



EUROPEAN CENTRAL BANK

EUROSYSTEM

THE INTERNATIONAL ROLE OF THE EURO

JULY 2012

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ABBREVIATIONS

COUNTRIES

AL	Albania	JP	Japan
AT	Austria	KR	Korea, Republic of
AU	Australia	KZ	Kazakhstan
BA	Bosnia and Herzegovina	LT	Lithuania
BE	Belgium	LU	Luxembourg
BG	Bulgaria	LV	Latvia
CA	Canada	MD	Moldova
CH	Switzerland	MK	Macedonia, former Yugoslav Republic of
CL	Chile	MT	Malta
CY	Cyprus	MX	Mexico
CZ	Czech Republic	MY	Malaysia
DE	Germany	NL	Netherlands
DK	Denmark	NO	Norway
DZ	Algeria	PE	Peru
EE	Estonia	PL	Poland
ES	Spain	PT	Portugal
FI	Finland	RO	Romania
FR	France	RU	Russia
GE	Georgia	SE	Sweden
GR	Greece	SI	Slovenia
HK	Hong Kong	SK	Slovakia
HR	Croatia	SR	Serbia
HU	Hungary	TH	Thailand
ID	Indonesia	TR	Turkey
IE	Ireland	UA	Ukraine
IL	Israel	UK	United Kingdom
IN	India	US	United States
IT	Italy	UY	Uruguay

OTHERS

BIS	Bank for International Settlements
EA	euro area
ECB	European Central Bank
ERM II	exchange rate mechanism II
ESCB	European System of Central Banks
EU	European Union
i.i.p.	international investment position
IMF	International Monetary Fund
MFI	monetary financial institution
OeNB	Oesterreichische Nationalbank
SEFER	IMF Survey of Securities Held as Foreign Exchange Reserves
SSIO	IMF Survey of Securities held by International Organizations

FOREWORD

This is the 11th annual review of the international role of the euro published by the ECB. It presents the main findings of the continued monitoring and analysis conducted by the ECB and the Eurosystem looking at the development, determinants and implications of the use of the euro by non-euro area residents.

This review finds that the international role of the euro was relatively resilient in 2011 when compared with other major international currencies, despite the impact of the euro area sovereign debt crisis on some financial market segments and foreign investors' reduced appetite for the securities issued by a number of euro area Member States. As in previous years, the ECB's stability-oriented monetary policy continued to underpin the international use of the euro as a credible store of value. Overall, relative preferences for major international currencies were broadly stable.

This review also examines in greater depth issues that have a bearing on the euro's international role, the global currency order and the international monetary system. This analysis is presented in the form of four special features.

The international role of the euro is primarily the outcome of market forces. The ECB will continue to monitor developments and disseminate information to the public on a regular basis.



Mario Draghi
President of the European Central Bank

INTRODUCTION

This report reviews developments in the international role of the euro in 2011, tracking a comprehensive set of indicators covering a number of different market segments. As in previous issues, the main focus is on measures of the euro's relevance in financial markets, such as the use of the euro in foreign exchange reserves or in debt securities markets.

The first part of the review continues to provide high-quality and timely data for use by academic researchers, professionals and the general public. This section has been further streamlined relative to previous issues, focusing on those market segments where timely and comprehensive data releases are available. The Statistical Annex contains detailed information and time series for many key data. Where relevant, the review removes exchange rate-related valuation effects by showing statistical time series at constant exchange rates, so as to facilitate comparisons over time. Data are compiled by the ECB and the national central banks of the Eurosystem, drawing on data available from international financial institutions. The report also presents survey-based evidence prepared by the OeNB looking at the use of the euro in asset substitution in central, eastern and south-east Europe.

The second part of the review offers in-depth analysis of issues that have a bearing on the international role of the euro, the implications of its international use and the global currency order. This year, this second part contains four special features, namely: an analysis of foreign demand for euro area securities during the recent crisis; an evaluation of the "Chinese dominance hypothesis" and its implications for the emergence of a tripolar global currency system; a historical investigation looking at the role played by the US dollar and the pound sterling as the leading international currencies between 1914 and 1946, with a special focus on their role in foreign public debt; and a study looking at the implications of unofficial euroisation/dollarisation in emerging markets during the period 2007-09.

MAIN FINDINGS

DEVELOPMENTS IN THE INTERNATIONAL ROLE OF THE EURO IN 2011

In 2011, particularly the second half of the year, the euro area's financial system was strongly affected by the intensification of the sovereign debt crisis. Risk premia for certain sovereigns and financial institutions increased, while the most distressed euro area issuers found it increasingly difficult to access primary markets. Money market conditions deteriorated significantly in the second half of 2011, after temporarily easing in the first half of the year. At the same time, euro area bond markets showed increasing signs of segmentation across euro area countries in the second half of 2011.¹ In order to ensure that euro area banks had access to adequate funding liquidity, the Governing Council of the ECB decided to reintroduce 12-month refinancing operations and conduct two 36-month refinancing operations, while also significantly extending the collateral base. It also decided to continue using fixed rate tender procedures with full allotment in its main and special-term refinancing operations.

In this challenging environment, the international role of the euro remained relatively resilient, as mirrored in the euro's relatively stable exchange rates against the other major reserve currencies until end-2011. In particular, the euro's share in global foreign exchange reserves remained around 25% at end-2011. However, survey evidence from managers of non-euro area central banks' reserves suggests that the euro area sovereign debt crisis had composition effects within the segment of euro-denominated reserves, as also mirrored in the divergence of government bond yields across euro area countries. As regards the euro's use as an anchor currency, in September 2011 the Swiss National Bank unilaterally announced a minimum exchange rate of CHF 1.20 per euro. Otherwise, the use of the euro as a reference currency for the anchoring of exchange rates remained broadly unchanged and the euro remained an

important anchor of stability, particularly for countries neighbouring the euro area.

In international debt markets, foreign demand for euro-denominated debt securities remained stable in the first half of 2011 (see Table 1), but dropped moderately towards the end of 2011 as discussed in more detail in one special feature article using financial account data for the euro area. From an issuance perspective, the euro's share in the "narrow measure" of international debt securities, i.e. those issued by non-residents declined further in 2011 (see Table 1). Funding cost considerations are likely to account for this downward trend. Moreover, it is possible that the relatively large domestic sovereign euro area issuances since the beginning of the financial crisis may have crowded out foreign borrowers, discouraging them from tapping the euro bond market.

As regards currency substitution, statistics on net shipments of euro banknotes to destinations outside the euro area show that foreign demand for euro banknotes grew at a markedly higher annual growth rate than banknotes in circulation within the euro area. This suggests that, overall, the use of euro banknotes outside the euro area has remained strong, despite the intensification of the euro area sovereign debt crisis in the second half of 2011.

As regards asset substitution, the euro's share in total deposits declined in some countries in central, eastern and south-east Europe (CESEE). These developments could point to a modest shift in currency preferences towards the end of 2011, when financial strains in certain countries and financial institutions of the euro area intensified. Nevertheless, the euro remained the most popular currency of denomination for foreign currency deposits in CESEE countries and continued to be regarded as a more reliable store of value than most local currencies.

¹ See ECB (2012) for detailed analysis of recent trends as regards financial integration in the euro area.

Table I Key data on the international role of the euro

Indicator	Share of the euro (percentages, unless otherwise indicated)			Total outstanding amounts (USD billions, unless otherwise indicated)		
	Latest	Comparison period	Difference (percentage points)	Latest	Comparison period	Difference (percentages)
Stock of global foreign exchange reserves with known currency composition, at constant exchange rates	25.0 <i>(Q4 2011)</i>	25.4 <i>(Q4 2010)</i>	-0.4	5,646 <i>(Q4 2011)</i>	5,158 <i>(Q4 2010)</i>	9.5
International debt securities: global measure, i.e. including home currency issuance, at constant exchange rates	25.7 <i>(Q4 2011)</i>	25.7 <i>(Q4 2010)</i>	0.0	98,388 <i>(Q4 2011)</i>	95,196 <i>(Q4 2010)</i>	3.4
International debt securities: narrow measure, i.e. including home currency issuance, at constant exchange rates	25.5 <i>(Q4 2011)</i>	26.8 <i>(Q4 2010)</i>	-1.3	10,965 <i>(Q4 2011)</i>	10,576 <i>(Q4 2010)</i>	3.7
Daily foreign exchange trading (settled by CLS) at current exchange rates, volumes in EUR billions	20.7 <i>(2011)</i>	19.2 <i>(2010)</i>	1.5	3,784 <i>(2011)</i>	3,146 <i>(2010)</i>	20.3
Foreign currency-denominated loans in CESEE countries, in percent of total foreign currency loans at current exchange rates	81.2 <i>(2011)</i>	80.2 <i>(2010)</i>	1.0			
Foreign currency-denominated deposits in CESEE countries, in percent of total foreign currency deposits at current exchange rates	83.3 <i>(2011)</i>	84.9 <i>(2010)</i>	-1.6			
Invoicing of goods exported from the euro area to non-euro area countries, at current exchange rates	66.7 <i>(2011)</i>	63.5 <i>(2010)</i>	3.2	...	...	...
Invoicing of goods imported by the euro area from non-euro area countries, at current exchange rates	50.2 <i>(2011)</i>	49.6 <i>(2010)</i>	0.6	...	...	...
Foreign holdings of euro area debt denominated in euro (EUR billions and as a percentage of total euro-denominated debt)	17 <i>(H1 2011)</i>	18 <i>(H1 2010)</i>	-1.0	14,434 <i>(H1 2011)</i>	13,897 <i>(H1 2010)</i>	3.9
Cumulative net shipments of euro banknotes to destinations outside the euro area (EUR billions, not seasonally adjusted)	...	...	...	118 <i>(Dec. 2011)</i>	107 <i>(Dec. 2010)</i>	10.3

Sources: BIS, ECB and national sources.

Notes: Figures may differ from those in the Statistical Annex owing to rounding. "CESEE countries" are EU Member States in central, eastern and south-east Europe, together with acceding, candidate and potential candidate countries. End-2011 figures for the euro's share in daily foreign exchange trading refer to the average between November 2011 and January 2012.

MAIN FINDINGS OF THE SPECIAL FEATURES

The special features in this year's report look at two main themes related to international currencies and the implications of their use. The first main theme is the impact of the global financial crisis, which is considered from two different angles: from the perspective of issuers

of international currencies, analysing foreigners' demand for their securities during periods of financial turbulence; and from the perspective of emerging markets, where international currencies are widely used for domestic lending, looking at whether unofficial euroisation/dollarisation exacerbated the crisis. The second main theme

is the changing landscape of the international currencies, which could progressively see a shift towards a multipolar system in which emerging market currencies (particularly the Chinese renminbi) play a greater role.

The first special feature evaluates the impact that the recent sovereign debt crisis has had on foreign investors' demand for euro area securities and potential differences compared with the period following Lehman Brothers' default. It looks at whether foreign investors withdrew from all euro area securities, or only those issuing at higher yields, whether those outflows were limited to sovereign bonds, or also affected bonds and equities more generally, and how these flows compare with flows for issuers of other international currencies. The analysis finds evidence of a sharp decline of foreign interest in government debt securities issued by particular euro area countries and a moderate reduction for the euro area as a whole during the intensification of the crisis in the second half of 2011, contrasting with the strong resilience of foreign demand for euro area government securities in 2008. Moreover, in late 2008, foreigners – remarkably – reduced their exposure to government debt securities issued by the United States and Japan, which resumed their typical safe-haven roles when volatility peaked again 2011. Less surprisingly, these crisis periods saw foreigners retreat from riskier assets, such as bonds, notes and equities. Overall, despite the reduced availability of safe-haven assets, evidence on foreign demand for euro area government debt securities suggests that, on the whole, the sovereign debt crisis has not undermined the status of the euro.

The second special feature offers a new perspective on the current global currency order. One salient feature of the international monetary system is that it is centred around the US dollar as a global reference currency and the euro as a regional currency. What role does the Chinese renminbi play in this system? This analysis draws on a recent empirical study that gauges whether the international monetary system is already tripolar and centred

around the US dollar, the euro and the Chinese renminbi. It focuses on the “Chinese dominance hypothesis” – i.e. the question of whether the renminbi is already the dominant currency in Asia, exerting considerable influence on exchange rate and monetary policies in the region, over and beyond that of the US dollar. This hypothesis can, in turn, be traced back to the old “German dominance hypothesis”, which suggested that the Deutsche Mark played a dominant role in European countries' monetary and exchange rate policies in the 1980s and 1990s. Empirical findings are indeed consistent with this hypothesis, suggesting that, to some extent, the international monetary system is already on the verge of becoming tripolar when it comes to international currencies acting as exchange rate anchors at the regional level. This may not yet be the case when it comes to other aspects of international currency use – not least owing to the fact that China's capital account remains largely closed, which in turn limits the international use of the renminbi.

If the international monetary system were to move towards a fully-fledged tripolar system, how rapid could this process be? The third special feature in this report makes a unique contribution to this debate, considering the issue from a historical perspective and maintaining that changes may take place more rapidly than previously assumed. It is commonly believed that there was a considerable lag between the period from 1870 to 1918, when the United States overtook the United Kingdom as the largest economic, financial and commercial power in the global economy, and the US dollar overtaking the pound sterling as the leading international currency after the Second World War. This would suggest that, for the time being, the prospects of any transition to a multipolar system remain remote. New evidence, however, suggests that the US dollar overtook the pound sterling as the leading global reserve currency and the currency of denomination for international trade credit as early as the 1920s – i.e. two decades earlier than previously thought. This special feature also shows that the US dollar emerged earlier than previously thought



as the leading international financing currency in global debt markets and that financial development was the main contributor to its rise during the interwar period. To the extent that history is any guide, a transition to a multipolar system could, therefore, occur sooner than is sometimes asserted. Nevertheless, the key role that financial deepening and integration are likely to play as determinants of the international status of currencies suggests that any shift will still be a gradual process.

