran might have been uppermost in Juncker's mind, since the US had threatened to use so-called secondary sanctions to lock out of the dollar financial and economic system European companies that would have continued to have commercial and financial relationships with Iran.

Currency internationalisation would, as it does for the dollar, entail a host of benefits and costs for the euro. The pecuniary advantages from the international use of the dollar are often summarised by the notion of 'exorbitant privilege', linked to the revenue and savings generated by foreign demand for safe and liquid assets. The holding of interest-free dollar banknotes by foreigners yields relatively small[2] seignorage revenue, or profits relating to the issuance of currency. However, when savings deriving from the liquidity premium on US Treasuries are included, benefits become more substantial: on average liquidity and safety lowered US Treasury yields by 73 basis points from 1926 to 2008 (Krishnamurthy and Vissing-Jorgensen, 2012). This liquidity premium derives to a great extent from international demand for Treasury securities. Revenues and savings generated by the international use of the dollar are often associated with the excess returns earned on US foreign assets over foreign liabilities, estimated at 300-350 basis points in the post-Bretton Woods period (Gourinchas and Rey, 2007a; Habib, 2010; Gourinchas *et al*, 2010).

A second benefit is that greater use of a currency in international transactions reduces transaction costs for domestic users. Third, the use of the dollar in international finance allows US banks to extract so-called denomination rents, by having easy access to dollar liquidity and channelling it globally (McCauley, 2015). Finally, wider international currency use imparts hard (leverage) and soft power (reputation) (Cohen, 2012).

In terms of the costs, risks and constraints of currency internationalisation, the first is undesired currency appreciation, which is likely during times of global stress and reduces the competitiveness of domestic producers.

Second, exorbitant privilege comes with 'exorbitant duty' to provide insurance to the rest of the world, especially in times of global stress (Andritzky, 2018; Gourinchas *et al*, 2010). It involves offering the public good of a market for distressed goods, countercyclical flows of capital and liquidity, with the usual problems of free-riding (Kindleberger, 1981) and possible interference with domestic economic objectives. For instance, the modern versions of the Triffin dilemma suggest that meeting the global demand for dollar liquidity will inevitably result in the unsustainability[3] of US external debt. Increased international currency use might also interfere with the conduct of monetary policy. The provision of swap lines to fund European banks' dollar shortage starting in 2007 (McGuire and von Peter, 2009; McCauley and McGuire, 2009) illustrated the potential dilemma.

1 See https://ec.europa.eu/commission/sites/beta-political/files/soteu2018-speech_en_0.pdf.

2 With about 60 percent of US banknotes held abroad (US Treasury, 2006), seignorage revenues were estimated at between 0.1 percent and 0.2 percent of US GDP in 2005 (Cohen, 2012; McCauley, 2015).

3 See Bordo and McCauley (2017) for a comprehensive discussion of modern Triffin dilemmas.

These various considerations apply only partly to the euro. Seignorage is not particularly relevant for the euro because the international diffusion of euro banknotes is less widespread than that of the dollar[4]. Moreover, the euro area, unlike the US, has a current account surplus while there are no federal bonds and only some sovereign issuers enjoy safe asset status. Furthermore, currently, the 'denomination rents' for euro-area banks running international business in euro should not be sizable: first, European banks have significantly reduced their international activity since the financial crisis (McCauley *et al*, 2017; Emter *et al*, 2018); second, for their international business, European banks use foreign currencies (in particular the dollar) more than American banks.

The main benefit for the euro area if the euro took on a greater international role would be the financial autonomy that this would bring. The extraterritorial reach of US rules and decisions, granted by the very extensive international role of the dollar, would be reduced if the euro was used more widely. This has become more relevant with the apparent divergence of EU and US interests. The Commission clearly referred to this issue, noting that a stronger international role for the euro *"will allow the EU to better protect its citizens and businesses, uphold its values and promote its interests"* (European Commission, 2018a).

Any assessment of the costs and benefits of a greater international role for the euro should also consider the reasons behind the reluctance of the Bundesbank to allow the international use of the Deutschmark, lest it complicate monetary policy. This reluctance was transmitted to the European Central Bank, though the ECB has a neutral attitude to the idea of a greater international role for the euro[5].

There is less reason for the European Central Bank than for the Bundesbank to be reluctant about a greater role for the currency given two changes:

- The euro area is a much larger and less open economy than Germany, so external monetary shocks have relatively less impact;
- The Bundesbank's opposition was tied to its monetary aggregate approach to monetary policy; in an interest rate approach, as followed by the ECB, the monetary shocks that could derive from shifts in the international demand for the euro are less relevant.

2 A conceptual framework and historical evidence

2.1 Functions and determinants of international currency use

What drives the international use of currencies? Assessing the determinants of currency internationalisation requires the international functions of currencies to be identified. Based on the three traditional money functions (ie unit of account, medium of exchange and store of value) and considering the two types of users of currencies (ie private and official agents) there are six such functions (Krugman, 1984), as in **Table 1**.

4 The ECB's estimates that about 30 percent of outstanding currency was held abroad at the end of 2016 (ECB, 2017), which is only half of the share for the US dollar.

5 The ECB's policy towards the international use of the euro is summarised as follows by Draghi: "*The international role of the euro is primarily determined by market forces. The Eurosystem neither hinders nor promotes the international use of the euro.*" (ECB, 2018).

Table 1: International functions of currencies

Functions of money	Private use	Official use
Unit of account	Invoice/quotation currency	Pegging currency
Medium of exchange	Payment/vehicle currency	Intervention currency
Store of value	Investment/financing currency	Reserve currency

Source: Bruegel based on Krugman (2014) and ECB (1999).

