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The Euro and the Dollar in the Crisis and Beyond
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THE GLOBAL USE OF THE DOLLAR AND EURO

Georges Pineau¹

Even before the introduction of the euro in 1999, academics and observers disagreed about the implications of the euro area single currency for the international use of the dollar. In the event, the euro emerged as the second major international currency behind the dollar over the last ten years. This emergence was uneven across global market segments and third countries, imparting a distinct regional dimension to the international use of the euro. The crisis that started in 2007 had a subdued impact that did not alter the pattern of asymmetric equilibrium observed over the last ten years. The crisis had limited and differentiated implications for the dollar and euro, as far as some of their liquidity and safe haven functions are concerned. Turning to relevant drivers behind future developments, one may distinguish between macroeconomic and microeconomic determinants. Given their economic and trade dynamism, systemically important EMEs should be in a position to play a greater role in the international monetary system in the future. However, such potential is not likely to materialize, as long as their financial development lags substantially behind. As regards microeconomic factors, network externalities account for significant inertia observed in the international use of currencies. However, such persistence may be partly eroded through the emergence of regional clusters, like the euro area (EA), where gravity model effects may become material. From this perspective, further regional integration in Asia could become a significant channel affecting the international use of currencies in the future. Some tentative conclusions are drawn from this brief stock-taking.

PART I. LIMITED CHALLENGE TO THE DOLLAR

Views were split among academics and observers about the impact of the euro's introduction on the international status of the dollar. Bergsten (1997), like Portes and Rey (1998), anticipated significant changes in the international monetary system. Wyplosz (1997) and McCauley (1997) were more skeptical about material and lasting implications. One development that was not well appreciated at the time was the regional dimension of the cross-border use of the euro, as opposed to a global role of the dollar.

Gradual emergence of the euro

Developments over the last ten years reflect a gradual increase in the international use of the euro in most market segments (see Table 1). As regards foreign exchange reserves (see Chart

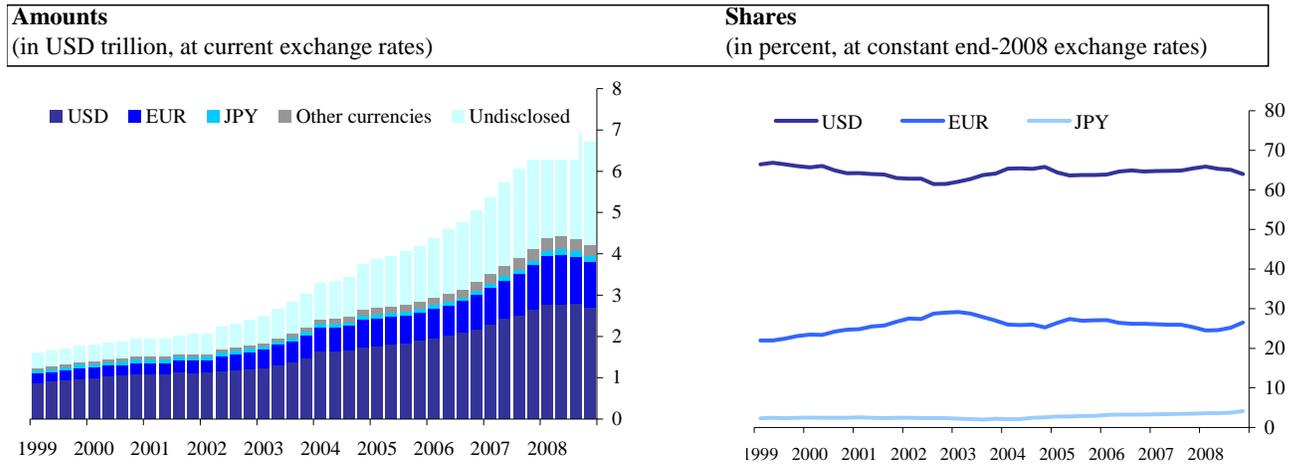
¹ ECB Permanent Representative in Washington D.C. I would like to thank Jana Aubrechtova and Maurizio Habib for their input to this paper.