Finally, the last special feature looks at a wide range of emerging markets and asks whether unofficial euroisation/dollarisation – measured as the share of foreign currency-denominated loans in total loans – had the effect of amplifying the global crisis of 2007-09. Indeed, a typical feature of many emerging market economies is that a significant share of assets and liabilities are denominated in foreign currencies, such as the US dollar and the euro. This may, in turn, increase financial vulnerabilities and limit the scope for macroeconomic policies to act counter-cyclically. This empirical investigation shows that unofficial euroisation/dollarisation contributed significantly to the severity of the global crisis in emerging economies. Its adverse impact was transmitted mainly through heightened currency mismatches, reduced monetary policy autonomy and a limited ability to act as a lender of last resort, which imposed greater constraints in the midst of the crisis. Overall, these findings confirm that the use of foreign currencies in emerging economies can contribute to the build-up of financial stability risks and should be monitored closely by the authorities.



I RECENT DEVELOPMENTS IN THE INTERNATIONAL USE OF THE EURO

I.1 THE EURO IN GLOBAL FOREIGN EXCHANGE RESERVES AND EXCHANGE RATE ANCHORING

During the period under review, reserves continued to grow rapidly in several emerging and advanced economies. Global foreign exchange reserves reached a new historical high of USD 10.2 trillion at end-2011 (see Chart 1, Panel A below and Table 1 in the Statistical Annex). According to IMF data, which only cover around 55% of global foreign exchange reserves, the shares of major reserve currencies remained relatively stable throughout 2011 (see Chart 1, Panel B). Such inertia in the currency composition of foreign exchange reserves is likely to result from a combination of factors, including the anchoring, liquidity and hedging properties of major reserve currencies.² At the same time, changes in the aggregate currency composition of global foreign exchange reserves can stem from changes in the relative

weights of countries holding reserves, rather than from a change in the currency preferences of central banks outside the euro area.³

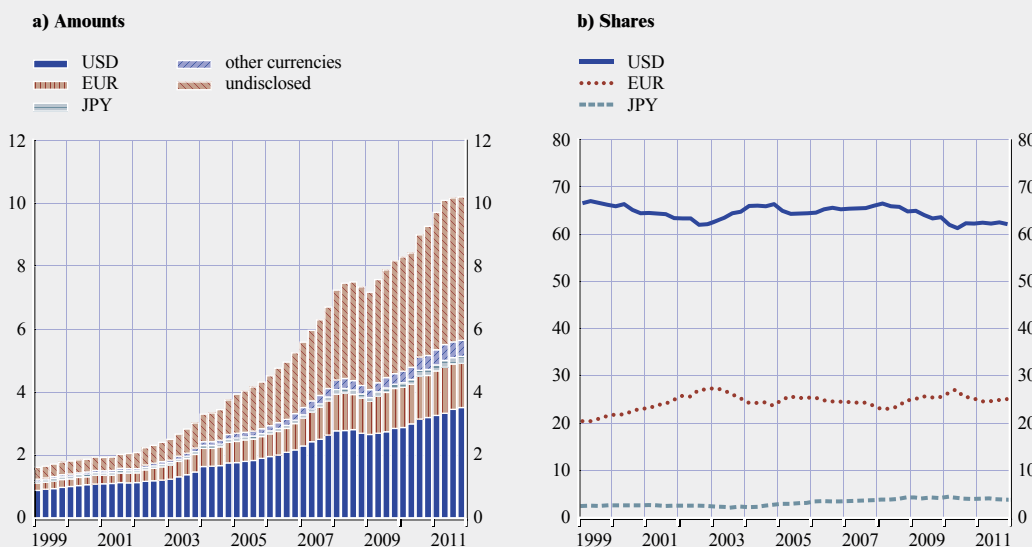
The euro's share in global foreign exchange reserves decreased slightly to stand at 25.0% at the end of 2011 when adjusted for exchange rate effects (down from 25.4% at end-2010, at constant end-2011 exchange rates). Over the same period the share of US dollar-denominated assets in global foreign exchange reserves remained almost stable at 62.1%, down from 62.2% at end-2010 (at constant end-2011 exchange rates), while the share of the Japanese yen slightly decreased to 3.7% from 3.9%. At the same time, the share of "other currencies" (comprising all currencies other than the special drawing right (SDR) currencies and the Swiss

- 2 See ECB (2008) and Beck and Rahbari (2011), who show that in optimal reserve portfolios, anchor currencies and currencies which are a good hedge against sudden stops in capital inflows have a large weight. In addition, large reserve holdings do not necessarily have to increase their diversification if the increase in reserves is driven by precautionary motives (see Beck and Weber, 2011).
- 3 See ECB (2008) for a more detailed discussion of this effect.

Chart 1 Currency composition of global foreign exchange reserves

(USD trillions; at current exchange rates)

(percentages; at constant end-2011 exchange rates)



Sources: IMF and ECB calculations.

franc) in global foreign exchange reserves rose by around half a percentage point (from 4.5% to 5.1% at end-2011) when adjusted for exchange rate effects.⁴

Despite the euro's broadly stable overall share, recent survey-based evidence⁵ suggests that there may have been shifts within the euro-denominated segment of reserve managers' portfolios, increasing the weight of euro area issuers with sound fiscal positions and EU issuers with high credit ratings.⁶ In fact, 78% of respondents indicated that the euro area sovereign debt crisis had affected their reserve management strategy. Many individual respondents also indicated that their central banks had reduced their exposure to certain euro area governments because they were no longer eligible as issuers of reserve assets owing to the downgrading of their ratings. In addition, some respondents stressed that only a few euro area issuers still met their central banks' liquidity requirements. However, the majority (64% of all respondents) also denied that the euro area sovereign debt crisis put the euro's status as a reserve currency at risk. Similar findings apply to the status of the US dollar as the leading international reserve currency: 92% of all respondents took the view that the downgrading of the United States' rating in August 2011 did not affect the US dollar's status as the global reserve currency. At the same time, survey evidence also confirms that other currencies, such as the Australian and Canadian dollars, are now more likely to be regarded as alternative reserve assets.

Among the non-euro area central banks which disclose the currency composition of their foreign exchange reserves (see Table 2 in the Statistical Annex), the euro's share remained relatively stable, with only a few exceptions. Sveriges Riksbank, for example, decided in December 2010 to "hold reserves that to a larger extent than previously were denominated in the currencies in which liquidity assistance might prove necessary, and in assets that can be quickly converted into liquid funds" (Sveriges Riksbank, 2011, p. 50). In accordance with this decision, Sveriges Riksbank increased the

share of US government debt securities in its foreign exchange reserves, partly by selling euro-denominated assets. As a result, the euro's share declined to stand at 37% at end-2011 (down from 50% at end-2010).

Overall, while the euro area sovereign debt crisis had composition effects within the segment of euro-denominated reserves, available evidence suggests that the euro remained the second most important international reserve currency in 2011. At the same time, the US dollar's status as the leading global reserve currency remained unchanged.

As regards the use of the euro as an exchange rate anchor, the main change during the review period occurred in Switzerland: on 6 September 2011 the Swiss National Bank unilaterally announced a minimum exchange rate of CHF 1.20 per euro (see Box 1). Otherwise, the use of the euro as a reference currency for the anchoring of exchange rates remained broadly unchanged. As in previous years, the use of the euro in the exchange rate regimes of countries outside the euro area was, to a large extent, underpinned by geographical and institutional factors, being observed mainly in countries neighbouring the euro area and countries that have established special institutional arrangements with the EU or its Member States (see Table 3 in the Statistical Annex). With the exception of the countries participating in ERM II, the decision to use the euro as an anchor currency is a unilateral one and does not involve any commitment on the part of the ECB. The US dollar, on the other hand, continues to be widely used as an exchange rate anchor both in Asia and in Central and South America.

4 In Table 1 in the Statistical Annex, the share of these "other currencies" is combined with that of the pound sterling and the Swiss franc.

5 See Royal Bank of Scotland (2012). In this survey, reserve managers representing 54 central banks holding around 49% of global reserves (including gold) responded to questionnaires in January and March 2012.

6 In addition to the European Union and the European Investment Bank, the European Financial Stability Facility (EFSF) also issued euro-denominated bonds, which appeared to have some appeal for foreign central banks and sovereign wealth funds in 2011 (see also the section on debt securities).

Box I

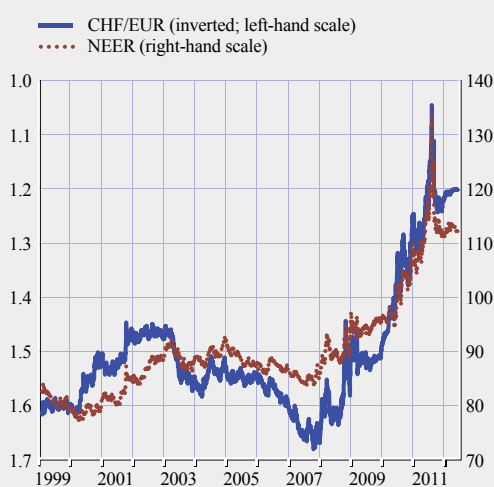
THE SWISS NATIONAL BANK'S COMMITMENT TO MAINTAINING A MINIMUM EXCHANGE RATE BETWEEN THE EURO AND THE SWISS FRANC

The Swiss franc was broadly stable vis-à-vis the euro until late 2009, trading in a relatively narrow range between CHF 1.45 and CHF 1.68 per euro. The Swiss franc then appreciated strongly, peaking at CHF 1.05 per euro on 10 August 2011. This amounted to a 30% appreciation vis-à-vis the euro – almost 40% in nominal effective terms – since the beginning of 2010. At that point, the Swiss franc's exchange rate against the euro was more than 30% higher than its average since 1999.

The sustained strength of the Swiss franc over that period appeared largely to reflect its role as a safe-haven currency in the presence of heightened financial market uncertainty, with negative developments being observed both for the global economy as a whole and for the sovereign debt markets of certain euro area countries. Against the background of an increasing shortage of safe liquid assets, the Swiss economy's dynamic recovery following the global financial and economic crisis, coupled with its sound public finances, further fuelled demand for the Swiss franc.¹

In the view of the Swiss National Bank, this sharp appreciation resulted in a massive overvaluation of the Swiss franc. To counteract these developments, in early August 2011 the Swiss National Bank lowered its target range for the three-month LIBOR to close to zero and increased the supply of liquidity to the Swiss franc money market. However, these measures proved insufficient. Consequently, on 6 September 2011 the Swiss central bank announced a minimum exchange rate of CHF 1.20 per euro, which would be enforced with the utmost determination. To this end, the central bank was, it said, prepared to buy foreign currency in unlimited quantities. Following that announcement, the Swiss franc swiftly depreciated to stand at that unilateral minimum exchange rate. As the Swiss franc has since remained above that rate – with the exception (owing to technical factors) of a very brief period in early April 2012 – the Swiss National Bank's strategy of a straightforward exchange rate policy has, thus far, proved effective in preventing further appreciation and reducing exchange rate volatility. The announcement of a minimum exchange rate vis-à-vis the currency of the economy's primary trading partner (i.e. the euro area) has, at the same time, alleviated concerns about international trade activity and facilitated planning by Switzerland's highly export-oriented companies.

EUR/CHF exchange rate



Source: ECB.
Notes: The latest observation is for 15 June 2012. NEER refers to nominal effective exchange rate.

¹ For more information regarding the empirical determinants of safe-haven currencies, see the special feature entitled "What makes a currency a safe haven?" in the 2011 issue of this report (ECB, 2011).

1.2 THE EURO IN INTERNATIONAL DEBT MARKETS

1.2.1 FOREIGN DEMAND FOR EURO-DENOMINATED DEBT SECURITIES

Foreign demand for euro-denominated debt securities remained unchanged in the first half of 2011, according to figures compiled by the ECB on a biannual basis. At end-June 2011 the share of euro-denominated debt securities in total debt securities held by non-euro area residents stood at 17% (down slightly from 18% at end-June 2010; see Table 8 in the Statistical Annex). Euro area financial account figures suggest, however, that there was a moderate decline in foreign demand for euro area assets at the end of 2011 (see the special feature in Section 2). More recent information on foreign demand for euro area debt extending beyond the intensification of the sovereign debt crisis at the end of 2011 was not available when this report was finalised. Nevertheless, data available from the EFSF, which was created in 2010 to safeguard financial stability in Europe by providing financial assistance to euro area countries (see Box 2) suggest that foreign investors' demand for bonds issued by the EFSF was strong in 2011, accounting for more than half of all demand in the primary market (see Table 2). While the overall volume of these newly created debt instruments is small relative to the overall size of euro area debt markets, the

evidence from 2011 would tentatively suggest that foreign demand for highly-rated euro-denominated assets remained stable.

In early 2012 foreign investors' participation in EFSF bond auctions was lower on account of increased demand by euro area banks, which had been provided with large amounts of liquidity in two exceptional longer-term refinancing operations conducted by the Eurosystem in December 2011 and February 2012.

