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THE EURO AS A RESERVE CURRENCY

1. Introduction

The euro has been in the global market for more than ten years. It replaced 11 European currencies and the European currency unit (ECU) on January 1, 1999 and has appeared on the international financial market. It was launched with hopes and expectation about its future international role. Some even speculated that it might someday replace the dollar as the most important international currency, ipso facto as the most important reserve currency. Nevertheless, the dollar has maintained its place as the dominant reserve currency and the euro is situated at the second place. The dollar has been the main world's currency for almost a century. It has been the currency of choice for international use including reserve holdings, trade invoicing, security denomination, and for currency trading. It had no competition from another currencies to 1999, when the euro was launched. Only the introduction of the euro has changed this situation and caused the creation of a bipolar monetary system based on two currencies: the dollar and the euro.

In comparison with the dollar, the euro has existed in the international finances relatively briefly, but there is no doubt, that the euro fulfils all functions of international currency and is one of the most important reserve assets.

The international role of the dollar is much stronger than the euro's one because of its lifetime dominance and being out of habit over this time.

There has been a noticeable unusual accumulation of foreign exchange reserves in recent years. The introduction of the euro, greater liquidity in other major currencies, and the rise of current accounts and fiscal deficits of the United States have increased the pressure on central banks to diversify their reserves away from the US dollar. The same situation can be observed in

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a private sector, where investors reduce the share of dollar denominated assets.¹ This process has progressed gradually, and it is possible that the euro's role as a reserve currency will continue to increase.

The anchor of this paper is to define an international currency, to show their functions and to present the euro and the dollar as reserve currencies. This article presents how great the difference is between the euro and the dollar as the reserve currencies and it discusses the trends in the currency composition of reserves.

2. An international currency and its functions

An international currency is the one that is used by residents both outside and inside the country of issue. In contrast, a domestic currency is used only inside the country of issue.² The issue area and the running area of a currency are determining factors, namely, an international currency fulfils functions of international money not only in the area in which it was issued, but also outside it, that is in international trade of goods, services and financial assets.³

Usually an international currency is described from the viewpoint of the functions traditionally ascribed to a national currency: medium of exchange, unit of account and store of value. The classic three functions of domestic money can be transferred to the level of international money. It is important to distinguish between official sector's use of an international currency and the private sector's use (see Table 1).

Table 1. Functions of an international currency

Function of Money	Private use	Official use
Unit of account	Quotation currency for trade in goods and assets	Anchor for currency peg
Medium of exchange	Invoicing (vehicle) currency for trade in goods and assets	Vehicle currency for Foreign Exchange Intervention
Store of value	Investment currency	International reserves

Source: E. Papaioannou, R. Porters, *The euro as an international currency vis-à-vis the dollar*. www.euro50.org/2007/rome/Papaioannou.pdf

¹ Papaioannou E. , Porters R. , Siourounis G. , *Optimal currency shares in international reserves. The impact of the euro and the prospects for the dollar*, Working Papers No 694, European Central Bank, Frankfurt am Main 2006, p.5.

² Bertuch-Samuels A. , Ramlogan P., *The Euro: Ever More Global*, "Finance and Development" No 1, Volume 44, International Monetary Fund, Washington 2007, p.1.

³ Oręziak L. , *Międzynarodowa pozycja euro*, NBP, Warszawa 2005, s. 172, (www.nbpportal.pl/library/pub_auto_B_0002/KAT_B2005.PDF).

Monetary authorities might hold an international currency to support their use of the exchange rate in their monetary policy framework, to intervene in foreign exchange markets or to store wealth. The currency used by the official sector to perform these functions can be defined as a reserve currency. Private market participants make quite different uses of an international currency, first of all for invoicing and trading, and then for quoting commodity prices or for investing.⁴

The dollar is the only currency that currently performs all functions of international currency, but euro fulfils these functions too, sometimes to a less extent than dollar.

The literature shows the following main determinants of international currency status:⁵

- Economic size – GDP and trade.
- Economic strength – growth rates.
- Financial stability – low inflation, exchange-rate stability.
- Broad, deep and efficient financial markets.
- Political stability and geopolitical strength.