1), the current share of the euro is higher - almost 10 percentage points - than the one of its legacy currencies. However, one needs to bear in mind that the IMF COFER statistics report currency composition for a little more than 60% of official reserves, which complicates a proper measurement of the dollar and euro respective shares. Also, the declining share of the dollar is partly attributable to its depreciation against the euro since 2002. The increasing role of the euro is more obvious in respect of the international bond market - more than 10 pp (see Chart 2). At the same time, this development has taken place at the expense of the yen rather than the dollar. Despite the scarcity of data, it is possible to document a rise in the use of the euro as trade invoicing currency - around 10 pp - since 1999. As discussed in the next section, this is an area where cross-border use of the euro displays a clear regional bias. The use of the euro has virtually remained unchanged in the cross-border banking (loans/deposits) segment (see Chart 3). Compared with international bonds, network externalities are likely to be more binding for banking activities than for international bond issuance (see Part III). Likewise, the share of the euro has been stable in foreign exchange trading, which also reflects the role of the dollar as global, as opposed to regional, vehicle currency (see Chart 4).

Table 1: Key market segments

	EUR		USD	
	1999	Latest	1999	Latest
Foreign exchange reserves (with known composition)	18.1	27.5 (Q2 2009)	71.2	62.8 (Q2 2009)
International bonds (narrow measure)	19.5	32.0 (Q2 2009)	50.3	44.6 (Q2 2009)
International loans (narrow measure)	11.8	17.3 (Q1 2009)	57.1	52.8 (Q1 2009)
Foreign exchange trading (settled by CLS, <u>shares sum up to 200%</u>)	42.8 (9/2002)	41.9 (end-2008)	93.1 (9/2002)	90.3 (end-2008)
Invoicing of trade flows (share in known trades only)	18.2 (2001)	28.9 (2007)	55.4 (1999)	48.1 (2007)

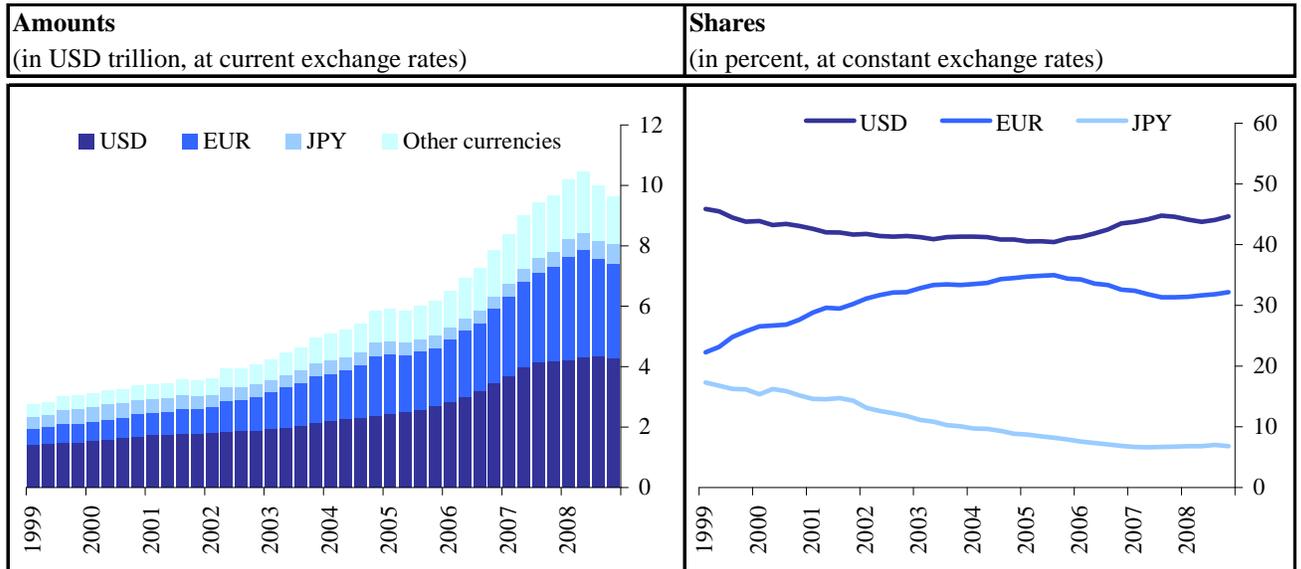
Chart 1: Foreign exchange reserves (with known currency composition)