1.2.2 THE USE OF THE EURO IN DEBT ISSUANCE BY NON-RESIDENTS

At the end of the fourth quarter of 2011 outstanding amounts of debt securities (including bonds, notes and money market instruments) reached around USD 98 trillion at the global level, up from USD 95 trillion one year earlier. Euro-denominated debt securities accounted for around USD 25 trillion of those outstanding amounts – 25.7% at current exchange rates (see Table 3). When measured at constant exchange rates, this share shows remarkable stability over time, hovering between 25% and 26% over the past decade (see Table 4 in the Statistical Annex). This figure, however, provides an estimate of the euro's "global" share in the debt market, including euro-denominated debt securities issued by euro-area residents and bought by euro area residents, which is a purely domestic transaction.

Table 2 Primary market participation by foreign and official investors in EFSF bond issuance

Issue No	Issue date	Amount placed (EUR billions)	Maturity	Reoffer yield (percentages)	Programme country	Share of foreign investors (percentages)	Share of official investors (percentages)
1	25 Jan. 2011	5	18 July 2016	2.892	Ireland	54	44
2	15 June 2011	5	5 July 2021	3.493	Portugal	53	37
3	22 June 2011	3	5 Dec. 2016	2.825	Portugal	59	54
4	7 Nov. 2011	3	4 Feb. 2022	3.591	Ireland	45	32
5	5 Jan. 2012	3	4 Feb. 2015	1.77	Ireland (1.27); Portugal (1.73)	17	17
6	19 Mar. 2012	1.5	30 Mar. 2032	3.956	-	11	7
7	21 Mar. 2012	5	15 May 2017	2.061	-	39	11

Sources: EFSF and ECB calculations.

Notes: Foreign investors include investors from Asia, America (the United States and others), the Middle East and the United Kingdom. Official investors include foreign central banks, sovereign wealth funds and governments.

Table 3 Alternative measures of the supply of debt securities and the shares of major currencies

(fourth quarter of 2011; at current exchange rates)

	Amounts outstanding (USD billions)				Shares (percentages)		
	Total	Euro	US dollar	Japanese yen	Euro	US dollar	Japanese yen
“Narrow” measure	10,965	2,795	5,579	676	25.5	50.9	6.2
“Global” measure	98,388	25,259	37,950	15,731	25.7	38.6	16.0

Sources: BIS and ECB calculations.

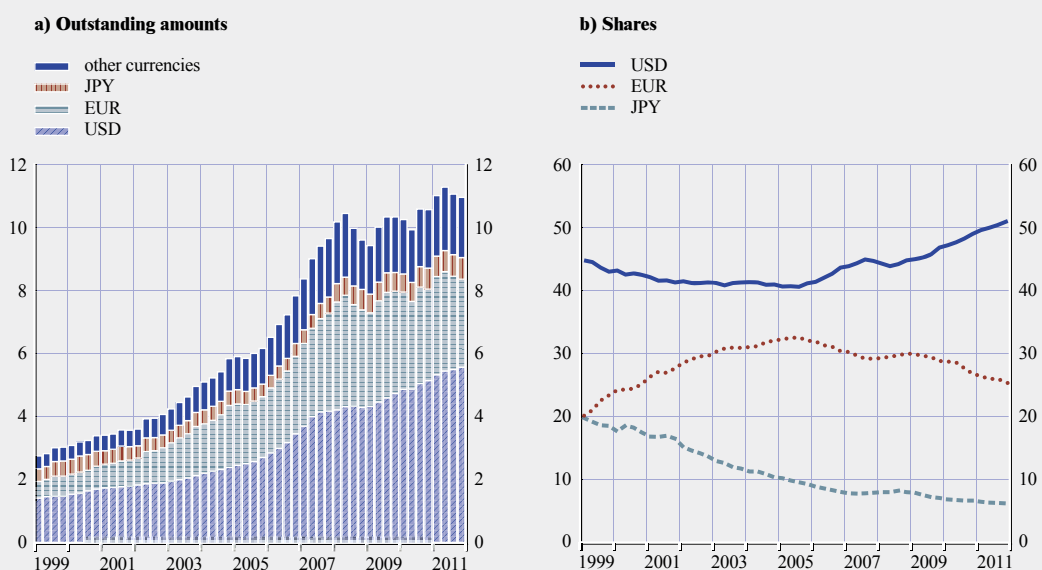
Another – more accurate – method of measuring the importance of currencies in the international debt market is the “narrow” concept of international issuance, which comprises only issuance in a currency other than that of the country in which the borrower resides. At the end of 2011 the total stock of debt securities stood, on the basis of this “narrow” measure, at around USD 11 trillion. Euro-denominated securities accounted for USD 2.8 trillion of that stock – 25.5% of total outstanding amounts (see Table 3). At constant exchange rate, this was more than 1 percentage point lower than in the previous year, continuing a downward trend that began back in 2005 and was exacerbated by the global financial crisis (see Chart 2). By contrast, the US dollar’s share in that narrow measure of international issuance rose further to stand at more than 50%.

As noted in previous issues of this report, funding cost considerations are likely to lie behind the downward trend in the euro’s share – based on the narrow measure – in issuance in international bond markets. Deviations from covered interest parity have made it cheaper to borrow in US dollars and swap the proceeds into euro than to borrow directly in euro. Moreover, it may be that the relatively large *domestic* sovereign euro area issuances since the beginning of the financial crisis, outstanding amounts of which increased from around USD 6 trillion at the end of 2008 to almost USD 8 trillion at end-2011 (on the basis of BIS statistics) may have crowded out foreign borrowers, discouraging them from tapping the euro-denominated bond market.

Chart 2 Stock of international debt securities (narrow measure): outstanding amounts and currency shares

(USD trillions; at current exchange rates)

(percentages; at constant exchange rates)



Sources: BIS and ECB calculations.

Box 2

NEW FORMS OF PUBLIC DEBT IN THE EURO AREA

New forms of public debt were launched in 2011 in the euro area and EU. First, in order to fund loans to programme countries in the euro area, the European Financial Stability Facility (EFSF) issued debt with a total value of €18 billion in 2011, while the European Financial Stabilisation Mechanism (EFSM) issued debt with a total value of €28 billion. Second, in an effort to expand EU capital markets in order to finance large European infrastructure projects, a pilot phase was launched for the European Commission's Europe 2020 Project Bond Initiative. This aims to mobilise up to €4.6 billion in 2012 and 2013.

The EFSF and EFSM were both created in 2010 and are aimed at safeguarding financial stability in Europe by providing countries with financial assistance: euro area countries in the case of the EFSF; and all EU Member States in the case of the EFSM. While debt issued by the EFSF is backed by guarantees from euro area countries, debt issued by the EFSM is implicitly backed by the EU budget. The EFSM has a lending capacity of €60 billion, while the EFSF currently has a lending capacity of €440 billion. On the basis of the decisions taken at the euro area summit on 27 July 2011, the EFSF is authorised to provide financial assistance to euro area countries in financial difficulties – subject to the relevant requirements being met – by means of (i) loans; (ii) intervention in primary and secondary markets for sovereign debt; (iii) precautionary programmes; and (iv) the financing of recapitalisation for financial institutions (via loans to governments). The EFSF is currently involved in the financing of economic programmes for Ireland, Greece and Portugal.

The European Stability Mechanism (ESM) is scheduled to become operational in July 2012. The ESM will finance any new programmes for euro area countries. Although the EFSF could conceivably be involved in any new programmes beginning prior to mid-2013, it will – as a rule – only be involved in the financing of programmes beginning prior to July 2012. The maximum lending capacity of the ESM will be €500 billion, while the overall ceiling for lending by the EFSF and ESM will be €700 billion. The main difference between the EFSF and the ESM is that the ESM is established as a permanent mechanism and an intergovernmental organisation under public international law, in accordance with established IMF policies regarding private sector involvement. This implies that, in exceptional cases, an adequate and proportionate form of private sector involvement will be considered, where stability support is provided in tandem with relevant requirements in the form of a macroeconomic adjustment programme. The ESM will also have more efficient decision-making procedures, total subscribed capital of €700 billion and paid-in capital of €80 billion. This will be paid in in five tranches, with paid-in capital totalling at least 15% of outstanding debt. As a result of the euro area summit decisions on 28 June 2012, it is intended that the ESM would also have the possibility to recapitalise banks directly by the end of 2012.

Lending for programme countries

(EUR billions)

	2011	2012-14
European Financial Stability Facility ¹⁾	18.0	205.3
European Financial Stabilisation Mechanism	28.0	20.5

Sources: European Commission and EFSF.

1) Preliminary EFSF lending also includes cashless operations in connection with financial assistance for Greece (approximately €83 billion).

As part of an effort to leverage the resources of the EFSF and the ESM, the European Sovereign Bond Protection Facility was approved on 17 February 2012, enabling the issuance of partial risk protection certificates in the form of insurance covering 20-30% of the principal of a sovereign bond issued by a Member State benefiting from EFSF financing. It is intended

that such partial risk protection certificates will be used primarily in the context of precautionary EFSF programmes. Another leveraging option envisaged for the purchase of bonds in the primary and secondary markets is the establishment of co-investment funds under the European Sovereign Bond Investment Facility, with the EFSF/ESM financing a first-loss tranche. This would allow a combination of private and public funding.

1.3 THE EURO IN FOREIGN EXCHANGE MARKETS AND INTERNATIONAL TRADE INVOICING

In 2011 the euro's share in the settlement or invoicing of international trade flows remained close to the level observed in the previous year, bar a small number of notable exceptions. Looking at developments in specific euro area countries' transactions with counterparts located outside the euro area, France saw considerable increases in the use of the euro, particularly for trade in services. By contrast, Luxembourg recorded a substantial decline in the trading of goods denominated in euro (albeit this is in line with similar fluctuations observed in the past). Remarkably, Cyprus's exports and imports of goods invoiced in euro rose by 23.2 percentage points (to 49.1%) and 29.5 percentage points (to 41.1%) respectively in 2011. This could potentially be a consequence of

the introduction of the euro in 2008, with longer-term contracts previously billed in Cyprus pounds gradually now being denominated in euro.⁷ In the case of Portugal's imports of goods and services, the share of the euro declined further, continuing the trend witnessed in previous years, potentially owing to the rapid expansion (in both volume and value terms) in the country's trade in petroleum products with Angola (which are probably US dollar-denominated).

In foreign exchange markets, available data on average daily settlement values in CLS (see Chart 3) show that foreign exchange transactions, after a

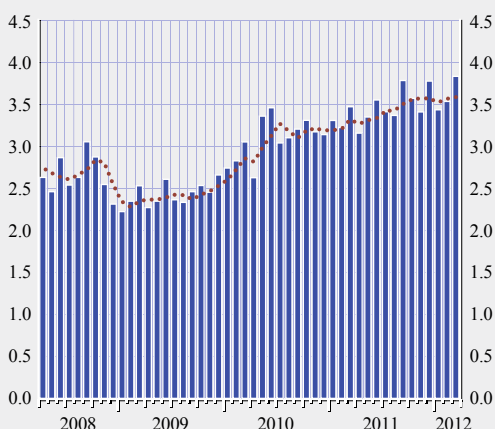
7 A similar pattern seems to be emerging in Estonia, where the euro was introduced in 2011. By contrast, adopting the euro has had less of an impact on the settlement and invoicing of international trade in Slovakia and Slovenia, where the euro was already widely used for those purposes before it was actually introduced.

Chart 3 Settlement volumes and currency breakdown in the CLS system

(EUR billions; at current exchange rates)

a) Amounts

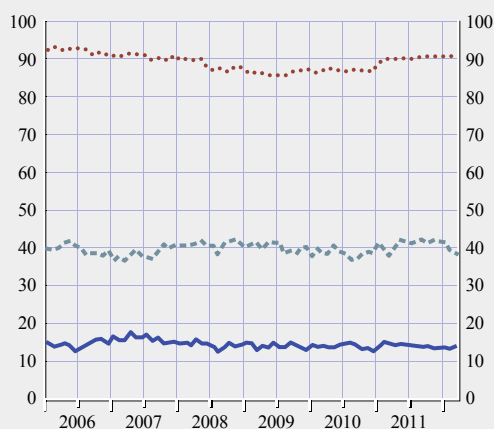
— average daily turnover (EUR equivalent)
 three-month moving average



(percentages; at current exchange rates)

b) Shares

— GBP
 USD
 - - - EUR



Sources: CLS and ECB calculations.

significant decline in 2008, began rising again in 2009 and finally surpassed their pre-crisis levels in July 2010. Since then, settlement values have kept rising, notwithstanding some interim volatility. The currency composition of trades settled in CLS remains stable: the US dollar was the counterpart in 90% of all currency exchanges, confirming its role as the main vehicle currency⁸ in foreign exchange markets, while the euro's share remains at 40%.⁹

1.4 THE EURO AS A PARALLEL CURRENCY

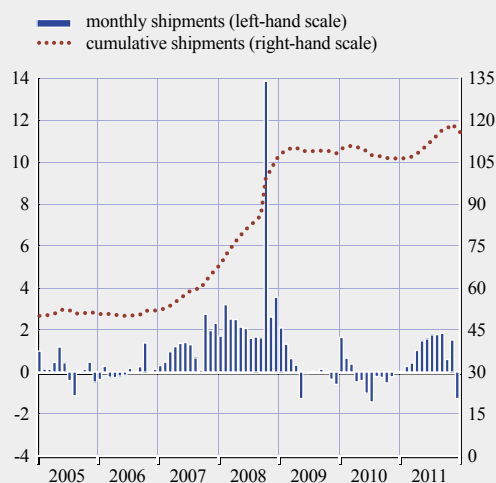
1.4.1 CURRENCY SUBSTITUTION

The use of euro banknotes outside the euro area cannot be estimated with complete precision. One estimate of the amount of euro banknotes circulating abroad (published on a regular basis in this report) is based on the accumulation over time of net shipments of euro banknotes by euro area monetary financial institutions (MFIs) to destinations outside the euro area. On the basis of this method, some €117 billion worth of euro banknotes (after adjusting for seasonal effects) are estimated to have been in circulation outside the euro area at the end of December 2011 (see Chart 4). This was around 13% of the total euro currency in circulation in that month. This estimate is regarded as a clear lower bound, given that the banking channel is just one of a number of channels through which euro banknotes leave and re-enter the euro area. Anecdotal evidence suggests that outflows of euro banknotes via non-MFI channels (e.g. via tourism or workers' remittances) are, for most countries, greater than the inflows via such channels. Thus, net shipments by banks offer an incomplete picture of true net flows of banknotes. Other estimates suggest that around 20-25% of euro currency in circulation (potentially closer to the upper end of the range) were circulating outside the euro area at the end of 2011.