The larger a country's share in world trade and output, the more likely that other countries will use its currency either as a monetary anchor or in invoicing external trade. The rest of these factors are very important too and have the same influence on using a currency in an international role.

Today the euro zone is comparable with the American economy in terms of GDP and trade openness, the inflation has kept on a low level. The large financial marketplaces of New York and London are still better developed than Frankfurt, the main financial marketplace in the euro area.

3. Global reserves accumulation

Every country in the world holds its official reserves. The practice of holding foreign currencies by governments and bankers to governments extends back over centuries. But holding foreign assets as a reserve against official liabilities became standard practice only in the 19th century, with the emergence of liquid financial markets, modern central banks, and the international gold standard. In a sense, the rise of these practices was a correlate of modern economic growth. In 1880, the foreign exchange reserves of central banks and governments

⁴ Galati G. , Wooldridge P. , *The euro as a reserve currency: a challenge to the pre-eminence of the US dollar?* BIS Working Papers No 218, Bank for International Settlements, Basel 2006, p. 2.

⁵ Papaioannou E. , Porters R. , *The international role of the euro: a status report*, Economic Papers 317, European Commission, Brussels 2008, p. 19.

amounted to less than 10 percent of their gold reserves. The share of foreign exchange in world reserves then began to rise.⁶

Historical evidence has shown that only three currencies have been able to become dominant throughout the world's history. The Dutch guilder was the dominant currency during the 17th and 18th centuries, the pound sterling replaced it in 19th century and the US dollar took the lead just after World War Two and has held it until this day.⁷ The dollar has been the dominant currency of the world economy for almost a century. It has been the currency of choice for international use including inter alia reserve holdings.

The euro has appeared in official reserves since its introduction in 1999 and succeeded in gaining the international role mainly after Deutsche Mark and other replaced currencies.

There is a high persistence in the currency composition of international reserve holdings. The dollar has been the dominant currency over the past fifty years, while the pound sterling was the dominant currency throughout the 19th century. High inertia in the usage of currencies can be also perceived in asset trade, the invoicing of international trade, and transactions in the foreign exchange market.⁸

The level of global reserves amounted to SDR 4.9 trillion at the end of 2008, and doubled their value in comparison with 2003. Foreign exchange reserves constitute nearly 90 percent of total international reserves and their level had risen from over 2 trillion at the end of 2003 to nearly 4.4 trillion at the end of 2008. During the first quarter of 2009 reserves continued to grow.(see Table 2 and Figure 1).

Table 2. Global reserves (billion of SDR, end of the year)

Country groups/Year	2003	2004	2005	2006	2007	2008	2009 Mar
All countries	2 379.2	2 743.0	3 285.1	3 750.7	4 531.4	4 879.6	4 949.6
Incl. foreign exchange reserves	2 035.8	2 413.6	2 920.8	3 347.9	4 049.0	4 356.4	4 383.3
Advanced economies	1 456.5	1 588.2	1 732.6	1 809.4	1 914.9	2 029.8	2 079.3
Incl. foreign exchange reserves	1 170.5	1 314.3	1 432.6	1 474.9	1 515.6	1 600.1	1 614.6
Emerging and developing countries	922.7	1 154.8	1 552.5	1 941.3	2 616.5	2 849.9	2 870.2
Incl. foreign exchange reserves	865.3	1 099.3	1 488.2	1 873.0	2 533.5	2 756.2	2 768.8

Source: *Annual Report 2009*, Appendix I: International reserves, International Monetary Fund, Washington 2009, p.2.