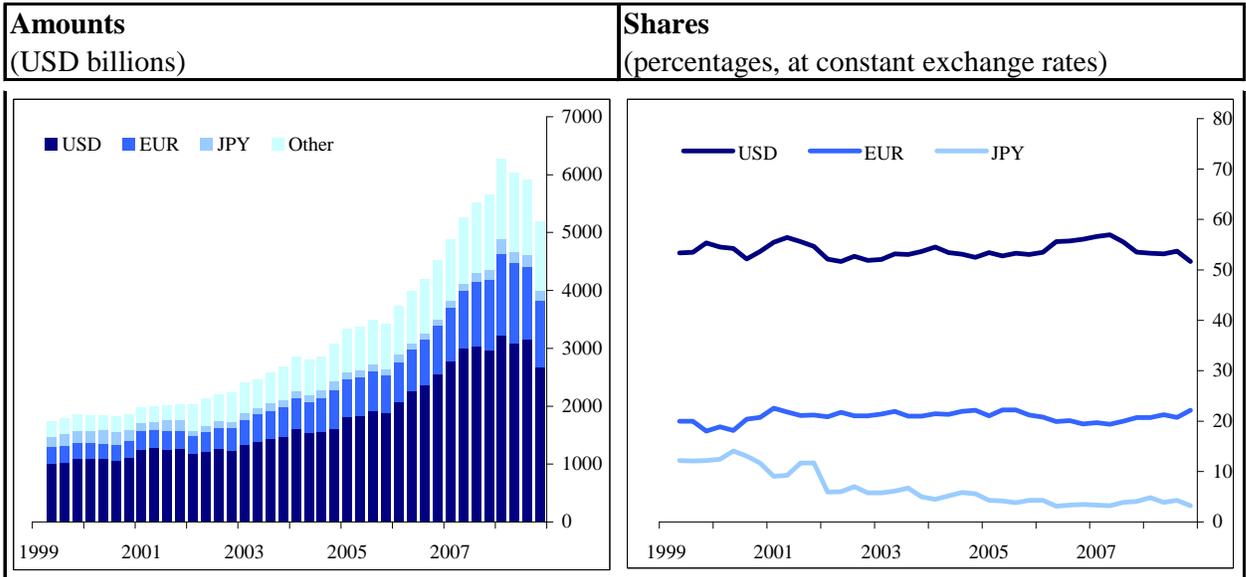
Latest data: 2008Q4.

Sources: IMF and ECB calculations.

Chart 2: International debt securities (narrow measure)



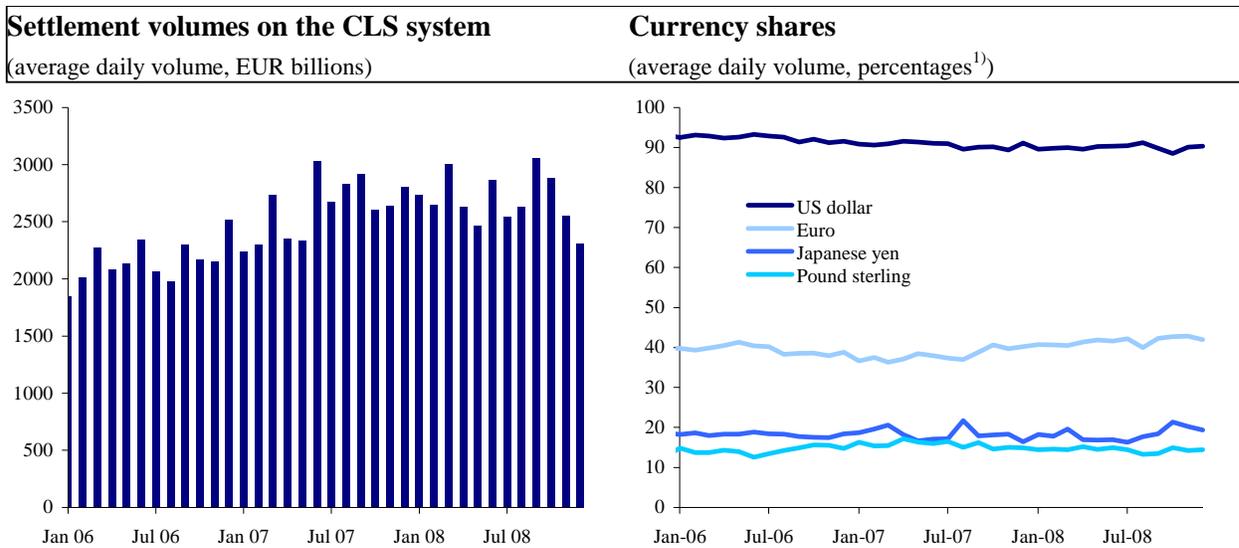
Sources: BIS and ECB calculations.