Foreign demand for euro banknotes increased substantially in 2011. It grew at a markedly higher annual growth rate than banknotes in circulation within the euro area. The value of monthly net shipments of euro banknotes abroad was particularly robust until late summer 2011,

Chart 4 Net shipments of euro banknotes to destinations outside the euro area

(EUR billions; adjusted for seasonal effects)



Source: Eurosystem.

Notes: Net shipments represent the total value of euro banknotes sent abroad minus the total value of euro banknotes returned. The latest observation is for December 2011.

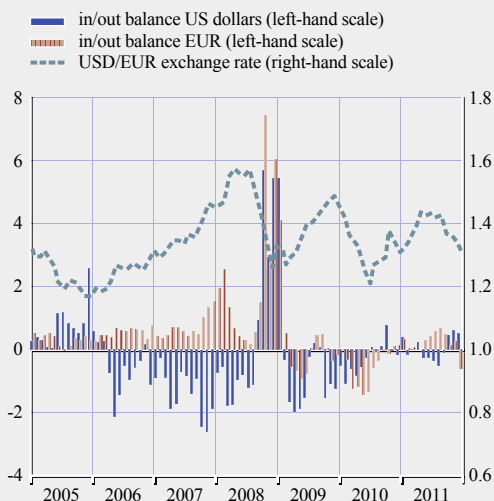
having contracted modestly in 2010. Nonetheless, monthly net shipments in 2011 were not as large as the average shipments recorded in 2007-08. The increase seen in 2011 in net shipments of euro banknotes was explained entirely by the larger gross outflows of euro banknotes, with gross backflows of euro banknotes from non-euro area residents remaining broadly unchanged from the previous year. The volume of net shipments of euro banknotes was significantly negative in December 2011 in the context of heightened economic and financial market uncertainty affecting the euro area in particular. However, that negative flow was reversed in January 2012. Overall, therefore, recent developments in net shipments of euro banknotes abroad suggest that the use of euro banknotes outside the euro area has remained strong following the onset of the euro area sovereign debt crisis in spring 2010 and its intensification in the second half of 2011.

⁸ A vehicle currency (B) is used to exchange two other currencies (A and C), so A and C are exchanged not directly (i.e. AC), but in two transactions (i.e. AB and BC). Most transactions between relatively illiquid currencies are executed via vehicle currencies, owing to the lower transaction costs.

⁹ Payment-versus-payment settlement involves two currencies, so the sum of all currency shares equals 200%.

Chart 5 Foreign currency brought into and taken out of the Russian Federation by authorised banks

(USD billions; USD/EUR)

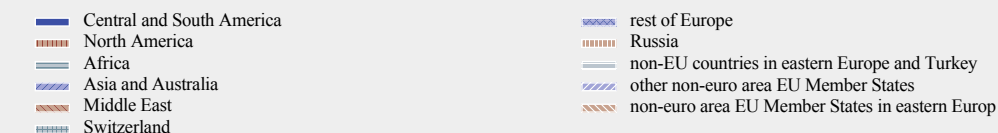


Sources: Central Bank of Russia and ECB.
Note: The latest observation is for December 2011.

Further evidence on the holdings of euro currency abroad can be derived from statistics provided by the monetary authorities of non-euro area countries. For example, the Central Bank of Russia publishes data on foreign currency brought into and taken out of the Russian Federation by authorised banks. These statistics show that net shipments of euro banknotes to Russia increased slightly in 2011 (see Chart 5), following persistent net outflows during most of 2009 and 2010. However, the increase in euro banknotes held by Russian residents in 2011 remained below the average levels observed prior to Lehman Brothers' default. These data also reveal that the euro area sovereign debt crisis did not lead Russian residents to replace euro banknotes with US dollar banknotes in 2010. Indeed, Russian residents also reduced their holdings of US dollar banknotes in that year (albeit less than their holdings of euro banknotes). The data also highlight the fact that Russian residents'

Chart 6 Regional breakdown of euro banknote purchases from and sales to locations outside the euro area

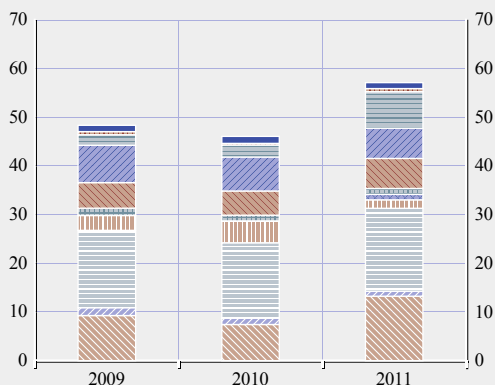
(EUR billions)



a) Sales



b) Purchases



Source: ECB (based on data from wholesale banks).

Notes: These data exclude trades between wholesale banks. The 2011 figures contain data obtained from one additional wholesale bank which previously had not responded to this survey. These data differ from statistics on net shipments, as the latter do not take account of the recirculation of banknotes by wholesale banks outside the euro area (e.g. where a wholesale bank purchases a euro banknote from a client in Asia and sells it to a client in Russia).

replacement of US dollar banknotes with euro banknotes between spring 2006 and summer 2008 coincided with the significant appreciation of the euro vis-à-vis the US dollar.

Data collected from international wholesale banks confirm that sales of euro banknotes increased in 2011, mainly owing to increased demand from non-EU Member States in Eastern Europe, Russia, the Middle East and Africa (see Chart 6, Panel A), while banknote sales to Switzerland continued to account for a large share of total sales to non-euro area destinations. At the same time, backflows of euro banknotes (i.e. purchases from wholesale banks) stemmed mainly from non-EU Member States in Eastern Europe (see Chart 6, Panel B).

1.4.2 ASSET AND LIABILITY SUBSTITUTION

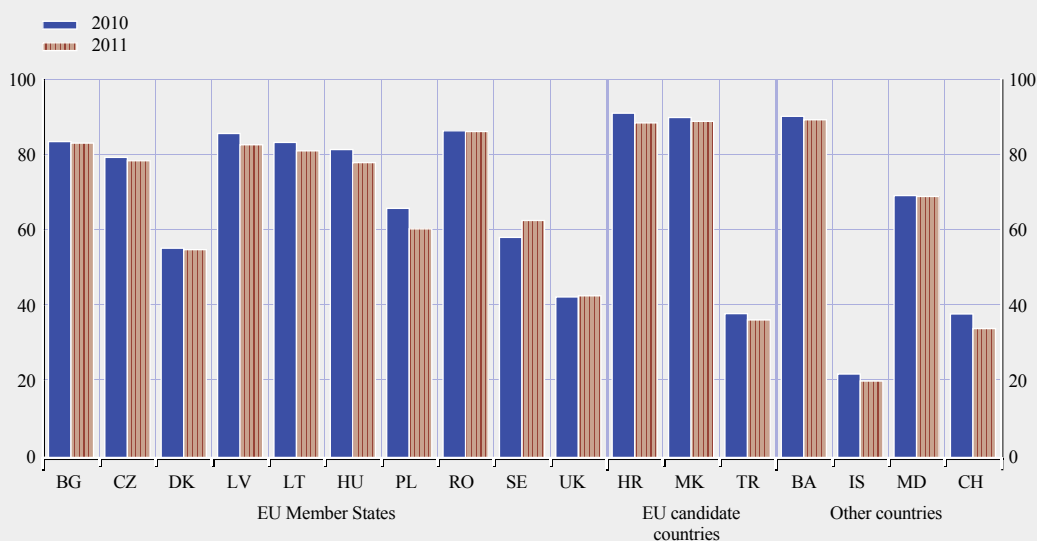
Economic agents in central, eastern and south-east Europe use the euro widely for domestic financial transactions. As in previous years, this review reports the euro's share in total deposits and loans in countries outside the euro area, with a focus on countries neighbouring the euro area.

2011 saw the euro's share in total deposits decrease somewhat in most non-euro area EU Member States and potential candidate and acceding countries (see Table 7 in the Statistical Annex). While this may stem from economic agents' response to a gradual decline in macroeconomic and financial uncertainty (as most of these countries returned to positive growth during the first half of 2011), it could, to some extent, also reflect valuation effects. At the same time, the euro's share in total foreign deposits also declined slightly in most CESEE countries (see Chart 7).

While these developments could, to some extent, reflect valuation effects, they could also point to a slight shift in currency preferences towards the end of 2011, when financial strains in certain countries and financial institutions of the euro area intensified. Indeed, survey evidence provided by the OeNB confirms that trust in the euro declined somewhat in CESEE countries in autumn 2011 (see Section 1.4.3 below). Nevertheless, the euro remained the most popular currency of denomination for foreign currency deposits in CESEE countries

Chart 7 The euro's share in deposits in non-euro area EU Member States and candidate countries

(as a percentage of foreign currency-denominated deposits)



Sources: National central banks and ECB calculations.

Notes: The definition of deposits may vary from country to country. Croatia signed the Accession Treaty in December 2011.

and continued to be perceived as a reliable store of value relative to local currencies, particularly in countries which had previously experienced periods of macroeconomic instability.

2011 saw euro-denominated loans continue to account for a large share of total loans in several non-euro area EU Member States and candidate countries, particularly countries maintaining a currency board or a tightly managed exchange rate vis-à-vis the euro (see Table 16 in the Statistical Annex).

Since lending in euro outside the euro area and in foreign currencies more generally entails financial stability risks and macroeconomic costs if borrowers' liabilities in foreign currencies are not matched by assets denominated in the same currency, the European Systemic Risk Board published in October 2011 a set of recommendations aimed at increasing the cost of unhedged foreign currency lending so that this

would properly reflect the interaction between market and credit risk for banks exposed to such loans.

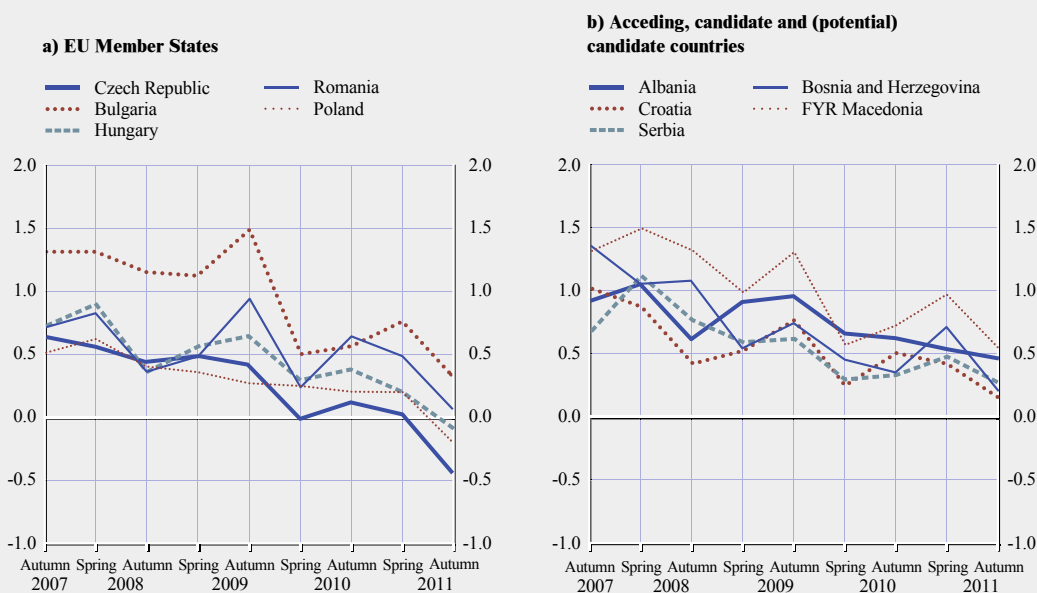
1.4.3 THE OENB EURO SURVEY: THE ROLE OF THE EURO AS A SAFE-HAVEN ASSET IN CENTRAL, EASTERN AND SOUTH-EAST EUROPE

The OeNB Euro Survey has been conducted on a biannual basis since 2007, with questions asked of households in five EU Member States and five acceding, candidate and potential candidate countries. The survey represents a unique source of information on the extent of, and reasons for, households' use of foreign currency-denominated assets, particularly cash holdings and savings deposits.¹⁰

¹⁰ The OeNB Euro Survey also provides up-to-date information on households' confidence and economic expectations, as well as indicators of trust. For a summary of recent results, see: <http://www.ceec.oenb.at>

Chart 8 Agreement with the statement "The euro will be a very stable and trustworthy currency over the next five years"

(normalised sample means per country (-2.5 = fully disagree; 0 = neutral; +2.5 = fully agree))

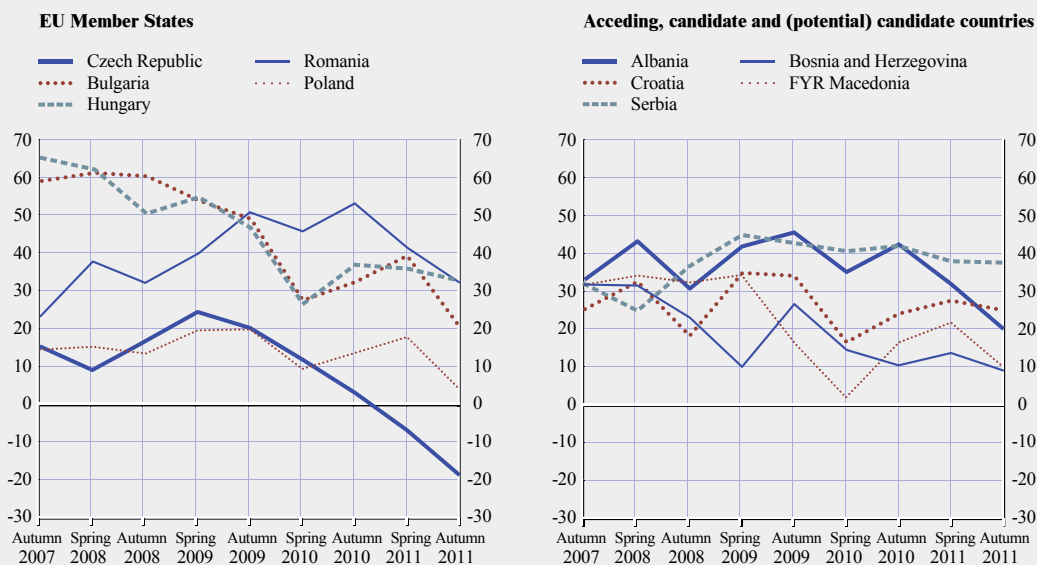


Sources: Beckmann and Scheiber (2012).