Consolidating the various forces working through each function and summarising the relevant economic literature (Chinn and Frankel, 2007; Papaioannou and Portes, 2008; Benassy-Quere, 2015; Krugman 1984 and Eichengreen *et al*, 2018) the following list of factors determining the share of a currency in international functions can be established:

- **Size of the country (in terms of either GDP or volume of international trade) issuing the international currency as a proxy for network externalities.** Large size obviously translates into a large volume of transactions. Additionally, 'thick markets' diminish transaction costs and thus attract more participants, further reducing costs (Krugman, 1980; Matsuyama *et al*, 1993; Rey, 2001). Network externalities are especially relevant for the vehicle and investment/financing functions. Moreover, the size of the economy (Hassan, 2013) and a larger relative supply of debt (He *et al*, 2016) matter for the choice of the safe asset and, therefore, for the investment/financing and reserve functions.
- **Development of the underlying financial market.** The liquidity and depth of financial markets are crucial for the investment/financing function, since they reduce transaction costs and the cost of borrowing (liquidity premium). Liquidity also influences the choice of the safe asset of last resort (Maggiori, 2017).
- **Financial stability of the issuing country relative to the stability of other countries.** Financial and monetary stability enhances the store-of-value role. With regard to official reserves, portfolio-choice models (Ben-Bassat, 1980; Papaioannou *et al*, 2006) suggest a risk-return trade-off. Better fiscal fundamentals also affect the choice of the safe asset (He *et al*, 2016).
- **A policy of the issuing country to promote the international use of its currency through appropriate policies** and in particular a well-established central bank willing and able to act internationally (including in terms of liquidity provision).
- **Freedom of capital movements.**
- **Political and military power** of the issuing country.

Most of these factors change gradually and thus explain better long-term phenomena than short and medium-term changes in the use of international currencies. Financial stability, or rather financial instability, is the only factor that can change quickly enough to cause relatively fast changes to the shares of different currencies.

2.2 Historical evidence from the rise of the US dollar

A brief review of the history of international currencies in the last century provides strong support for the list of determinants above and puts them into perspective. The pre-first world war oligopoly, comprising sterling, the German mark and the French franc, was replaced by a sterling-US dollar duopoly in the interwar years. In the 1920s and 1930s, dollar and sterling effectively shared international currency status, in foreign exchange reserves, trade credit and international bond issuance[6] (Eichengreen *et al*, 2018). This is at variance with the commonly held belief that

6 The US dollar surpassed sterling as the leading reserve currency as early as the mid-1920s and as the leading currency of international bond denomination in 1929. In addition, the dollar grew from an insignificant source of trade credit in 1914 to sterling's equal in only a matter of years.

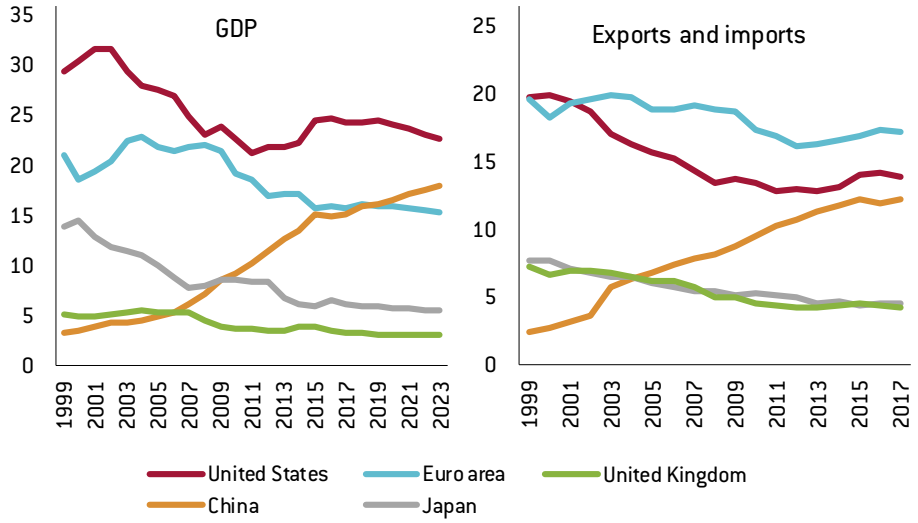
sterling remained the dominant reserve currency until the end of the second world war, long after the US had overtaken the UK as the world's largest nation in terms output and trade.

The internationalisation of the US currency, therefore, evolved simultaneously with the economic weight of the country, rather than with a lag, as strong inertial effects would suggest. The weight of the US dollar in disclosed foreign exchange reserves (constant exchange rates) peaked at 90 percent in the early 1960s (Eichengreen *et al*, 2018). Such a high share for the dollar also reflected US economic and political power in the post-war years, when only the US dollar could be converted into gold. In fact, post-1973, after the unravelling of the Bretton Woods system, network effects became weaker and, from 1970 to 2015, the share of the dollar in disclosed international reserves has fluctuated between 50 percent and 70 percent in constant exchange rates (Eichengreen *et al*, 2018).

3 Developments over the last 20 years in the international use of the euro

How does the euro area fare in terms of the determinants and the actual international use of the euro? The euro area only has an advantage over the US in its relative share of international trade (Figure 1). The US ranks first in the share of world GDP, whereas the euro area comes in second (Figure 1), while the United Kingdom and Japan have much lower shares. However, China's share is projected to overtake the euro area by 2019. In all other determinants, the euro area has a clear edge over China but no advantage over the US. In relation to the financial system, American capital markets are more developed than those of the euro area. In terms of financial stability, the recent crisis affected the euro area's financial system more than that of the US. In terms of free movement of capital, the euro area, the US and other advanced economies (eg Japan, the UK) have fully liberalised capital accounts (a Chinn-Ito index score of 1) while China's is restricted (a score closer to 0). Finally, the euro area has no fully-fledged integrated political organisation or military capacity.