Sources: BIS and ECB calculations.

Chart 3: International loan markets (all cross-border loans)

Chart 4: Foreign exchange markets (Continuous Linked Settlement System, CLS)



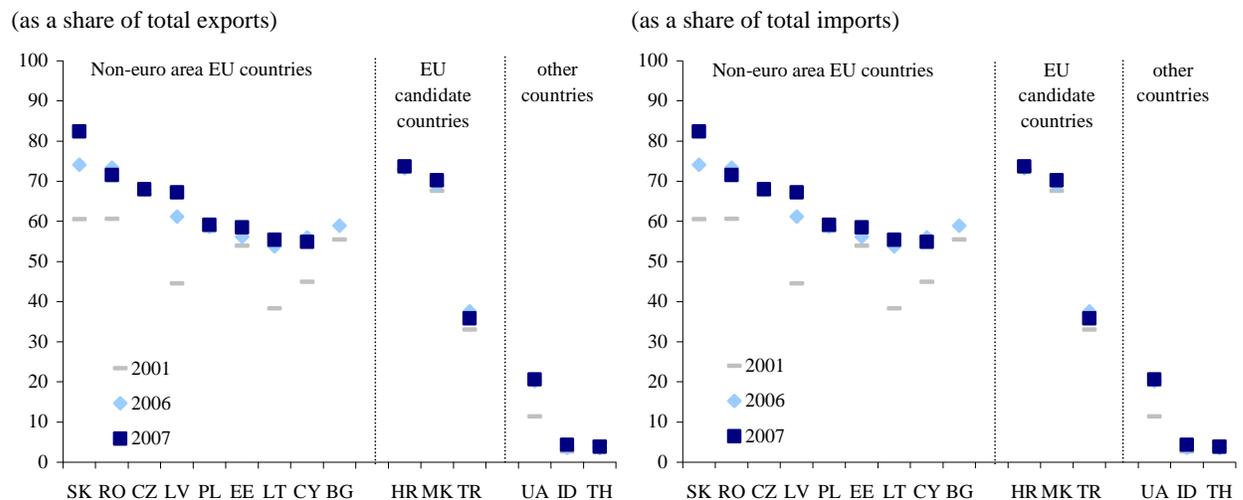
Source: CLS.

Sources: CLS and ECB calculations.

Regional role of the euro and global use of the dollar

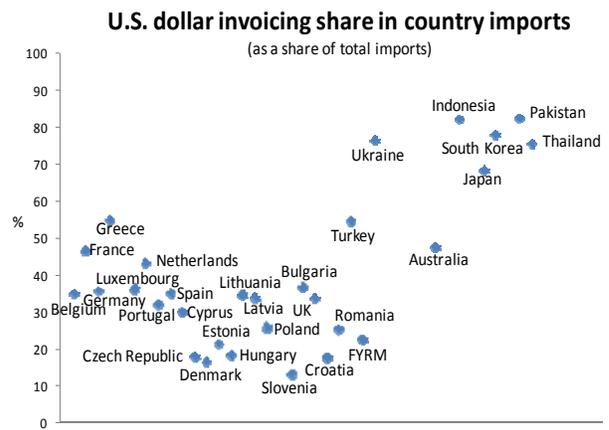
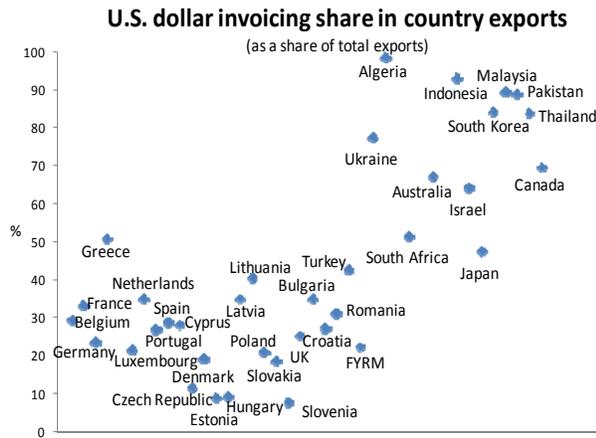
The regional dimension of cross-border use of the euro is in evidence in two market segments (trade invoicing and international bond holdings), as well as in its official role as anchor currency. In contrast, the use of the dollar is more evenly spread across the world. The euro is used as invoicing currency mostly in countries neighbouring the euro area, where its share exceeds 50% of trade - exports/imports (see Chart 5). In contrast, it is hardly used as vehicle currency in other regions (e.g. Asia, Middle East, Latin America), where the dollar's share exceeds 50% (see Chart 6). A similar pattern is to be found for holdings of international debt securities, where investors in euro-denominated bonds are located predominantly in Europe outside the euro area (see Charts 7 and 8). As regards the use of anchor currencies for pegging purposes, the regional dimension of the euro is also in evidence in contrast to the dollar, which is used by countries outside Latin America (see Table 2). The fact that the private and official use of the euro is skewed towards countries in the vicinity of the euro area reflects factors best captured by gravity models (see Part III).