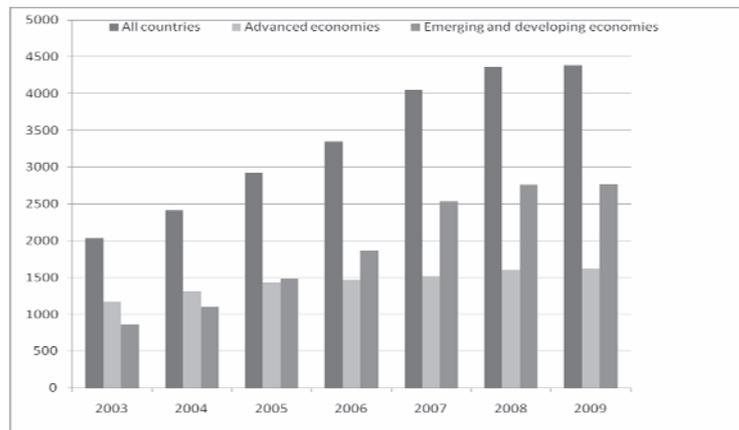
⁶ Eichengreen B., *The euro as a reserve currency*, November 1997, pp. 3–5. www.econ.berkeley.edu/~eichengr/research/mantokyo.pdf.

⁷ de la Dehesa G., *Will the Euro Ever Replace The US Dollar as the Dominant Global Currency?* Working Paper 54/2009, Elcano Royal Institute, Madrid 2009, p.3.

⁸ Hartman P., *Currency competition and foreign exchange market*, Cambridge University Press, Cambridge 1998 (after: Papaioannou E. , Porters R. , *The international role of the euro...*, op.cit., p. 27.

Emerging and developing economies are responsible for this growth to a large extent (under the new classification⁹). This country group holds SDR 2.8 trillion in reserves (63.3 percent of the total), an increase of 8.8 percent since the end of 2007, while advanced economies hold SDR 1.6 trillion, an increase of 5.6 percent since the end of 2007 (see Table 2).¹⁰

Figure 1. Global foreign exchange reserves (billion of SDR, end of the year)



Source: *Annual Report 2009*, Appendix I: International reserves, International Monetary Fund, Washington 2009, p. 2

This enormous increase in official foreign assets held by emerging market economies has been achieved thanks to a combination of reasons. The first reason is crisis prevention motives – many developing countries after the crises of the 1990s in East Asia and Latin America have accumulated much larger amount of foreign exchange reserves than they have traditionally held. These larger reserves level is a precaution against future speculative attacks and massive capital outflows.¹¹

Another reason is exchange rate policies aimed at promoting export-led growth notably in East Asian countries.

The next main motive is sharp increase in oil and other commodity prices, which has led to large current account surpluses in commodity-exporting

⁹ The International Monetary Fund has replaced previous classification of industrial countries or developing countries with new classification of countries as advanced economies or emerging and developing economies, consistent with a recent change in country classification in *International Financial Statistics*.

¹⁰ Annual Report 2009, Appendix I: International reserves, International Monetary Fund, Washington 2009, p. 1.

¹¹ Feldstein M. , *Self-protection for emerging market economies*, NBER Working Paper Series, No 6907, Cambridge 1999, p. 22.

countries (most notably in the Commonwealth of Independent States, Latin America, Africa and the Middle East).¹²

The last cause of that situation is global policy issues such as the US current account deficit and the level of US interest rates.

4. The role of the euro in composition of official reserves

Most of global central bank foreign exchange reserves are in US dollar assets. The share of US dollar holdings in foreign exchange reserves peaked at 71.5 percent at the end of 2001. It has since declined to 64 percent in 2008, driven largely by a depreciation of the US dollar. The share of the euro increased sharply between 1999 and 2003, and after a period of relative stability it increased further to over 26 percent of total foreign exchange reserves at the end of 2008, despite a weakening currency (see Table 3).¹³

Table 3. Share of main currencies in total identified official holdings of foreign exchange in all countries (%)

Currency/Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
US dollar incl.:	69.4	71.0	71.1	71.5	67.1	65.9	65.9	66.9	65.5	64.1	64.0
Advanced economies	67.6	70.5	70.5	71.3	67.5	68.1	68.2	70.1	68.9	66.9	68.1
Emerging and developing economies	73.7	72.3	72.9	72.1	66.0	61.3	61.4	61.5	60.7	61.3	59.8
Euro incl.:	–	17.9	18.3	19.2	23.8	25.2	24.8	24.0	25.1	26.3	26.5
Advanced economies	–	17.3	17.5	18.1	22.1	22.1	21.9	20.2	21.2	23.1	22.1
Emerging and developing economies	–	19.4	20.2	21.6	27.6	31.7	30.8	30.4	30.5	29.6	31.1
Deutsche mark	13.8	–	–	–	–	–	–	–	–	–	–
Pound sterling	2.7	2.9	2.8	2.7	2.8	2.8	3.4	3.6	4.4	4.7	4.1
Japanese yen	6.2	6.4	6.1	5.0	4.4	3.9	3.8	3.6	3.1	2.9	3.3
Swiss frank	0.3	0.2	0.3	0.3	0.4	0.2	0.2	0.1	0.2	0.2	0.1
Other currencies	4.5	1.6	1.5	1.3	1.6	2.0	1.9	1.7	1.8	1.8	2.0