Figure 1: Country shares (%) of global GDP and exports and imports of goods and services



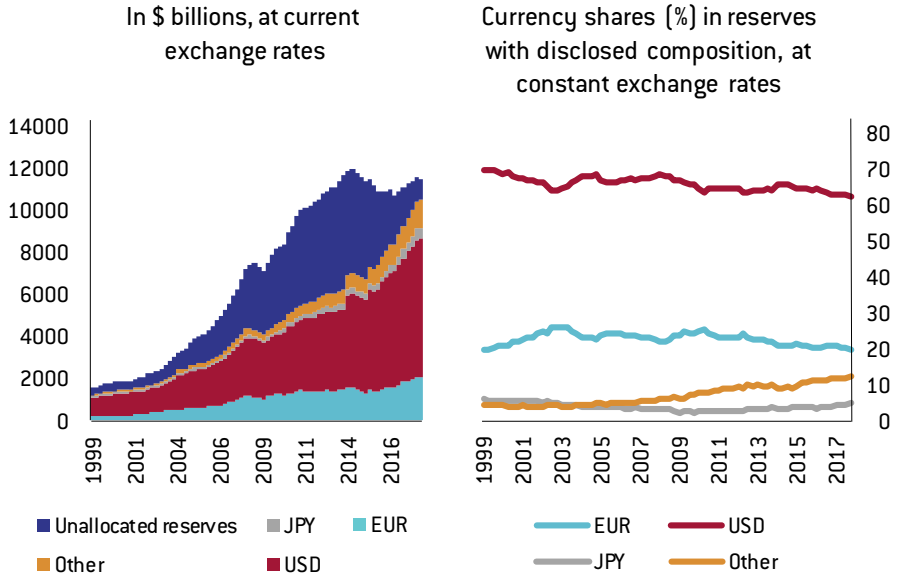
Source: Bruegel based on IMF *World Economic Outlook* (left panel), IMF International Financial Statistics (balance of payments) (right panel). Notes: left panel: shares in current US dollars. Euro area is in changing composition and China is mainland China (excluding Hong Kong). From 2018 the figures are from the *World Economic Outlook* projections. Right panel: shares represent the sum of country exports and imports of goods and services (in value) over world exports and imports of goods and services (in value). The euro area refers to the 19 euro-area countries (fixed composition) and excludes intra-euro area trade. China is mainland China (excluding Hong Kong).

We now look at the evidence for the euro performing the functions of an international currency. Beginning with the **reserve** role, according to the IMF (2004), *"after adjusting the data to take into account only the holdings of these currencies (Deutsche mark, French franc, Netherlands guilder, and private ECU) outside of the euro area, their combined share in 1998 was virtually identical to the share of the euro in 1999"*. In short, there was no 'euro effect' in the sense that the euro did not punch above the weight of the currencies it was replacing.

Since the introduction of the euro there have been three developments (Figure 2, left panel):

1. The international level of reserves sharply increased between 1999 and 2013, with their amount multiplying by close to seven times. Since 2013, the amount has more or less remained stable. Over the entire period the average annual rate of growth of reserves, at close to 11 percent, has been more than double that of global GDP, at 5 percent;
2. The coverage of IMF statistics on the currency composition of reserves has substantially improved and is now nearly complete;
3. The dollar accounts for by far the largest amount of reserves; the euro is second by some distance, while the yen and all the other currencies represent very small amounts (Figure 2, right panel).

Figure 2: Global holdings of foreign exchange reserves



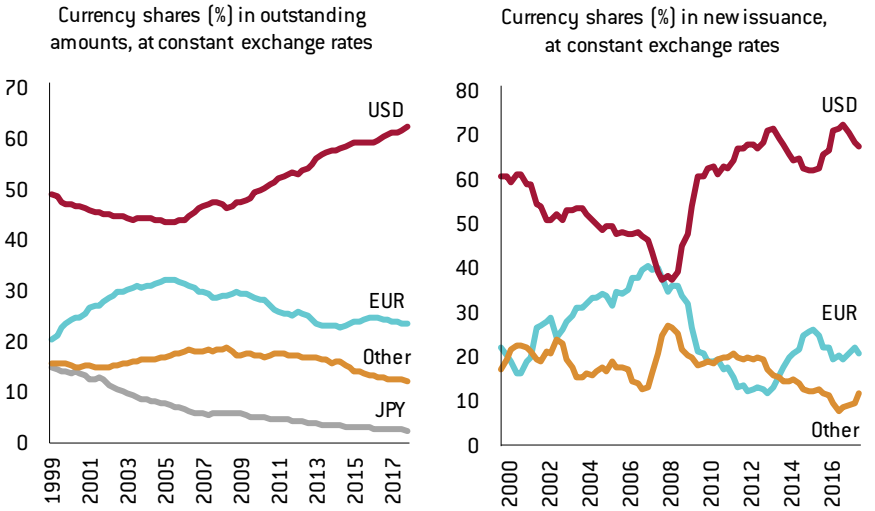
Source: Bruegel based on IMF and ECB (2018). Note: unallocated reserves includes reserves with undisclosed currency composition. End of period figures.

The right panel of Figure 2 also shows two other interesting developments:

- The shares of the different currencies do not change much year on year;
- Notwithstanding the previous point, there has been a decrease in the dollar share, from 70 percent in 1999 to 63 percent in 2017, while the euro's share initially grew from 20 percent in 1999 to 25 per cent in 2002, remained around that level until 2009, and dropped subsequently to 21 percent in 2017, coinciding with the European phase of the financial crisis. The share of the other currencies, excluding the yen, has increased, from 5 percent at the beginning of the period to 12 percent at its end, because of investment in non-traditional currencies such as the Australian and Canadian dollars, and even the Chinese renminbi, pointing to greater diversification of reserves (ECB, 2014 and 2015).