Chart 5: Euro invoicing in international trade



Sources: national sources and ECB calculations.

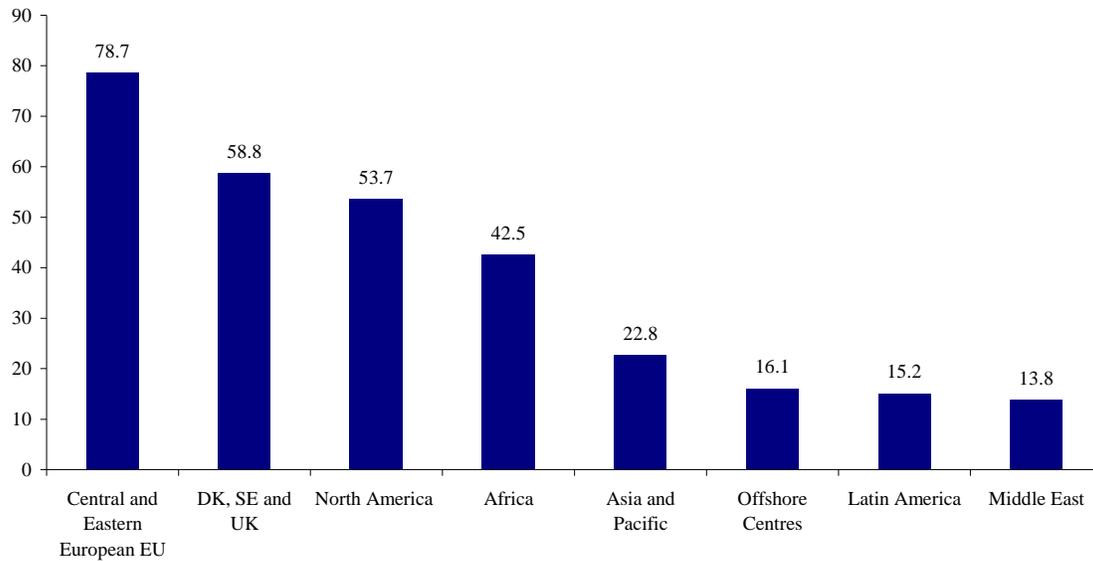
Chart 6: U.S. dollar invoicing in international trade



Source: national sources and ECB calculations

Chart 7: Share of euro in stock of international debt securities

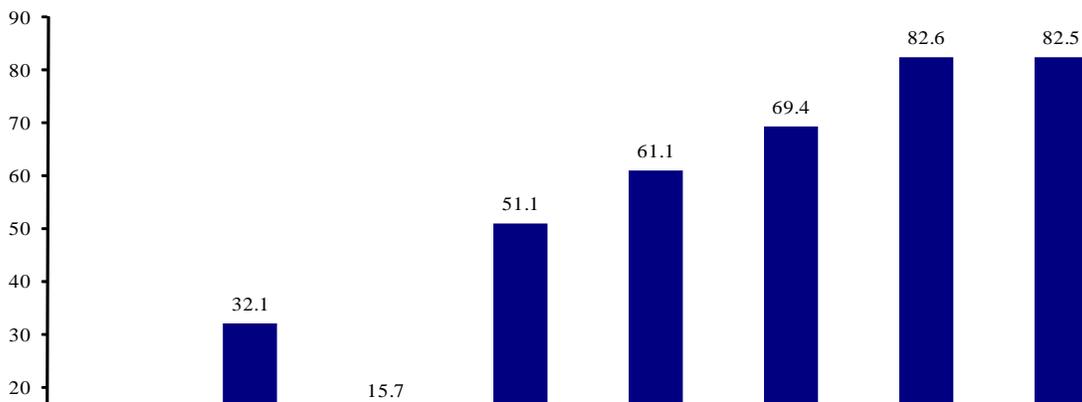
(narrow measure, i.e. excluding home currency issuance, as a percentage of the total amount outstanding)



Sources: BIS and ECB calculations.