Source: *Annual Report 2009*, Appendix I: International reserves, International Monetary Fund, Washington 2009, p. 3

It is worth mentioning that the share of US dollar holdings by advanced economies moved higher by 1.2 percentage points to 68.1 percent, while the share of euro holdings fell by 1 percentage point to 22.1 percent. The share of

¹² The international role of the euro, European Central Bank, Frankfurt am Main 2008, p. 58

¹³ Ibid.

US dollar holdings in emerging and developing economies' foreign exchange reserves declined by 1.5 percentage points to under 60 percent in 2008. It is important to note that this calculation does not include unallocated reserves, which now account for more than half of all official foreign exchange reserves held by emerging and developing countries. Euro holdings increased by 1.5 percentage points to 31 percent of total identified reserves, more than 10 percentage points higher than in 1999–2000. It shows that in emerging and developing countries euro holdings have grown faster than in advanced economies.

Table 4. Countries (top 10) with largest foreign reserve holdings (millions of USD, end of the year)

Country/Year	1995	2000	2005	2006	2007
China, P.R. Mainland	73.58	165.57	818.87	1066.34	1157.37 Feb
Japan	172.44	347.21	828.81	874.94	894.63 April
Russia	14.26	24.26	175.69	295.28	360.12 April
Taiwan	90.31	106.74	253.29	266.15	267.99 Mar
Korea	31.93	95.86	209.97	238.39	242.29 Feb
Euro Area	277.40	218.63	167.15	184.03	192.40 April
India	17.47	37.26	131.02	170.19	196.90 April
Singapore	68.47	79.72	115.71	135.81	139.62 April
Hong Kong	55.40	107.54	124.24	133.17	135.33 Mar
Brazil	49.71	32.49	53.55	85.55	109.24 Mar

Source: E. Papaioannou, R. Porters, *The euro as an international currency vis-à-vis the dollar*, www.euro50.org/2007/rome/Papaioannou.pdf

The demand for foreign reserves is mainly driven by emerging economies, such as China, Taiwan, Korea, India and Brazil and oil-exporting countries, such as Russia. Among the ten countries with the largest foreign reserve holdings, only Japan and the euro area belong to the highly developed countries. China is the main foreign assets holder and manages more than 1.1 trillion USD of foreign exchange reserves, Japan is at the second place and holds almost 1 trillion USD. The third place belongs to Russia and it keeps over 0.3 trillion USD in its reserves. The rest of countries from top ten hold between 0.1 and 0.3 trillion USD in their reserve assets.

Central banks in their official reserves composition have taken into account following factors:¹⁴

¹⁴ Papaioannou E. , Porters R. , Siourounis G. , *Optimal currency shares in international reserves*, op.cit., pp. 17–18

- The currency of their main trading partner(s).
- The currency of foreign debt.
- The currency of pegging their domestic currencies (as an anchor currency).
- Central banks pursue portfolio diversification strategies, with a high risk aversion and a desire to have liquidity especially during periods of turmoil.

One of the factors which influence keeping the currency as a reserve asset is using it as an anchor currency. Some countries have used the main international currencies (the dollar and the euro) in their exchange rate regimes. The IMF reported in its last de facto classification from April 2008, that 66 currencies were connected with the dollar, whereas 27 were related to the euro.¹⁵ ECB adds to these 27 countries that countries in which the euro is used as a point of reference are a part of a currency basket. In consequence, the number of countries using the euro as a point of references for their exchange rate policies is around 40.¹⁶ Many countries choose both the dollar and the euro to their currency baskets because their fluctuations neutralize.