On the **investment/financing** function of international currencies, Figure 3 shows use of the main currencies to denominate **international debt securities**. The shares of outstanding volumes of debt securities confirm the predominance of the dollar and the euro's second place. However, there are notable variations in the shares over time: the dollar's share decreased between 1999 and 2005 and increased subsequently, while the euro's share increased between 1999 and 2005 but has lost ground sunsequently. The yen has moved gradually towards zero. Other currencies first gained then lost ground.

Figure 3: Foreign currency debt securities outstanding and issuance by currency



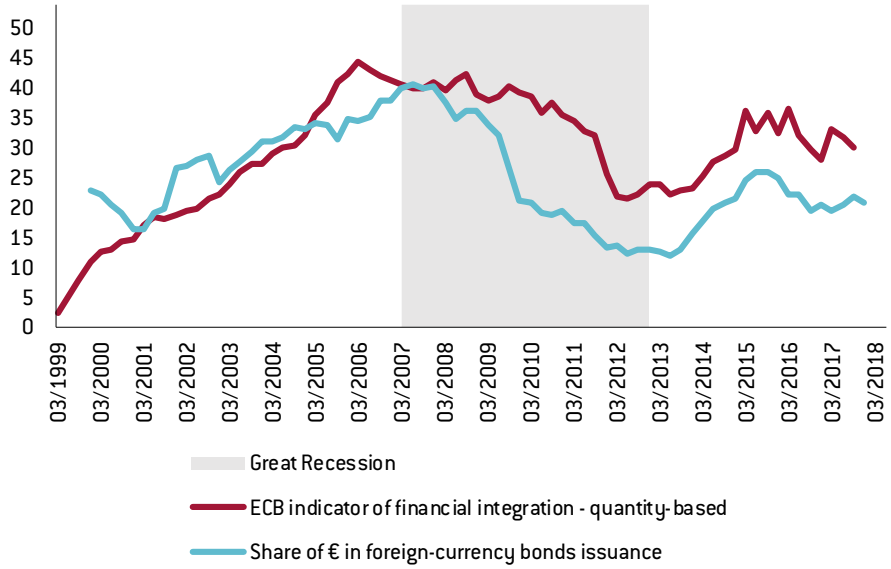
Source: Bruegel based on BIS and ECB (2018) (left panel), Dealogic and ECB (2018) (right panel). Note: left panel: refers to the narrow measure of international debt securities, ie securities issued in a currency different from that of the country in which the borrower resides. End of period figures. Right panel: shares are 4-quarter moving averages.

The right panel of Figure 3 shows more clearly the changes over time, reporting flows, as opposed to stocks, of foreign-currency denominated debt. The evidence indicates that when the dollar increased its share, the euro lost share, and vice versa. The share of euro issuance doubled between 2000 and 2007, to equal the dollar's share in 2007, but then dropped towards 10 percent around 2012, and has recovered only partly since. The dollar ended the period dominating, at around 70 percent, international debt issuance.

These trends underscore the importance of the relative stability and liquidity of euro-area financial markets for the international use of the euro. First, according to the ECB (2001) and contrary to the case of foreign exchange reserves, there was a 'euro effect' in the markets for debt securities, with the creation of an integrated euro money market fostering the issuance of related instruments. Second, fluctuations in the euro share of bond issuance are quite closely correlated to the integration of the euro-area financial market (Figure 4). This confirms the importance of the stability of the underlying financial system for the international use of a currency, since the fragmentation of the euro-area financial market closely coincided with a period of acute financial instability.

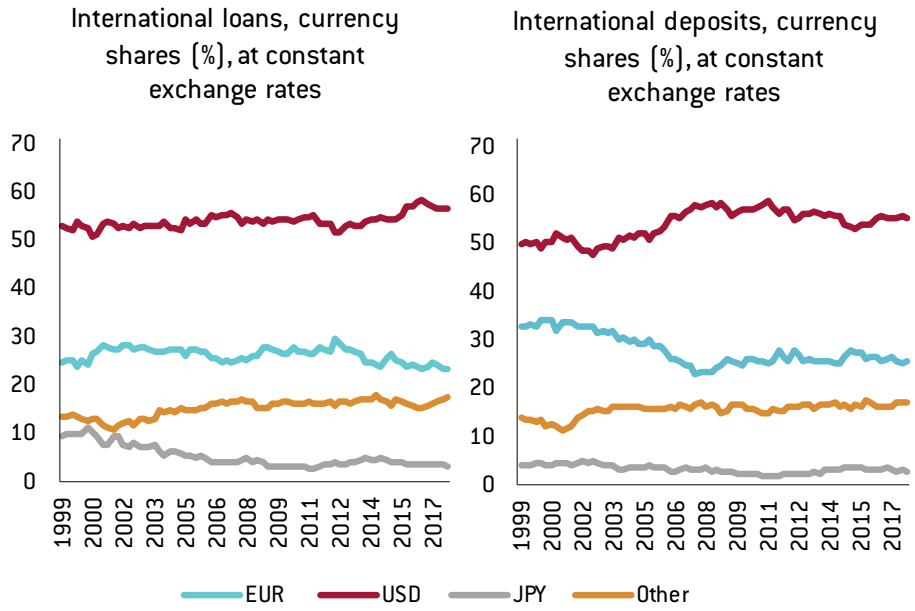
In terms of the role of currencies in **international banking**, the dollar is in first place for cross-border loans and deposits, and the euro in second place (Figure 5). The currencies' shares of loans (Figure 5, left panel) show a very gradual increase for the dollar over the entire period and a slight increase for the euro until 2011, followed by a decline. In contrast, in deposits (Figure 5, right panel) the divergence between the dollar's and the euro's shares took place during the first decade and the shares have remained quite stable since. Other currencies play a more significant role than in reserves and international debt securities.