Chart 8: Share of dollar in stock of international debt securities

(narrow measure, i.e. excluding home currency issuance, as a percentage of the total amount outstanding)



Global and regional liquidity

Global and regional safe haven

PART II. SUBDUED IMPACT OF THE CRISIS

The crisis which began to unfold in mid 2007 did not alter the main features of the international use of the dollar and euro as described above. While its overall impact was subdued, specific market segments were affected in relation to some of the liquidity and safe haven functions of the dollar and euro.

Global and regional liquidity

Given the origin of the crisis in the sub-prime mortgage market in the US, developments in ABS markets in the US and the EA diverged significantly. While securitization contracted dramatically in the US, issuance increased in the EA. As a result, in 2008 the share of euro-denominated international ABS exceeded that issued in dollar (see Chart 9). In addition to the difficulties faced by the ABS market in the US, the fact that ABS remained eligible to the ECB refinancing operations, even under more restrictive conditions, help explain these contrasting trends. Indeed, differences between the Fed and ECB collateral frameworks are having an impact on liquidity conditions prevailing in this market segment. Liquidity constraints had also a major bearing on market developments in the area of international banking wholesale funding. Given the greater reliance of the EA financial system on banking activities, total assets of the EA banking sector are more than three times larger than those of their US counterparts (USD 34.5 tr compared to USD 9.9 tr, at end 2007). In addition, since EA banks are twice more internationally active than US banks, their wholesale funding needs in dollar are significant despite their larger use of the euro. As a result, the BIS estimated that in mid 2007, the dollar funding gap of EA banks amounted to almost USD 700 bn. In the context of dysfunctional foreign exchange swap markets, reciprocal liquidity swap arrangements were concluded by the Fed with a number of central banks in Europe and other world regions. At the end of 2008, liquidity in dollar provided through these swap lines peaked at USD 580, of which USD 290 were channeled to the ECB. These developments provide evidence that network externalities play a greater role in international banking activities than in other segments like the debt securities market. It also shows that the dollar was used as ultimate liquidity on a global basis, while the extension of liquidity facilities in euro was confined to a few countries neighbouring the EA.

Global and regional safe haven

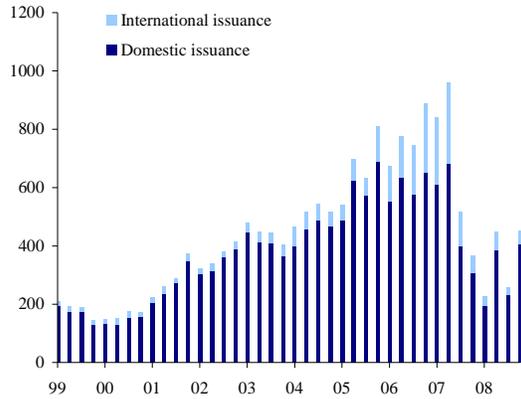
Heightened uncertainty generated by the crisis had also implications for the dollar and euro function as safe haven. For the sake of illustration, it is worth noting that a significant

increase in the use of euro banknotes outside the EA took place in 2008, which was not the case as far as the dollar was concerned. The share - in value - of euro banknotes circulating outside the EA has been increasing steadily since 1999 (see Chart 10). In 2008 this development picked up, as the share of euro cash held by non-residents rose from around 14% to about 17%. At the same time, the share of dollar circulating outside the US was steady (around 65%). Obviously, given the low initial level of euro cash holdings, there is room for increased cross-border use. Another possible factor is that EA neighbouring countries, where euro banknote holdings are concentrated, were more affected by the crisis than Latin American countries, where a significant share of dollar banknotes is to be found.