Note: Respondents were asked whether – on a scale of 1 (“fully agree”) to 6 (“fully disagree”) – they agreed or disagreed with the statement above.

Chart 9 Difference between trust in the stability of the euro and the local currency

(percentage points)



Sources: Beckmann and Scheiber (2012).

Note: Values represent the percentage share of respondents who agreed that the euro would be very stable and trustworthy over the next five years minus the percentage share of respondents who agreed that the local currency would be very stable and trustworthy over the next five years.

The latest survey, which was conducted in autumn 2011, suggests that attitudes towards the euro on the part of households in central, eastern and south-east Europe may have been affected by the sovereign debt crisis. Among households participating in the survey, agreement with the statement “The euro will be a very stable and trustworthy currency over the next five years.” declined in all countries relative to spring 2011 (see Chart 8).

Nevertheless, this apparent change in attitudes towards the euro did not lead to an overall change in the assessment of local CESEE currencies relative to the euro. Chart 9 shows the percentage share of respondents who agreed that the euro would be stable and trustworthy minus the percentage share of respondents who agreed that the local currency would be stable and trustworthy. In eight of the ten countries, respondents trusted the euro more than they trusted their local currencies. The exceptions were Poland, where the two shares were roughly

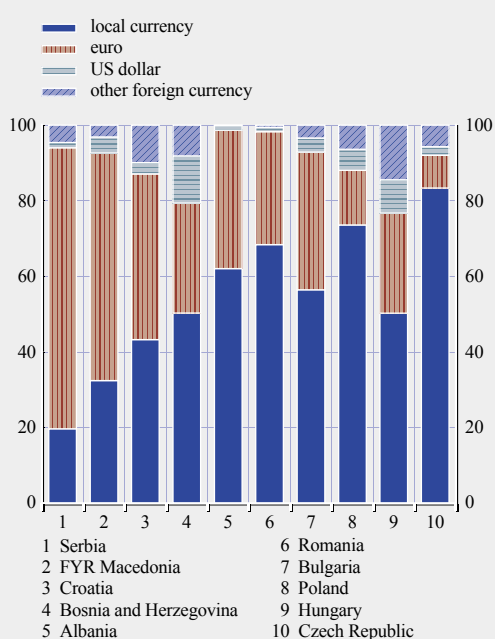
equal, and the Czech Republic, where a larger percentage of respondents expressed faith in the stability of the Czech koruna.

The OeNB Euro Survey results for the EU Member States are broadly in line with the findings of the latest Eurobarometer survey carried out by the European Commission.¹¹ Given this possible reduction in CESEE households’ confidence in the euro since the beginning of the sovereign debt crisis, one might expect households to adjust their preferences as regards the denomination of their savings deposits.

Looking at people’s savings preferences, in autumn 2011 all respondents were asked, for the first time, which currency they would use if they had to deposit an amount worth two monthly

¹¹ The Eurobarometer survey carried out in May 2011 indicated that respondents’ support for the euro replacing their respective national currencies had declined in most EU Member States relative to the survey carried out one year earlier (European Commission, 2011).

Chart 10 Choice of currency denomination for hypothetical savings



Sources: Beckmann and Scheiber (2012).
Note: Respondents were asked the following question: "Suppose you had twice your average monthly salary to deposit in a savings account. Which currency would you choose to deposit this in?"

salaries in a savings account. Chart 10 shows that the regional pattern as regards respondents' relative trust in their local currency and the euro is mirrored in their savings preferences. In the Czech Republic and Poland, more than 70% of respondents would choose to save in the local currency. By contrast, in Serbia only 20% of respondents would save in Serbian dinars and more than 70% would save in euro. As in the past, of the foreign currencies, the euro was chosen more frequently than the US dollar. In Hungary and Bosnia and Herzegovina, the share of respondents who would deposit their savings in US dollars was comparatively high at 9% and 15% respectively. Overall, however, these results show that, despite the decline seen in trust in the euro, a remarkably large percentage of respondents would continue to save in euro, especially in south-east Europe.

Overall, the recent OeNB Euro Survey finds that the sovereign debt crisis may have had an

impact on households' attitudes towards the euro. However, at the same time, it provides evidence that the euro remains more trusted than respondents' respective local currencies. Consequently, households' preferences as regards the denomination of their hypothetical savings appear to be scarcely affected.

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2 FOREIGNERS' APPETITE FOR EURO AREA SECURITIES DURING THE SOVEREIGN DEBT CRISIS¹²

The purpose of this special feature is to evaluate the impact that the recent sovereign debt crisis has had on foreign demand for euro area securities and potential differences relative to the period following Lehman Brothers' default. In particular, this special feature aims to assess: (i) whether the recent crisis has resulted in foreign investors withdrawing from all euro area securities (i.e. all bonds, notes and equities issued by euro area residents), or only from specific euro area countries that are considered more risky; and (ii) how these flows compare with flows for issuers of other international currencies, such as the United States, Japan and Switzerland. The analysis finds evidence of a reallocation of foreign demand from euro area high-yield sovereign issuers towards euro area low-yield sovereign issuers, which was particularly pronounced during the euro area sovereign debt crisis in the second half of 2011 relative to the Lehman Brothers' default. For the euro area as a whole, foreign demand for euro area government debt securities was resilient in the face of the global shock in 2008, but declined in the last two quarters of 2011. Interestingly, the pattern of foreign demand for US and Japanese government debt securities is the mirror image of that for the euro area, declining in the aftermath of Lehman Brothers' default, but rising in 2011. This suggests that the response of foreign investors to the idiosyncratic shock to the euro area was indeed different from the previous global shock, lessening their appetite for euro area securities, in particular those of the high-yield sovereign issuers.

2.1 INTRODUCTION

The impact of the global financial crisis on international capital flows has been the subject of considerable attention. The crisis has been accompanied by a marked increase in the home bias of portfolio investors and a retrenchment of cross-border investment. Recent contributions,

such as that of Milesi-Ferretti and Tille (2011), suggest that this withdrawal partly reflects a “risk shock”, with countries with larger net external liabilities and countries that had previously experienced a credit-fuelled boom facing larger outflows.¹³

An alternative view of the behaviour of cross-border flows (especially portfolio flows) suggests that increases in global risk aversion encourage investors to retreat to assets that are more familiar, withdrawing from assets that are more difficult to understand. This view builds on the idea that there is an asymmetry of information between domestic and foreign investors, which is, in turn, due to foreign investors' inattentiveness to developments in foreign countries.¹⁴ The sovereign debt crisis in certain euro area countries in 2010-11 saw an increase in the riskiness of some euro-denominated debt securities, but it was also a development that foreign investors may have found particularly difficult to understand, partly due to the institutional complexities involved.

Against this background, the purpose of this special feature is to evaluate the impact that the recent sovereign debt crisis has had on foreign demand for euro area securities and potential differences relative to the period following Lehman Brothers' default. In particular, this special feature aims to answer a number of questions. During the recent crisis, did foreign investors withdraw from all euro area securities? Were any capital outflows concentrated in high-yield sovereign issuers, or did they affect the euro area as a whole? Were these outflows limited to sovereign bonds, or did they affect bonds and equities more generally? How do these flows compare with flows for issuers of other international currencies, such as the United States, Japan and Switzerland?

¹² This special feature is based on recent research by Habib and Stracca (2012).

¹³ See also Chapter 4 of the April 2011 issue of IMF World Economic Outlook, entitled “International capital flows: reliable or fickle?”.

¹⁴ See Van Nieuwerburgh and Veldkamp (2010). Mondria et al. (2010) empirically confirm that investors' attention and investment allocation are correlated.

What are the implications for the international role of the euro and the safe-haven role of international currencies?

Within the limitations of available data sources, the main aim of this analysis is to focus on the external liabilities in balance of payments statistics in order to gauge foreign demand for domestic securities, equities and debt securities with a maturity of more than one year during these two crisis periods.¹⁵ Following in the footsteps of Forbes and Warnock (2011), this special feature focuses on identifying “surges” (i.e. sharp increases) and “stops” (i.e. sharp decreases) in capital inflows that are driven by foreigners.

2.2 DATA

In order to gain a comprehensive picture of foreign demand for euro area, US, Japanese and Swiss securities during the sovereign debt crisis, this special feature analyses the balance of payments statistics published by the IMF. In particular, since the focus here is on capital inflows, this analysis considers net liabilities in equities, net liabilities in bonds and notes, and net liabilities in general government bonds and notes.¹⁶ It is important to stress that only one side of the financial account (i.e. the liability side) is studied in order to isolate the behaviour of foreign investors. In other words, rather than showing total portfolio flows, the data show only those flows that are related to securities issued by domestic residents and purchased by foreigners.¹⁷

To control for differences in the size of the various countries’ financial markets and ensure a standardised measure, financial flows from the balance of payments statistics are divided by their respective stock variables, as reported in the i.i.p. statistics published by the IMF.

The euro area is benchmarked against those countries that issue currencies that are usually regarded as safe havens: the United States, Japan and Switzerland. Moreover, in order to disentangle any potential reallocation of

portfolio flows within the euro area, two other aggregates are presented: “euro area low yield” (which is constructed by aggregating data for Belgium, Germany, France, the Netherlands, Austria, and Finland); and “euro area high yield” (which is calculated by aggregating data for Ireland, Greece, Spain, Italy and Portugal). It is very important to bear in mind that balance of payments data for the euro area as a whole net out intra-euro area financial flows and report claims vis-à-vis non-euro area residents, whereas the two sub-aggregates (“euro area low yield” and “euro area high yield”) are based on national sources, which include transactions between euro area countries.

2.3 TRENDS IN THE EXTERNAL PORTFOLIO LIABILITIES OF THE EURO AREA

The first step in this analysis is to illustrate the main trends in external liabilities over the past decade. Chart 11 shows total euro area liabilities for bonds, notes and equities over time. As noted, the flows from the balance of payments are scaled by the total stock of liabilities in each category, so that the shocks to the series in each period are comparable across different asset classes. Over the past decade, within portfolio inflows for the euro area, long-term debt securities have outpaced claims represented by equity securities. To provide some idea of the amounts involved, since 2001 the total stock of euro area portfolio liabilities has averaged €5.2 trillion (standing at €7.7 trillion at the end of 2011), of which equity liabilities have averaged €2.3 trillion

15 Since 2011 equities and long-term debt securities have accounted for the bulk – more than 90% – of the euro area’s total stock of external portfolio liabilities. The remaining portfolio liabilities consist of money market instruments, which account for around 7% of the total.

16 Liabilities represent residents’ indebtedness to non-residents. Positive entries indicate that non-residents purchased more claims on residents (by means of equities or bonds) than they sold (i.e. there was a capital inflow for the domestic economy), and vice versa. The term “net” refers to the difference between non-residents’ purchases of securities issued by a domestic resident (representing a capital inflow for the domestic economy) and non-residents’ sales of domestically issued securities to domestic residents (representing a capital outflow for the domestic economy).

17 For analysis of overall portfolio flows for the euro area, see the February 2012 issue of the ECB’s Monthly Bulletin.

(standing at €3.1 trillion at the end of 2011) and long-term debt securities have averaged €2.6 trillion (standing at €4.1 trillion at the end of 2011).¹⁸ Since 2001 quarterly equity flows have averaged around €33 billion, an average of 1.7% of the stock of equity liabilities, whereas quarterly flows for long-term debt securities have averaged €56 billion, an average of 2.6% of the stock of long-term debt securities.