Figure 4: Euro share of foreign-currency bond issuance and the ECB financial integration index



Source: Bruegel based on Dealogic and ECB (2018). Note: euro share of foreign-currency bond issuance is a 4-quarter moving average.

Figure 5: Outstanding international loans and deposits, by currency



Source: Bruegel based on BIS and ECB (2018). Note: Refers to outstanding amounts of cross-border loans and deposits (intra-euro-area loans and deposits are not regarded as cross-border); excludes interbank loans and deposits. End-of period figures.

Figure 6 shows that the euro is the most important currency for invoicing or settlement in trade between the euro area and the rest of the world, whether for exports or imports, goods or services. The left panel of Figure 6 also provides corroboration that exporters, more than importers, tend to price their goods in their home currencies.

Figure 6: Use of the euro as a settlement/invoicing currency in extra-euro area exports and imports, percentage of total

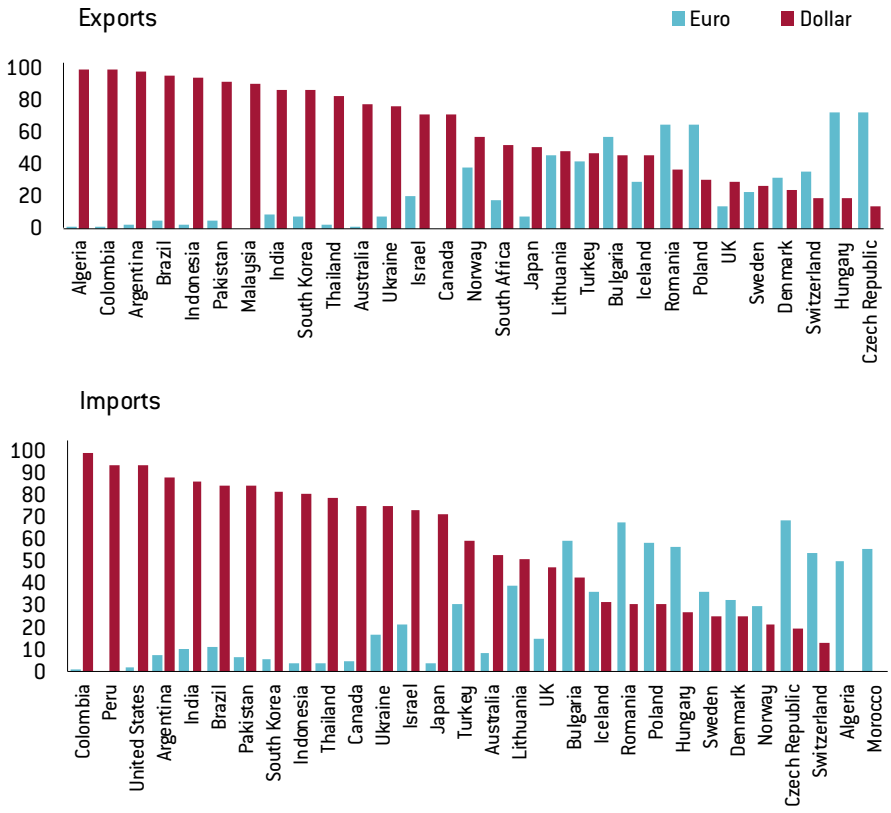
Source: Bruegel based on national central banks, Eurostat and ECB (2018). Note: countries include Belgium, Cyprus, Estonia, France, Greece, Italy, Latvia, Lithuania, Luxembourg, Portugal, Slovakia, Slovenia and Spain. 1) Data for Greece, Cyprus, Slovenia, Spain, Italy (goods until 2010), Portugal and Luxembourg refer to the currency of settlement; 2) Data from 2013 onwards might show a break because of the implementation of the updated international balance-of-payments standards (BPM6); 3) Services data for Greece, Cyprus, Spain and Italy (after 2008) excludes travel items.

Figure 7 shows the use of the dollar and the euro in the exports and imports of third countries, averaged between 1999 and 2015. The data points to the regional role of the euro, as its shares are relatively high only for exports/imports of non-euro area European countries and countries in the European neighbourhood. In East Asia and South America, trade is overwhelmingly invoiced in dollars. In short, the extent of trade relations, influenced by distance, and the larger market sizes of the US and the euro area relative to their trading partners, largely determine the invoicing currency shares. In addition, the dollar's share across countries is on average larger than that of the euro. The dollar's share is even quite high in Europe and its neighbourhood, showing the disproportionate role of the dollar in denominating commodities and raw materials.

In international **payments**, Figure 8 shows that, from December 2015 to 2017, first place was once again retained by the dollar, but the euro got much closer to it; in 2017, the two currencies covered very similar shares. Moreover, the volatility in the respective shares over only two years is notable (almost 10 percentage points). However, there is a caveat: no adjustment has been made in the figures for exchange rate movements.