Issuance of asset-backed securities

Volume

(USD billions)



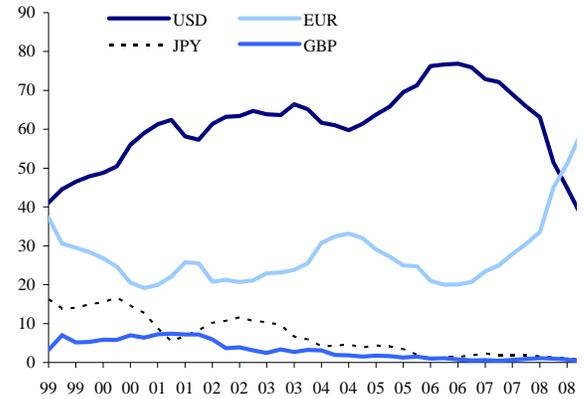
Source: Thomson Reuters.

Chart 9: ABS markets

Issuance of international asset-backed securities

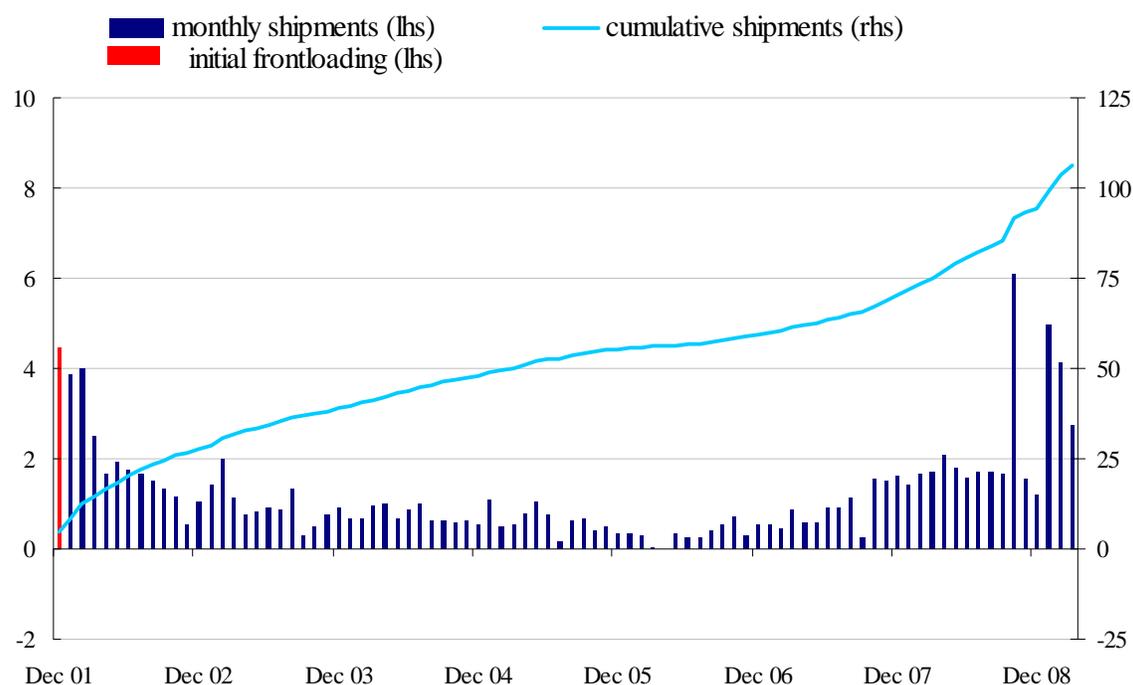
Currency shares

(percentages, at constant exchange rates)



Source: Thomson Reuters and ECB calculations.

Chart 10: Net shipments of euro banknotes increased during the crisis



PART III. DRIVERS BEHIND FUTURE DEVELOPMENTS

For the sake of presentation it is helpful to distinguish macroeconomic and microeconomic determinants of international use of currencies. The first set of factors relates to economic weight and stability, as well as to financial development in terms of size, scope and depth. Microeconomic determinants help explain inertia in global use of currencies mainly through network externalities. As an offsetting factor, regional clustering and integration, as captured by gravity models, may erode the status to global vehicle currencies.