The second element is the share in international trade. The data on international trade invoicing are scant, but most studies show that the greatest role in this field keeps the dollar. Before launching the euro, the United States were the largest market in the world, the largest exporter and importer, so most of transactions were invoicing and accounting in the US dollar. Currently the euro area is comparable with US and it is possible to increase its role as an invoicing currency. Contractors prefer invoicing by stable currencies with low inflation and risk, and before the introduction of the euro such currency was offered by the US. Now it is difficult to say, which of these two main currencies is more stable, and it may be the advantage for the euro. The vast share in international trade is ensuring by price quotation on organized exchange traded goods. Most commodities, including oil, are settled in international markets in US dollars and in this area the dominance of the dollar is unquestionable.¹⁷

The third factor of foreign exchange reserves allocation is composition of debt currencies. The share of the dollar in the narrow measure¹⁸ of international debt securities has risen rapidly and in 2007 just tripled the amount from 2004 (see Table 5).

¹⁵ De facto classification of Exchange rate regimes and monetary policy framework, International Monetary Fund, Washington 2008, www.imf.org.

¹⁶ The international role of the euro, op. cit., pp. 45–46

¹⁷ Papaioannou E., Porters R., *The international role of the euro...*, op.cit., pp. 36–38.

¹⁸ Narrow measure – excluding home currency issuance; issuance in a currency other than currency of the borrowers residing country.

Table 5. Net issuance of international debt securities (narrow measure, billions of USD, end of the year)

Currency/Year	2004	2005	2006	2007
Euro	261.8	232.1	290.0	341.0
US dollar	254.4	322.5	753.9	735.6
Japanese yen	3.5	-1.0	15.3	76.1
Total (incl. other currencies)	649.9	764.9	1324.1	1415.2

Source: *The international role of the euro*, European Central Bank, Frankfurt am Main 2008, p.16.

The share of the euro in international debt issuance increased visibly between launching the euro and 2004, and then this growth clearly has slow down. In 2007 net issuance of euro-denominated debt securities in the narrow measure reached around USD 340 billion and accounted only a half of dollar-denominated securities.

The last reason for choosing foreign exchange reserves is the application of portfolio diversification strategies. Especially during and after periods of turmoil central banks avoid a high level of risk. The introduction of the euro limited diversification opportunities, but in the same time the euro has become stronger and safer than currencies that have joined the monetary union. Besides, the euro market has become more liquid and deeper and foreign exchange transaction costs for the euro have fallen.¹⁹

5. Conclusion

Since the beginning of European monetary union there have been intensive discussions on the role of the euro on the international market. After over ten years of euro's operating it is unquestionable that the euro has become the international currency. The dominant currency is still the dollar, but its position is not so strong as before the introduction of euro. The euro has kept the second place, and currently no currency has an opportunity to catch up with these two currencies.

The euro finds itself in an uneasy situation because of long term dollar reign in the world's economy and in the foreign exchange reserves.

The level of global reserve assets has grown rapidly after crises from 1990s. During the first few years of EMU the share of the euro in global foreign exchange reserves sharply increased and since 2002 has remained relatively stable. Reserves in the euro amounts third part of the dollar reserves. This suggests that the euro is not yet in the position to match the role of the dollar as a main reserve currency.

¹⁹ Papaioannou E. , Porters R. , Siourounis G. , *Optimal currency shares in international reserves...*, op.cit., p. 18

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(Summary)

There has been an unusual accumulation of foreign exchange reserves in recent years. Central banks have to diversify their reserves away from the US dollar, especially towards the euro. The same situation is in a private sector, where investors reduce the share of dollar denominated assets. This process has progressed gradually, but it is possible that the euro's role as a reserve currency will continue to increase.

The purpose of this article is to define an international currency and its functions, first of all as a reserve currency. Furthermore, this paper shows factors which influence on country's choices between specific currencies as their reserve assets.

The US dollar holdings position is still much stronger than the euro's one, and the aim of this article is to present how great this difference is.

Keywords: international currency, the euro, foreign exchange reserves