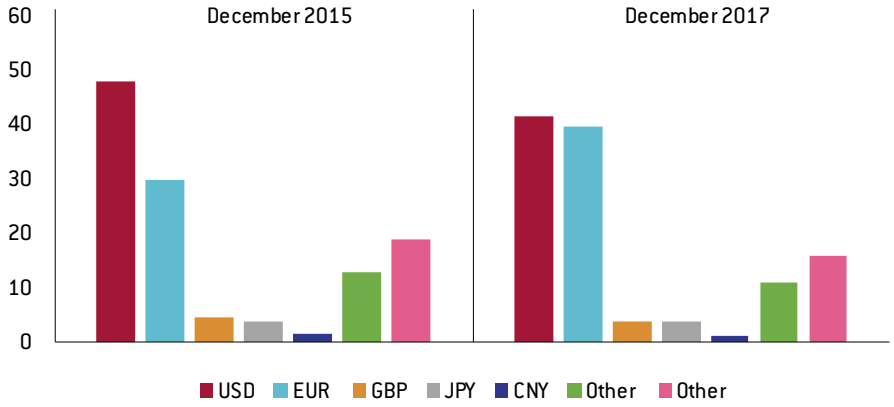
The choice of **vehicle** currency on foreign exchange markets has been remarkably stable (Table 2). The dominant role of the US dollar is clear from the *Triennial Central Bank Surveys* carried out by the Bank for International Settlements: the dollar has consistently been part of about nine of every ten foreign exchange trades for the past two decades. The euro commands the second highest share (31 percent in April 2016) by this indicator, though its share has fallen over time. The evidence shows that the vehicle role in foreign exchange is the function in which network externalities are strongest.

Figure 7: Use of the dollar/euro for export/import invoicing, selected third countries



Source: Gopinath (2015). Note: Average share of exports from/imports into that country in that currency, averaged across all years for which data is available (starting 1999).

Figure 8: Global payments by currency, percentages of total



Source: Bruegel based on SWIFT via ECB (2018). Note: Customer-initiated and institutional payments. Messages exchanged over SWIFT. Based on value. MT 103 (a SWIFT payment message format used for cash transfer specifically for cross-border wire transfer), MT 202 (a SWIFT message format for financial institution funds transfer between financial institutions), cross border only. Excluding payments within the euro-area.

Table 2: Foreign exchange markets

Turnover of over-the-counter foreign exchange instruments, by currency
'Net-net' basis, April 1998-2016 daily averages, in billions of US dollars and percentage share

	1998		2001		2004		2007		2010		2013		2016	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
USD	1,325	87	1,114	90	1,702	88	2,845	86	3,371	85	4,662	87	4,438	88
EUR			470	38	724	37	1,231	37	1,551	39	1,790	33	1,591	31
JPY	332	22	292	24	403	21	573	17	754	19	1,235	23	1,096	22
GBP	168	11	162	13	319	16	494	15	512	13	633	12	649	13
AUD	46	3	54	4	116	6	220	7	301	8	463	9	348	7
CAD	54	4	56	4	81	4	143	4	210	5	244	5	260	5
CHF	108	7	74	6	117	6	227	7	250	6	276	5	243	5
CNY	0	0	0	0	2	0	15	0	34	1	120	2	202	4
SEK	5	0	31	2	42	2	90	3	87	2	94	2	112	2
NZD	3	0	7	1	21	1	63	2	63	2	105	2	104	2
MXN	7	0	10	1	21	1	44	1	50	1	135	3	97	2
SGD	17	1	13	1	18	1	39	1	56	1	75	1	91	2
HKD	15	1	28	2	34	2	90	3	94	2	77	1	88	2
NOK	4	0	18	1	27	1	70	2	52	1	77	1	85	2
KRW	2	0	10	1	22	1	38	1	60	2	64	1	84	2

Source: BIS *Triennial Central Bank Surveys*.

Finally, as ECB reports on the international role of the euro attest, the euro plays a regional role as a **pegging and intervention currency** because it is used by several small countries in the region. For instance, the euro is used by Kosovo, Montenegro and European microstates (eg Monaco) as the sole legal tender, while Bulgaria and

Bosnia and Herzegovina implement euro-based currency boards. Beyond Europe, the Communauté Financière Africaine and Change Franc Pacifique groupings (primarily former French colonies) and Cape Verde, Comoros and São Tomé and Príncipe have pegs based on the euro (see eg ECB, 2018).

In summary:

1. The use of international currencies has increased in the examined period, growing faster than world GDP in some cases, including as reserves and international securities;
2. In all possible international roles, the dollar occupies by some distance the first place, while the euro is a good second; other currencies mostly have negligible importance;
3. The distance between the euro and the dollar varies substantially depending on the international function; the euro is within striking distance of the US dollar as a means of payment, not too far behind in the investment financing and reserve roles, but far behind in terms of the invoicing of (commodity) trade and as a vehicle currency in foreign exchange;
4. There is a significant regional component in the international role of the euro;
5. There is a degree of stability in the respective shares of international currencies, but no outright constancy;
6. This was particularly the case with respect to the financial international roles, in which the euro lost ground, mostly to the dollar, during the European phase of the crisis.

4 Prospects and recommendations for a greater role of the euro as international currency

We have seen that there is a degree of substitution between the roles of the dollar and the euro as international currencies: a greater role for one corresponds to a lesser role for the other and vice versa. Consequently the prospects for the two currencies have to be jointly assessed.

The strongest factor that could negatively affect the international role of the dollar is the reinforced attitude of the US administration to use its first rank among international currencies as a foreign policy tool, forcing foreign countries to align to its policies, possibly in conflict with their interests. More distant is the possibility that the protectionist policy of the current administration would cause instability in the US economy that would reduce the appeal of the dollar as an international currency. Overall, it is difficult to conceive of a configuration of events that would jeopardise the dollar's primary role as international currency.

The euro's second position is also well established and likely to be retained, but the euro could take either a greater or lesser share. As shown in section 3, the international share of a currency can change over time, even if there is a significant degree of inertia.

Two questions then emerge:

- Whether, as implied in Jean-Claude Juncker's 2018 State of the Union speech, the euro area should pursue a more important international role for the euro,
- If yes, what actions should euro-area policymakers take to achieve this result?

As argued in section 1, the most important benefit from an expanded international role for the euro would be the financial autonomy that would derive from being less dependent on the dollar for international transactions.