Macroeconomic fundamentals

Currently, only currencies issued by advanced economies are used cross-border in any significant manner, with the dollar and euro playing a major role. However, the rapid economic catching up of systemically important EMEs is likely to alter these prevailing macroeconomic conditions over the medium term. The gap between the three major advanced economies and G20 EMEs is still significant when one considers world GDP shares at market prices (see Table 3). However, this gap is already largely closed when PPP equivalents are considered. More importantly, G20 EMEs have been significantly more dynamic than G3 economies over the recent period. According to the IMF the former have contributed more than twice as much as the latter to world GDP growth since 2004. A similar pattern is expected for the next five years according to WEO medium term projections. Despite this impressive economic growth performance of large EMEs, their potential

emergence as new players in the international monetary system is likely to be hindered by their relative lack of financial development. A few summary indicators may be used to illustrate this major hurdle. Currently, the weight of the three major advanced economies in global financial market segments far exceeds their share in world GDP or global trade. For example, these weights amount to 90% and 80% for outstanding debt securities and stock market capitalization, respectively. Likewise, EMEs do not fare as well as advanced economies in respect of financial institutions development (US: 100; EA: 104.2; EMEs: 70.5) and capital account openness (US: 100; EA: 96.6; EMEs: 45.6)².

Table 3: Selected macroeconomic fundamentals

✓ Share in current global GDP (2009):
<ul style="list-style-type: none"> • EMEs (G-20)¹ – 20.4% (market prices), 30.6% (PPP-weighted) • Major AEs² – 55.2% (market prices, 41.7% (PPP-weighted)
✓ PPP-weighted global GDP contribution (2004-1008):
<ul style="list-style-type: none"> • EMEs (G-20)¹ – 49.5% • Major AEs² – 22%
✓ Projected annual output growth (2010-2014):
<ul style="list-style-type: none"> • EMEs (G-20)¹ – 4.9% • Major AEs² – 1.9%

¹ Argentina, Brazil, China, India, Indonesia, Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey

² US, Euro area, Japan

Source: IMF

Microeconomic fundamentals

Past experience has shown that developments in cross-border use of currencies are slow-moving processes. Such inertia, which benefits incumbent currencies like the dollar since the end of WWII, is mainly attributable to network externalities. Transaction costs are lowered through the use of one single vehicle currency, in particular in wholesale markets. This helps explain why the dollar is used predominantly in commodities pricing and foreign exchange market trading. Another factor of greater relevance for financial operations is the ability of a domestically issued currency like the dollar to be used as ultimate liquid asset in time of financial stress. Such consideration seems to play a role in market segments like official foreign reserves and cross-border banking loans/deposits. At the same time, the emergence of the euro as second most important international currency through deeper EU integration has confirmed that regional clustering may partly offset network externalities. Gravity models, where relative sizes and physical/institutional distances play a major role in uncovering clustering effects, have proved useful to capture such countervailing microeconomic determinants. For the sake of illustration, one may distribute the various market segments where the dollar and euro are used cross-border along a continuum going from network externalities, at one end, to gravity model, at the other (see Table 4). Recent analytical work, both at the ECB and Federal Reserve Bank of New York, have contributed to a better understanding of the relative strength of network externalities and gravity model effects in

² See Thimann (2009).

various market segments.³ Such analytical work and ongoing monitoring of market developments are needed in a context where the world economy is undergoing far-reaching changes, as globalization continues to unfold. In this respect, further regional integration in Asia would need to be closely monitored, since it has the potential to bring about momentous changes.

Table 4: Summary network and gravity offers

Network externalities		Gravity model	
✓	Commodity pricing	✓	FX reserves
✓	FX market turnover	✓	Bank loans/deposits
		✓	Trade invoicing
		✓	Anchor currency
		✓	Currency substitution
		✓	Debt securities markets

PART IV. CONCLUSIONS

By way of conclusion, a few points are worth highlighting. First, the erosion of the dollar status through the emergence of the euro as the second most important international currency has been limited until now. This can be traced to the gradual and regional character of cross-border use of the euro. Second, the impact of the crisis has been confined to specific market segments since 2007, without altering the overall pattern of asymmetric equilibrium between the dollar and euro that has developed over the last ten years. Third, in view of past and expected rapid economic catching up by major EMEs, one cannot rule out changes to the current pattern over the medium term. However, the lack of financial development in systemically important EMEs is bound to hinder quickly unfolding developments. Fourth, given the respective strength of network externalities and gravity model effects in influencing cross-border use of currencies, further regional integration in Asia is likely to be a major contributing factor to any significant change in the medium term. Against this background, the ECB and the Federal Reserve Bank of New York should pursue their analytical work and ongoing monitoring of the international role of the euro and dollar, in order to identify at an early stage any significant development that might affect the current asymmetric equilibrium.

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