In Chart 11 the two series are plotted against the VIX, a measure of the implied volatility of options on the Standard & Poor's 500 index and a good proxy for global risk and global risk aversion.¹⁹ This allows us to obtain a preliminary assessment of how foreigners' net demand for euro area securities behaved during these two periods of heightened financial market volatility. In general, foreigners are net buyers of long-term debt securities issued by euro area residents. However, foreigners retreated from the euro area bond market in the aftermath of Lehman Brothers' default, particularly in the fourth quarter of 2008, which corresponds to the largest negative spike in the series and an

outflow of capital related to this asset category. The next section will show that this "stop" in inflows for debt securities was not due to foreigners withdrawing from sovereign bonds.

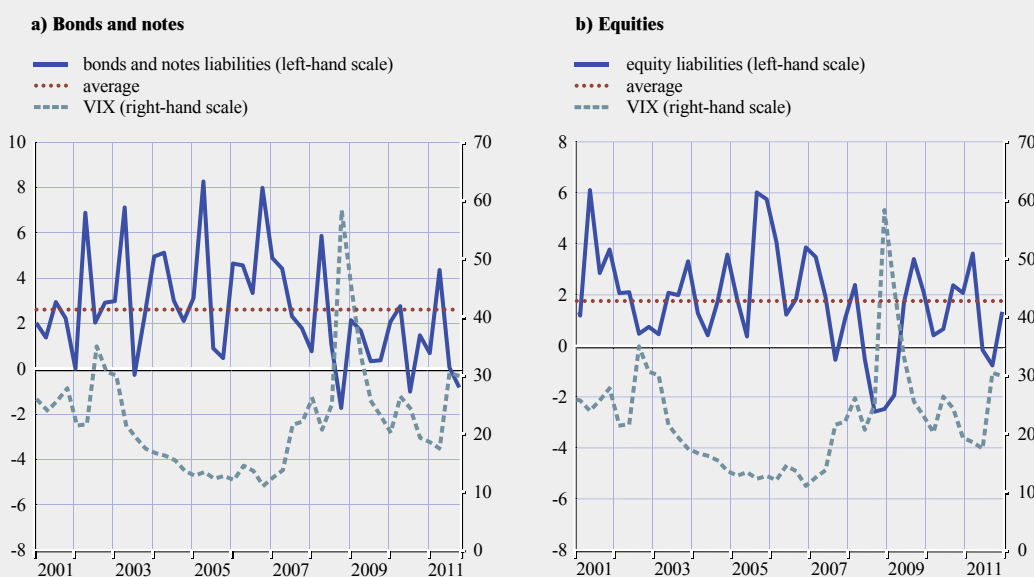
In addition, since 2008, foreign purchases of euro area debt securities are generally below the average. Similarly, prior to mid-2007 foreigners were net buyers of equity securities issued by euro area residents. However, these equity flows then turn negative, suggesting capital outflows from the euro area at roughly the same time as the various crisis periods: the third quarter of 2007, when the liquidity crunch first became apparent; between the second quarter of 2008 and the first quarter of 2009, with a particularly protracted decline coinciding with the collapse of Lehman Brothers; and mid-2011, the second, sharper phase of the euro area sovereign debt crisis. It is therefore clear that foreigners display home bias during periods of financial turmoil.

¹⁸ The residual is represented by money market instruments.

¹⁹ A number of papers show that the VIX is highly correlated with different measures of global risk and risk aversion. See, for instance, Collin-Dufresne et al. (2001).

Chart 11 Euro area portfolio liabilities (Q1 2001-Q4 2011)

(flows as a percentage of outstanding stocks in the previous year (percentages, left-hand scale) and VIX (index, right-hand scale))



Source: ECB.

Is this also the case for “all” the countries of the euro area and other countries issuing currencies used as safe havens? The next section tries to answer this question.

2.4 EXTERNAL PORTFOLIO LIABILITIES: LEHMAN BROTHERS’ DEFAULT VERSUS THE SOVEREIGN DEBT CRISIS

In order to analyse foreign demand for euro area securities during periods of elevated financial volatility, a distinction is drawn between: (i) the global shock stemming from Lehman Brothers’ default in the United States in September 2008, which triggered a spike in the VIX index in the fourth quarter of 2008; and (ii) the recent shock relating to the sovereign debt crisis in the high-yield countries of the euro area, in the second half of 2011. The average flow for the third and fourth quarters of 2008 (i.e. those corresponding to the collapse of Lehman Brothers) and the average flow for the third and fourth quarters of 2011 (corresponding to the euro area sovereign debt crisis) are compared with the median value for the sample as a whole (starting in 2001). In this way, it is possible not only to identify the withdrawal of capital by foreigners (i.e. negative figures), but also to see how flows during periods of considerable financial volatility differ from those observed during normal periods (proxied by the median value for the period as a whole). In addition to the breakdown for equities and long-term debt securities, this analysis also focuses on government bonds and notes, controlling for which geographic area and in which episode this asset class (which is traditionally considered a safe haven for foreign investors) may have lost this privileged status.

Chart 12 presents evidence on government liabilities held by non-residents, as recorded in the balance of payments, for the euro area as a whole (excluding intra-euro area flows), for high-yield and low-yield euro area sovereign issuers (aggregating national data, which include intra-euro area transactions), and for the United States and Japan (with data on Switzerland

not available). Two stylised facts emerge from these data. First, euro area government securities continued to attract foreign interest during the Lehman Brothers’ crisis, but there were large outflows from the government bonds of high-yield sovereign issuers of the euro area and an overall small outflow for the euro area as a whole during the recent euro area sovereign debt crisis. This confirms that the response of foreign investors to the idiosyncratic shock hitting the euro area was indeed different from the global shock in 2008. Second, the pattern of foreign demand for US and Japanese government debt securities is the mirror image of that for the euro area, declining in the aftermath of Lehman Brothers’ default, but rising in 2011. The outflow of foreign investors from US government securities in the wake of Lehman Brothers’ default is somewhat surprising, if compared to the euro area or Switzerland during the same episode. This suggests that the compression of government bond yields in the United States, which is often viewed as evidence

Chart 12 External liabilities: government bonds and notes (Q1 2001-Q4 2011 and crisis periods)



Source: IMF Balance of Payments and ECB staff calculations
 Notes: Euro Area (EA) is available from 2006Q1. Euro Area (EA) high-yield includes Greece, Ireland, Italy, Portugal and Spain. Euro Area (EA) low-yield includes France, Germany, Netherlands, Finland, Austria and Belgium. Aggregates for EA high-yield and EA low-yield do not net out intra-euro area transactions. Lehman crisis refers to the average flow in the last two quarters of 2008. EA sovereign debt crisis refers to the average flow in the last two quarters of 2011, except for Japan that includes only 2011Q3.

of the safe-haven status of US Treasuries, may be the result of US residents displaying home bias, repatriating funds from abroad during such episodes, rather than a result of foreign investors buying US securities.

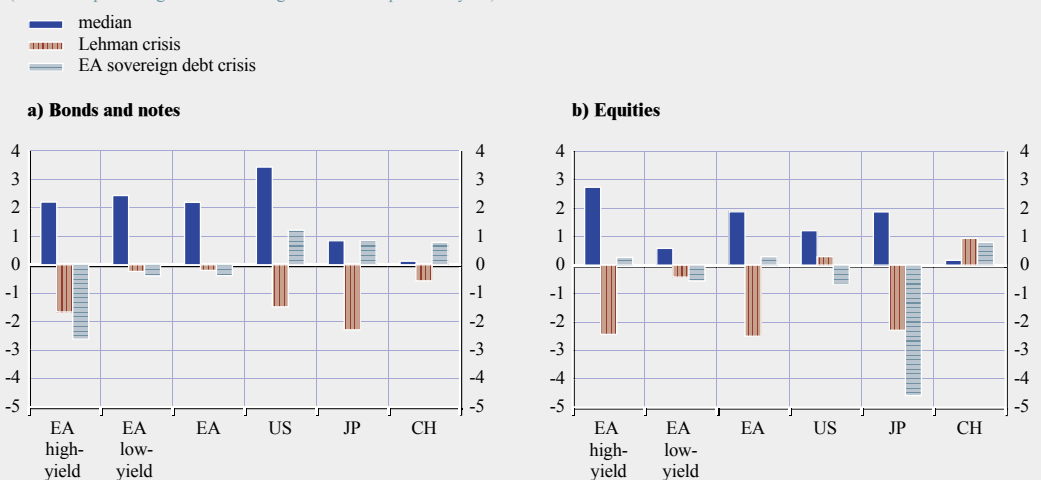
The patterns of flows are partly different when looking at total external holdings of bonds and notes, including private sector liabilities and equity liabilities. In the case of total long-term debt securities (see Chart 13, Panel A), foreigners also withdrew from the euro area (particularly the high-yield countries) following Lehman Brothers' default. It is also interesting to note that, in all countries, net purchases of debt securities by foreigners, even where they remain positive, are always smaller than the median values for the sample as a whole, suggesting a declining appetite for foreign assets, irrespective of the country. This is further confirmation of the sharp increase in home bias described by Milesi-Ferretti and Tille (2011). In conclusion, these results confirm the special role of government debt securities during periods of rising global financial volatility, particularly for the euro area.

Unsurprisingly, the same pattern of retrenchment of foreigners is magnified when looking at equity liabilities, a riskier asset class (see Chart 13, Panel B). Foreigners appear to have shunned euro area and Japanese stock markets, particularly in the wake of Lehman Brothers' default, while remaining more neutral as regards the United States. One interesting result is the increase, in times of considerable global financial market volatility, in foreigners' claims on Swiss equity. In the last two quarters of 2008 and 2011, foreigners' claims totalled around 1% of the outstanding amount of Swiss equity liabilities, a level higher than in normal periods (see median). This atypical pattern, compared to other economies, is probably due to Switzerland's importance as a major international financial centre and, in particular, the weight of shares and units of investment funds and special-purpose entities based in Switzerland on the liability side of the financial account.²⁰

20 In 2008 home bias led, in most countries, to a reduction in external portfolio assets and liabilities. Switzerland is an exception in this respect: not only did external portfolio liabilities increase, as indicated, but external portfolio assets also rose (mainly in the form of increased debt securities claims on non-residents). Eventually, in 2008, Switzerland recorded a net portfolio outflow.

Chart 13 External portfolio liabilities (Q1 2001-Q4 2011 and crisis periods)

(flows as a percentage of outstanding stocks in the previous year)



Sources: IMF Balance of Payments and ECB staff calculations.
 Notes: Euro Area (EA) high-yield includes Greece, Ireland, Italy, Portugal and Spain. Euro Area (EA) low-yield includes France, Germany, Netherlands, Finland, Austria and Belgium. Aggregates for EA high-yield and EA low-yield do not net out intra-euro area transactions. Lehman crisis refers to the average flow in the last two quarters of 2008. EA sovereign debt crisis refers to the average flow in the last two quarters of 2011, except for Japan that includes only 2011Q3.

2.5 CONCLUDING REMARKS

It is difficult to gather evidence on the investment patterns of foreigners purchasing securities issued by euro area residents in a timely manner. Where evidence is available, it is often limited to measures of stocks. Price developments for these securities reflect interaction between the net demand of domestic and foreign investors and may provide misleading signals regarding foreign investors' true appetite for euro area securities. This special feature has attempted to circumvent such limitations by focusing on the liability side of the financial account, reporting transactions in portfolio securities issued by domestic residents and purchased by non-residents on a net basis (i.e. subtracting sales of domestically issued securities by foreigners to domestic residents).

Indeed, by tackling the data from a different angle, it is possible to isolate a number of somewhat unconventional stylised facts. First, looking at the euro area as a whole, there is no evidence of a reduced interest of foreign investors in government debt securities issued by euro area countries after the Lehman Brothers' bankruptcy. However, the recent sovereign debt crisis during the last two quarters of 2011 appears to have a different and negative impact on foreigners' appetite for euro area securities, which is not confined to the high-yield sovereign issuers of the euro area, but partly affects the euro area as a whole. Second, somewhat unexpectedly, in late 2008 foreigners reduced their exposure to government debt securities issued by the United States and Japan, which resumed their usual safe-haven roles when volatility peaked again in 2010 and 2011. And third, less surprisingly, these crisis periods saw foreigners retreat from riskier assets, such as bonds, notes and equities issued by the private sectors of other countries, with the exception of Switzerland.

Overall, with the decline in the supply of safe-haven assets at the global level following the onset of the financial crisis,²¹ the response of foreign investors to the idiosyncratic shock to the euro area in 2011 was indeed different from

the global shock in 2008, lessening their appetite for euro area securities, in particular those of the high-yield sovereign issuers.

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²¹ See Chapter 3 of the April 2012 issue of the IMF Global Financial Stability Report, entitled "Safe Assets: Financial System Cornerstone?".



3 THE CHINESE DOMINANCE HYPOTHESIS AND THE POTENTIAL EMERGENCE OF A TRIPOLAR GLOBAL CURRENCY SYSTEM²²

A salient feature of the international monetary system is that it is centred around the US dollar as a global reference currency and the euro as a regional currency. At the Cannes summit of November 2011 G20 leaders made a commitment to work together to ensure that the international monetary system better reflects the increased weight of emerging market economies. This special feature draws on a recent empirical study that gauges whether the international monetary system is already tripolar and centred around the US dollar, the euro and the Chinese renminbi. It focuses on the “Chinese dominance hypothesis” – i.e. the question of whether the renminbi is already the dominant currency in Asia, exerting considerable influence on exchange rate and monetary policies in the region. This hypothesis can, in turn, be traced back to the old “German dominance hypothesis”, which ascribed to the Deutsche Mark a dominant role in Europe in the 1980s and 1990s. This special feature presents empirical findings which are consistent with this hypothesis, thus indicating that the international monetary system is already on the verge of becoming tripolar when it comes to international currencies acting as exchange rate anchors at the regional level. This may not yet be the case when it comes to other aspects of international currency use – not least owing to the fact that China’s capital account remains largely closed, which in turn limits the international use of the renminbi.