In terms of positive actions to effectively pursue the objective of wider use of the euro, the most important step would be consolidation of the euro-area institutional set-up. The

decline in the international use of the euro during the Great Recession clearly showed that the euro's international role is linked to the general stability of the euro, and sustainable stability depends on a more adequate euro-area institutional set-up. For instance, the completion of banking union, progress on capital markets union, better credit quality of 'peripheral' sovereign bonds and even the issuance of a common 'federal' bond, with a role similar to that played by Treasuries in the US, would significantly increase the international role of the euro. More broadly, progress in the set-up of euro-area economic policy, in its fiscal and structural components, would favour greater international use of the euro.

In addition, the international role of the euro would be enhanced if the ECB moved beyond its neutral attitude towards it. An important development in this respect would be for the ECB to enter into a series of swaps with central banks of countries that extensively use the euro, following the Fed example. Papadia (2013) and Andritzky (2018) noted the more guarded attitude of the ECB compared to the Fed in granting currency swaps during the crisis. Papadia (2013) found that the *"ECB reticence was likely based on greater concerns about moral hazard and a more conservative approach towards the expansion of its balance sheet"*. He added, however, that *"the ECB could have been more forthcoming if it could have relied on a strong Treasury partner"*, as is the case for the Fed. Agreements on swaps would require, however, utmost care to reduce the risk that drawings unduly impact monetary policy. This risk is less relevant for the ECB than it was for the Bundesbank (section 2), but nevertheless it needs to be adequately managed. The model of the swaps between advanced economies built into the agreements signed in October 2013 (ECB, 2013) could be a useful starting point, as it assures that the issuing central bank maintains control over the drawing on the swaps[7]. An agreement between the ECB and the European Commission and the Council of the EU on the third-country central banks that would have access to the swaps should also be pursued.

Finally, the international use of the euro would be expanded if the EU pursued a more united, and thus more effective, external and defence policy.

This list of factors shows that promoting wider international use of the euro is a difficult endeavour. In addition, the policies that would lead to this result require quite fundamental progress in the organisation and governance of the euro area, and would have consequences well beyond the monetary domain. While they definitely are worth pursuing, the ability of the euro area to implement them in the foreseeable future is uncertain.

5 The Commission plan

Rather than a fully-fledged plan, the Commission in its 5 December 2018 communication (European Commission, 2018a) presented some general considerations, a list of practical options and ideas to further develop its initiative.

The general considerations coincide to a great extent with what is covered in section 4. In particular the Commission stresses that financial stability, progress on capital markets union, the perfection of banking union, the abundant supply of high-rated euro assets and the completion of Economic and Monetary Union are needed to fully develop the euro's role as an international currency.

The Commission also proposes some more practical steps to facilitate the international

7 FAQ from the Federal Reserve website: *"The swap line arrangements were authorized by the Federal Open Market Committee (FOMC) of the Federal Reserve System and the policy boards of the other central banks. Activation of the lines remains subject to each central bank's internal decision-making process, and each central bank maintains the right to approve or deny requests for draws at any time. The FOMC authorized the lines for an indefinite period, but one that could be ended when the FOMC, one of the Federal Reserve's foreign central bank counterparties, or both decide to terminate the arrangement."*

use of the euro. Most of these steps, rather than requiring new actions, call for ongoing initiatives to be reinforced: furthering the move of derivatives clearing onto central clearing counterparties, as required by the European Market Infrastructure Regulation (Regulation (EU) No 648/2012), developing the work to provide interest rate benchmarks consistent with the EU Benchmark Regulation (Regulation (EU) 2016/1011), and fully exploiting the ability of the new ECB facility, TARGET Instant Payment Settlement, to provide an instant payment system in the EU also for private individuals. In terms of ideas to further develop its initiative, the Commission has issued a Recommendation to foster the use of the euro to denominate energy contracts (European Commission, 2018b), and is, at time of writing, considering whether it is possible to further develop the role of the euro in foreign exchange markets and to use it for trade in raw materials and for transport sector manufacturers. In addition the Commission will encourage European bodies to increase euro-denominated debt, will propose extended use of the euro to further the objectives of European diplomacy and will promote the use of the euro in Africa and in the European Neighbourhood. It has also hinted at the possibility that the ECB could establish broader swap lines.

Overall, these measures will not carry the same weight as the broader measures discussed in section 4. However the Commission's proposed measures could help a gradual recovery in the international use of the euro, which has still not returned to the pre-Great Recession level (section 3).

6 Conclusions

Theory and historical evidence show that the international role of a currency depends on a host of factors that can change, albeit gradually, over time. The factors favouring the role of the dollar as the most important international currency are likely to persist, but the share of the euro as the second ranking currency could change, either shrinking or growing. Overall, a greater role for the euro is desirable, mostly because it would provide a greater degree of financial autonomy to the euro area, shielding it from the increasing use of the dollar by the US administration as a foreign policy tool, possibly conflicting with European interests. There are policies that the EU could put in place to increase the international use of the euro, but those with the greatest impact are very broad measures, including the completion of banking union, progress on capital markets union, the issuance of a common bond, progress on the economic policy set-up in the euro area and more effective and united foreign and defence policy. These policies would have effects well beyond the international use of the euro and, while desirable in principle, are not easily achievable. A more forthcoming attitude of the ECB towards the international use of the euro and the discarding of its neutral, 'neither hindering nor promoting' policy, would also foster the international use of the euro. But without the broader measures, this would not have a major impact.

The right policy perspective on the international role of the euro is that its broader use, and the financial autonomy that this would bring, would be an additional advantage to be taken into account when considering broader policy moves. The measures and initiatives proposed by the European Commission would help in the gradual recovery of the euro in an international context towards the levels that prevailed before the Great Recession.

References

Andritzky, J. (2018) 'Can Eurozone Reform Help Contain Trump?' *Bruegel Blog*, 17 October

Ben-Bassat, A. (1980) 'The optimal composition of foreign exchange reserves', *Journal of International Economics, 10*(2): 285-295

Bordo, M. and R. McCauley (2018) 'Triffin: Dilemma or myth?' *BIS Working Papers* No 684, Bank for International Settlements

Chinn, M. and J. Frankel (2007) 'Will the Euro Eventually Surpass the Dollar As Leading International Reserve Currency?' in R.H. Clarida (ed) *G7 Current Account Imbalances: Sustainability and Adjustment,* University of Chicago Press

Cohen, B. (2012) 'The Benefits and Costs of an International Currency: Getting the Calculus Right', *Open Economies Review, 23*(1): 13-31

Eichengreen, B., A. Mehl and L. Chitu (2018) *How Global Currencies Work: Past, Present and Future*, Princeton University Press

Emter, L., M. Schmitz and M. Tirpák (2018) 'Cross-border banking in the EU since the crisis: what is driving the great retrenchment?' *ECB Working Paper Series* No 2130, European Central Bank

European Central Bank (2001) *Review of the international role of the euro*

European Central Bank (2013) 'ECB establishes standing swap arrangements with other central banks', press release, 31 October, available at https://www.ecb.europa.eu/press/pr/date/2013/html/pr131031.en.html

European Central Bank (2014) *The international role of the euro*

European Central Bank (2015) *The international role of the euro*

European Central Bank (2017) *Estimation of euro currency in circulation outside the euro area*, External Statistics Division, ETS/2017/091, 6 April

European Central Bank (2018) *The international role of the euro – Interim report*

European Commission (2018a) 'Commuinication from the Commission to the European Parliament, the European Council (Euro Summit), the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions – Towards a stronger international role of the euro', COM(2018) 796/4

European Commission (2018b) 'Commission Recommendation of 5.12.2018 on the international role of the euro in the field of energy', C(2018) 8111/2

Gopinath, G. (2015) 'The International Price System', *NBER Working Paper Series*, No. 21646, National Bureau of Economic Research

Gourinchas, P.-O. and H. Rey (2007) 'From World Banker to World Venture Capitalist: U.S. External Adjustment and the Exorbitant Privilege', in R.H. Clarida (ed) *G7 Current Account Imbalances: Sustainability and Adjustment,* University of Chicago Press

Gourinchas, P.-O., H. Rey and N. Govillot (2010) 'Exorbitant Privilege and Exorbitant Duty', *IMES Discussion Paper Series*, Institute for Monetary and Economic Studies, Bank of Japan

Habib, M. M. (2010) 'Excess returns on net foreign assets: the exorbitant privilege from a global perspective', *ECB Working Paper Series* No. 1158, European Central Bank

Hassan, T. (2013) 'Country Size, Currency Unions, and International Asset Returns', *Journal of Finance* 68(6): 2269-2308

He, Z., A. Krishnamurthy and K. Milbradt (2016) 'A Model of Safe Asset Determination', *NBER Working Papers* No 22271, National Bureau of Economic Research

International Monetary Fund (2004) *IMF Annual Report 2004*

Kindleberger, C. (1981) 'Dominance and Leadership in the International Economy: Exploitation, Public Goods, and Free Rides', *International Studies Quarterly* 25(2): 242-254

Krishnamurthy, A. and A. Vissing-Jorgensen (2012) 'The Aggregate Demand for Treasury Debt', *Journal of Political Economy* 120(2): 233-267

Krugman, P. (1980) 'Vehicle Currencies and the Structure of International Exchange', *Journal of Money, Credit and Banking* 12(3): 513-526

Krugman, P. (1984) 'The International Role of the Dollar: Theory and Prospect', in J.F.O. Bilson and R.C. Marston (eds) *Exchange Rate Theory and Practice*, University of Chicago Press

Maggiori, M. (2017) 'Financial Intermediation, International Risk Sharing, and Reserve Currencies', *American Economic Review* 107(10): 3038-3071

Matsuyama, K., N. Kiyotaki and A. Matsui (1993) 'Toward a theory of international currency', *Review of Economic Studies* 60(2): 283-307

McCauley, R. (2015) 'Does the US dollar confer an exorbitant privilege?' *Journal of International Money and Finance* 57: 1-14

McCauley, R., A. Bénetrix, McGuire, P. and G. von Peter (2017) 'Financial deglobalisation in banking?' *BIS Working Papers* No 650, Bank for International Settlements

McCauley, R. and P. McGuire (2009) 'Dollar appreciation in 2008: safe haven, carry trades, dollar shortage and overhedging', *BIS Quarterly Review* December 2009, Bank for International Settlements

McGuire, P. and G. von Peter (2009) 'The US dollar shortage in global banking and the international policy response', *BIS Working Papers* No 291, Bank for International Settlements

Papadia, F. (2013) 'Central bank cooperation during the Great Recession', *Policy Contribution* 2013/08, Bruegel

Papaioannou, E., R. Portes and G. Siourounis. (2006) 'Optimal currency shares in international reserves: The impact of the euro and the prospects for the dollar', *Journal of the Japanese and International Economies* 20(4): 508-547

Papaioannou, E. and R. Portes (2008) 'Costs and benefits of running an international currency', *Economic Papers* 348, November, European Commission

Rey, H. (2001) 'International Trade and Currency Exchange', *Review of Economic Studies* 68(2): 443-464

US Treasury (2006) *The use and counterfeiting of United States currency abroad. Part 3. Final report to the Congress by the Secretary of the Treasury, in consultation with the Advanced Counterfeit Deterrence Steering Committee, pursuant to Section 807 of PL 104–132, September*