3.1 INTRODUCTION

The global financial crisis has brought reform of the international monetary system back to the forefront of the international policy debate. Some G20 leaders – notably leaders of emerging economies – have questioned the current system, which is based on a single currency, the US dollar, as a global reference currency, and the euro as more of a regional currency. They point

to the fact that the financial crisis originated in the United States, with Europe being the first continent to be engulfed in subsequent sovereign debt crises, and many have drawn links between the global financial crisis and the dominant role of the US dollar, pointing to the “exorbitant privilege” that this confers on the United States (see, for example: Gourinchas and Rey, 2007; and Curcuru, Dvorak and Warnock, 2008) and the negative global externalities that this allegedly creates.

A multipolar international monetary system is deemed by many to be a distant prospect (see, for example, Kenen, 2011), but others expect it to develop soon as a natural consequence of Asia’s emergence as the world’s new economic powerhouse (see, for example, Eichengreen, 2009 and 2010). This, they assert, could see the Chinese renminbi emerge as a truly global currency, along with the euro, while the US dollar loses its dominant status.

To what extent is the international monetary system already tripolar? And what would be the implications of such a constellation for the global economy and financial markets? One way of considering these questions is to test the “Chinese dominance hypothesis” – i.e. look at whether the renminbi is already the dominant currency in Asia, exerting considerable influence on exchange rate and monetary policies in the region, to the extent that China exerts significant influence on its neighbours through the well-known “Asian production chain” or “Asian supply chain”.

3.2 CHINESE AND GERMAN “DOMINANCE HYPOTHESES”

Somewhat paradoxically, there is a strong sense of déjà vu in today’s debate on the future of the international monetary system. This debate is remarkably reminiscent of a much older discussion that took place in Europe in the 1980s and 1990s on the subject of what was called, at

²² This special feature is based on Fratzscher and Mehl (2011).

that time, the “German dominance hypothesis”. Back then, the international monetary system was already dominated by the US dollar. *De jure*, European currencies were linked to each other under the European Monetary System. But the system was, *de facto*, asymmetrical, with Germany’s Deutsche Mark playing a dominant role and other European currencies shadowing the German currency. The proponents of the “German dominance hypothesis” saw this as an arrangement that led other countries to follow Germany’s monetary policy.²³

There are important parallels with the situation in Asia today. *De jure*, emerging Asian economies peg their currencies to the US dollar in a “revised Bretton Woods system” or an “East Asian dollar standard” (Dooley et al., 2004). *De facto*, Asian economies are highly dependent on China, which is by far the largest economy in the region. The mesh of real and financial linkages woven by the Asian production chain encourages economies to maintain their external competitiveness relative to China and the stability of their currency relative to the renminbi. In turn, this suggests that China’s exchange rate and monetary policy, together with the reforms undertaken since mid-2005 to increase exchange rate flexibility, are likely to exert a significant – if not dominant – influence on exchange rate and monetary policies elsewhere in emerging Asia.²⁴

Thus, one can already try to gauge the extent to which China’s foreign exchange policy influences other countries in the region, hence the analogy of the German dominance hypothesis. But as noticeable as the parallels between Europe yesterday and Asia today may be, the “Chinese dominance hypothesis” is not as easy to test as its German predecessor. China’s (crawling) peg to the US dollar creates an identification problem. The renminbi is not convertible and China’s capital account remains largely closed. Co-movement between short-term interest rates or monetary aggregates (used in literature on the German dominance hypothesis) is uninformative, since China’s

money, credit and other financial markets remain heavily regulated, segmented or repressed.

To overcome these challenges, Fratzscher and Mehl (2011) carry out an unconditional analysis based on a three-factor exchange rate model comprising a US dollar factor, a euro factor and a regional currency factor, along the lines of a methodology initially proposed by Frankel and Wei (1994 and 2008), for a set of 48 currencies in advanced and emerging economies. In its most general specification, their model is written as

$$\Delta s_{i,t} = \alpha_i + \beta_{i,t}^{USD} \Delta s_t^{USD} + \beta_{i,t}^{EUR} \Delta s_t^{EUR} + \beta_{i,t}^{REG} \Delta s_t^{REG} + \delta_{i,t} \mathbf{X}_{i,t} + \varepsilon_{i,t}$$

where: $s_{i,t}$ is the log (difference) of the exchange rate of country i vis-à-vis the SDR at time t ; \mathbf{X} is a vector of control variables; α_i represents fixed effects relating to the country in question; the various β s and δ s represent country and time-varying parameters; ε is the residual; and the superscripts *USD*, *EUR* and *REG* denote the US dollar, the euro and regional foreign exchange factors respectively. As is customary in the literature, they use exchange rates vis-à-vis the SDR in order to identify the relative importance of the US dollar, euro and regional factors (i.e. the β s) for local currency i .

3.3 EMPIRICAL EVIDENCE OF CHINA’S INFLUENCE ON OTHER EMERGING ASIAN ECONOMIES’ EXCHANGE RATE POLICIES

Overall, Fratzscher and Mehl (2011) find evidence in line with the Chinese dominance hypothesis, albeit with some qualifications,

²³ See, for example: Giavazzi and Pagano (1988); Gros and Thygesen (1988); and von Hagen and Fratianni (1990).

²⁴ By no means does this necessarily imply that the renminbi’s influence in the region is or will be stronger than that of the US dollar. For instance, in Europe in the 1980s, it was found that, while German interest rates had the strongest impact on interest rates of all of the countries in Europe, US interest rates also had a significant impact. A country’s dominance is relative, and a dominant country can exist alongside another country that exerts considerable influence. Indeed, this may be the case with the renminbi. While it may not surpass the US dollar’s impact on Asian economies, the renminbi may nevertheless exert considerable – and rapidly growing – influence on the region.

suggesting that the international monetary system is, to some extent, already tripolar. They identify a statistically significant regional foreign exchange factor in emerging Asia's exchange rate dynamics, which is stronger than those observed for other regions of the world. Table 4 reports estimates for the factors in their model, showing that Asia's regional factor, with a weight of more than 0.2, is the world's largest, underscoring the strong regional orientation of exchange rate policy in the area.

Importantly, they also show that this factor has increased markedly since China began its exchange rate reforms in 2005. This supports the view that emerging Asia's policy-makers have been paying more attention to regional currency developments since China began gradually increasing the flexibility of its exchange rate. Moreover, additional estimates by the authors suggest that Asia's regional

exchange rate factor is driven mainly by the renminbi, although there is also evidence that causality is, to some extent, bidirectional and that, in part, Asia's regional factor exerts influence on the renminbi.

An empirical approach of this kind is informative as regards co-movement and correlation across global foreign exchange policies. However, it has nothing to say on the ultimate source of this co-movement, which can be identified only indirectly. A more direct way to test the Chinese dominance hypothesis is to analyse the transmission of specific shocks to China's foreign exchange regime, which can be clearly identified. This allows the direction of causality and the origin of the co-movement to be identified, with the added advantage of allowing the impact of a particular shock to be traced more clearly across global foreign exchange markets.

Table 4 Global exchange rate factor model – full sample estimates

(by country group/region)

	Advanced economies (1)	Emerging economies (2)	Emerging Asia (3)	Latin America (4)	Gulf Cooperation Council (5)	Emerging Europe (6)	Middle East and North Africa (7)
US factor	-0.018 (0.137)	0.523*** (0.077)	0.656*** (0.078)	0.779*** (0.076)	0.999*** (0.001)	-0.070 (0.142)	0.493* (0.203)
Euro factor	0.244* (0.114)	0.122*** (0.030)	0.085*** (0.020)	0.087** (0.028)	-0.000 (0.001)	0.284*** (0.081)	0.145 (0.092)
Regional factor	0.135 (0.228)	0.113*** (0.016)	0.216** (0.077)	0.165** (0.053)	-0.000 (0.002)	0.045*** (0.008)	0.073* (0.029)
Oil prices	-0.029** (0.009)	-0.011*** (0.002)	-0.005*** (0.001)	-0.011* (0.005)	0.000 (0.000)	-0.021*** (0.004)	-0.011 (0.007)
Liquidity risk	0.103 (0.182)	0.102** (0.043)	0.147** (0.060)	0.210* (0.106)	-0.003* (0.001)	-0.035 (0.074)	0.093 (0.267)
Risk aversion	0.037 (0.023)	0.039*** (0.007)	0.029*** (0.009)	0.054** (0.018)	-0.000 (0.000)	0.050*** (0.011)	0.068 (0.034)
Constant	-0.000 (0.006)	0.011** (0.004)	0.013** (0.005)	0.014* (0.006)	0.000 (0.000)	0.011 (0.010)	0.027 (0.029)
Observation	14,655	67,510	20,022	12,760	9,164	18,258	7,306
Adjusted R ²	0.0802	0.141	0.238	0.235	0.994	0.0976	0.0960

Sources: Fratzscher and Mehl (2011).

Notes: Pooled OLS estimates derived from a three-factor model for each of the country groups or regions in the sample. Robust standard errors are reported in parentheses. (***), (**) and (*) denote statistical significance at the 1%, 5% and 10% confidence levels respectively.

To that end, the authors conduct a complementary analysis based on a shock-augmented factor model. Their aim is to carry out an event study, using the global foreign exchange market's reactions to official statements by Chinese authorities on China's exchange rate and reserve policies in order to identify the impact of such statements on the exchange rates of other currencies – particularly those of emerging Asian economies. The key strength of this approach (see also: Fratzscher, 2008a, 2008b, 2009; and Fratzscher and Mehl, 2009) is that it allows the clear identification of specific and exogenous renminbi shocks and the measurement of their impact on the rest of Asia.

The conditional model that the authors use here is an extended version of the model used for the previous (unconditional) analysis, augmented with an indicator variable for Chinese statements on China's exchange rate or reserve policies. A theoretical basis for such a model can be found in literature on the microstructure of foreign exchange markets – more specifically, literature on announcement effects and asset prices (see, for example: Andersen et al., 2003; and Blinder et al., 2008).

The authors have compiled more than 300 statements made by the Chinese authorities²⁵ between 1997 and 2011 on exchange rate and reserve policies, which generally stem from speeches, interviews and public testimonies. These have been taken from Reuters News, one of the most commonly used wire services, which ensures that these statements were also available to market participants in financial markets. This allows the use of daily data to analyse the impact that such statements have on foreign exchange markets.

Testing the Chinese dominance hypothesis within this framework consists of assessing whether such official statements lead emerging Asian currencies to appreciate in a manner which is similar to the response of the renminbi itself – i.e. whether policy-makers in other Asian economies are willing to let their currencies move in response to such shocks, in a way

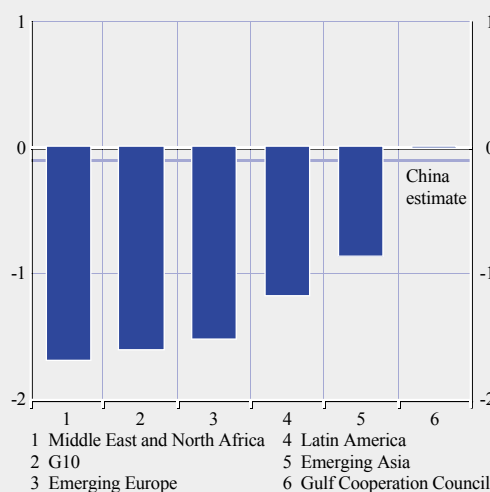
that they remain relatively stable (or do not appreciate overly fast) against the renminbi.

Chart 14 shows the average estimated impact (in percentage terms) of an official Chinese statement on the day it occurs (with the SDR used as the numeraire). This shows that the responses of Asian currencies are more similar to that of the renminbi than the responses of currencies of advanced economies or other emerging market economy regions (with the exception of the Gulf Cooperation Council countries, which have a strict peg to the US dollar). This is fully consistent with the unconditional analysis's findings that the weight of the regional factor within Asia is substantial, implying significant co-movement between the renminbi and other Asian currencies.

25 These include statements by the Governor of the People's Bank of China, the President and Premier of the People's Republic of China and other relevant Chinese ministers, as well as other officials at the People's Bank of China, including the Head of the State Administration of Foreign Exchange.

Chart 14 Average impact of official Chinese statements on global foreign exchange markets

(breakdown by currency; SDR as numeraire; percentages)



Notes: This chart shows the average impact (in percentage terms) that official statements made by Chinese policy-makers concerning exchange rate and reserve allocation policies have on a sample of 48 currencies on the day the statement is made. Estimates shown are equally weighted averages for all currencies within a particular region or group. The SDR basket is used as the numeraire. A negative entry indicates the appreciation of the relevant currency vis-à-vis the SDR.

Additional results also suggest that the impact of renminbi shocks has been strongest following the start of emerging Asia's recovery in 2009, with an order of magnitude almost four times larger than that observed prior to 2005. These findings give further support to the view that policy-makers in emerging Asia have been paying much greater attention to developments in the renminbi since the onset of the global economic and financial crisis. They are also in line with the existence of both a portfolio balance channel and a signalling channel, with market participants regarding official Chinese statements as a signal that, were China to relax the renminbi's links with the US dollar, the rest of emerging Asia might do so too. The results are also supportive of the view that official statements pointing to the appreciation of the renminbi against the US dollar encourage other emerging Asian economies to let their currencies appreciate in turn, so as to stabilise their relative competitiveness within the "Asian production chain".

3.4 CONCLUDING REMARKS

Overall, these findings raise a number of issues. The analysis presented here focuses on the renminbi's emerging role as an anchor currency (i.e. the influence of China's foreign exchange policy on global foreign exchange constellations and the Asian region in particular), which is akin to the debate about the importance of German policy for the European Monetary System in the 1980s and 1990s. It does not cover all aspects of the renminbi's growing international role, such as its use in real or financial transactions or official reserve holdings. Another specific issue in this regard concerns the optimality of current foreign exchange constellations in Asia and the question of whether stronger explicit exchange rate coordination might be beneficial at the regional level. As China continues to reform its exchange rate regime in the years ahead, this could well become an increasingly important policy issue, both in Asia and globally.

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4 WHEN DID THE US DOLLAR OVERTAKE THE POUND STERLING AS THE LEADING INTERNATIONAL CURRENCY? THE “OLD VIEW” VERSUS THE “NEW VIEW”²⁶

It is commonly believed that there was a considerable lag between the period from 1870 to 1918, when the United States overtook the United Kingdom as the largest economic, financial and commercial power in the global economy, and the US dollar overtaking the pound sterling as the leading international currency after the Second World War. Observers often refer to this historical episode in today’s debate regarding the future of the international monetary system, arguing that, for the time being, the prospects of any transition towards a multipolar system remain remote. This special feature summarises the findings of recent studies (referred to as the “new view”) that suggest that the US dollar overtook the pound sterling as the leading international currency as early as the 1920s – i.e. two decades earlier than was previously thought. It looks at the emergence of the US dollar as the leading international financing currency in global debt markets, as well as the key role played by financial development, the main contributor to the rise of the US dollar during the interwar period. To the extent that history is any guide, the evidence presented here suggests that a transition to a multipolar system could occur sooner than is sometimes asserted. Nevertheless, the key role that financial deepening and integration are likely to play as a determinant of the international status of currencies suggests that any shift will still be a gradual process.

4.1 INTRODUCTION

The global economic and financial crisis has given fresh impetus to discussions regarding the future of the international monetary and financial system. Some advocate moving to a multipolar system in which the US dollar shares its international currency role with the euro, the Chinese renminbi and/or the IMF’s Special Drawing Rights. At the Cannes

summit in November 2011 G20 leaders made a commitment, in this respect, to taking “concrete steps” to ensure that the international monetary system reflects “the changing equilibrium and the emergence of new international currencies”.

Some observers expect this change to occur spontaneously, as a natural result of the declining economic and financial dominance of the United States and the increasingly multipolar nature of the global economy, together with the advent of the euro and the gradual internationalisation of the renminbi. However, sceptics assert that, for the time being, the prospects of any shift to a multipolar international monetary and financial system are in fact remote. Were it to occur, such a transition would take many decades to complete, they say.

The view that a shift to a multipolar system is unlikely to occur rapidly is rooted in theoretical models in which international currency status is characterised by network externalities.²⁷ These give rise to lock-in and inertia effects, which benefit the incumbent. Such models rest, in turn, on a conventional historical narrative, epitomised by Triffin (1960), which states that a period of 30 to 70 years (depending on the aspects of economic and international currency status considered) separated the point at which the United States overtook the United Kingdom as the leading economic and commercial power from the point at which the US dollar overtook the pound sterling as the dominant international currency. The United States, it is observed, surpassed the United Kingdom in terms of absolute economic size as early as the 1870s. By 1913 it was the leading commercial power on the basis of the value of foreign trade. And it was the leading creditor nation by the end of the First World War. And yet, the pound sterling remained the dominant international currency not only during this period, but throughout the interwar

²⁶ This special feature is based on recent research by Chițu, Eichengreen and Mehl (2012).

²⁷ See, for example: Krugman (1980); Krugman (1984); Zhou (1997); Hartmann (1998); and Rey (2001).

years, according to the conventional narrative, and even for a brief period after the Second World War.

4.2 THE “NEW VIEW”

However, recent studies, referred to by Frankel (2011) as the “new view”, have challenged this conventional account. Eichengreen and Flandreau (2009), relying on new data on the currency composition of global foreign exchange reserves, show that the US dollar overtook the pound sterling as the leading reserve currency as early as the mid-1920s – i.e. more than two decades earlier than was previously thought.

The “new view” also challenges the broader implications of the conventional narrative. First, it suggests that inertia and the advantages of incumbency are not as significant as they were previously thought to be. Moreover, it challenges the notion that there is room for only one international currency in the global system: on the contrary, the pound sterling and the US dollar accounted for roughly equal shares of global foreign exchange reserves throughout the 1920s. Finally, the “new view” challenges the assumption that, once lost, dominance is gone forever. Indeed, Eichengreen and Flandreau’s data indicate that the pound sterling regained its dominant position for a brief period after 1931. This reinforces the point that the advantages of incumbency in the competition for reserve currency status may be less significant than is commonly thought.

In a companion piece, Eichengreen and Flandreau (2010) show that what was true of reserve currencies was also true of the use of currencies for the financing of international trade. The US dollar overtook the pound sterling as the leading form of trade credit (as the currency of denomination for what were then known as “trade acceptances” or “bankers’ acceptances”) as early as the mid-1920s – not after the Second World War, as had been thought. The United States achieved this from a standing start – i.e. despite

the fact that US dollar-denominated trade credits had been virtually unknown as recently as 1914. Both market forces (i.e. the development of its financial markets) and policy support (with the Federal Reserve System acting as a market-maker in the New York market for bankers’ acceptances) were instrumental in helping the US dollar to overtake the pound sterling.

Some critics have questioned the “new view”. Ghosh, Ostry and Tsangarides (2011) suggest that the interwar gold standard was special in that gold – not foreign exchange – was the dominant reserve asset, accounting for some two-thirds of international reserves. The fact that gold played a significant monetary role at that time, but plays only a small one today, may limit the inferences regarding prospective changes in international currency status that can be drawn from this earlier episode. Forbes (2012) suggests that international financial transactions may now play a larger role in driving the decision as to which unit or units to use internationally, while goods transactions and the importance of a currency or market as a source of trade credit play a correspondingly smaller one. Thus, inferences regarding the future are also less convincing insofar as they are drawn from the past behaviour of trade credit, rather than the use of currencies in international financial transactions.

4.3 ADDITIONAL EVIDENCE FROM GLOBAL BOND MARKETS IN SUPPORT OF THE “NEW VIEW”

Chițu, Eichengreen and Mehl (2012) provide yet more evidence of the emergence of the US dollar as the leading international currency in the interwar period, focusing on its role as a financing currency in global debt markets. This sheds light on a third aspect of international currency status, namely the use of currencies as vehicles for international financing, which is also useful for establishing the generality (or otherwise) of the “new view”. Moreover, since international bonds were typically denominated in national currencies, rather than gold, this market segment is also more informative when considering the situation today.

To that end, they compile new data on the currency denomination of foreign public debt for 33 countries in the period 1914-46, drawing on United Nations (1948). These data were initially gathered by statisticians employed by the League of Nations, the UN’s predecessor, and by the UN itself, drawing on official national sources, including national accounts and/or budgetary accounts prepared by ministries of finance, annual or special reports produced by central banks or national statistical institutes, national statistical yearbooks, and so forth.²⁸ The evidence that they derive from these data allows them to challenge the three central tenets of the conventional wisdom on international currencies, giving further support to the “new view”.

First, network externalities, first-mover advantages and inertia are found to be important, but not to delay the transfer of leadership in the international monetary sphere relative to that in the economic, commercial

and financial spheres to the extent previously thought. Indeed, the new data provided by Chițu, Eichengreen and Mehl (2012) show that, ignoring Commonwealth countries, the US dollar overtook the pound sterling as early as 1929 – at least 15 years earlier than the dates cited in previous accounts (see Chart 15, Panel A). Even including Commonwealth countries, which were wedded to the pound

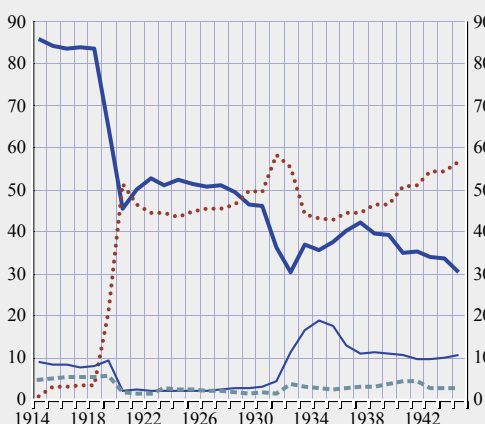
28 National public debt was not always broken down into its domestic and foreign components on the basis of the same criteria, although the authors of the UN compendium attempted to adjust for these differences to the extent possible. Indeed, in a number of countries, the breakdown was based on the currency in which the debt was denominated; in others, it was based on the place where it was floated (i.e. abroad or at home); and in others still, it was based on the issuer’s place of residence. However, what is key for the purposes of this assessment, which aims to gauge the importance of the pound sterling, the US dollar and other currencies as vehicles for international financing, is the fact that the UN applied consistent criteria when categorising countries’ foreign debts on the basis of their currency of denomination and used the currencies in which debt was originally raised as a specific criterion. In addition, since the focus here is on non-US and non-UK debt, it is always the international financing role of the pound sterling or the US dollar, in a narrow sense, that is captured by the data.

Chart 15 Global foreign public debt – selected currency shares

(as a percentage of total; at current exchange rates)

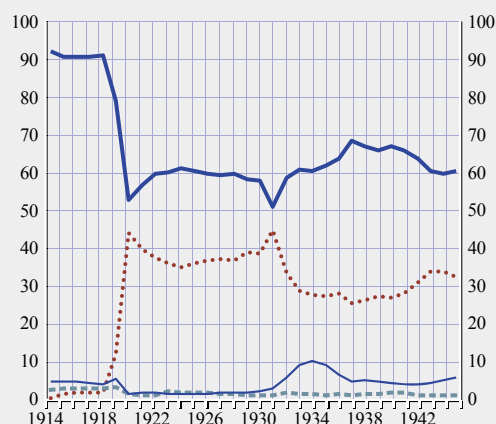
— GBP - - - gold
- · - · - USD — other

a) Excluding Commonwealth countries



Sources: Estimates by Chițu, Eichengreen and Mehl (2012).
Note: This chart shows developments over time in the shares of the pound sterling, the US dollar, gold and other currencies in the global stock of foreign public debt between 1914 and 1946, based on a 28-country sample which excludes the Commonwealth countries India, Australia, Canada, New Zealand and South Africa.

b) Including Commonwealth countries



Sources: Estimates by Chițu, Eichengreen and Mehl (2012).
Note: This chart shows developments over time in the shares of the pound sterling, the US dollar, gold and other currencies in the global stock of foreign public debt between 1914 and 1946, based on a 33-country sample.

sterling for political and institutional reasons, the US dollar was already within hailing distance of sterling as a currency of denomination for international bonds by the late 1920s (see Chart 15, Panel B). Second, this new evidence also challenges the assumption that, once international monetary leadership is lost, it is gone forever. Indeed, although the pound sterling lost its leading position in the 1920s, it recovered after 1933 and was neck and neck with the US dollar at the end of that decade. And third, this new evidence challenges the assumption that there is room for only one dominant international currency owing to strong network externalities and economies of scope. In the 1920s and the 1930s international debt markets were characterised by a bipolar currency system, not a unipolar one. This is true even if account is taken of Commonwealth countries, which strongly favoured the pound sterling for institutional and political reasons.

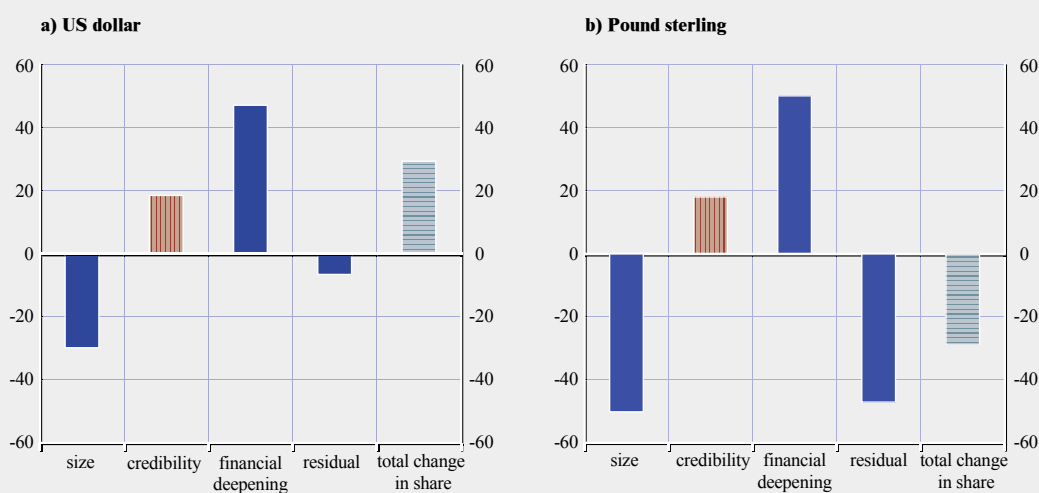
overcome the pound sterling's incumbency advantage. According to their estimates, with the ratio of US banking assets to GDP rising from 70% to 100% of GDP between 1918 and 1932, the US dollar's share in global foreign public debt would have risen by almost 50 percentage points *ceteris paribus* (see Chart 16, Panel A).²⁹ However, the impact of finance on international currency shares in global debt markets worked both ways during the interwar period. In particular, the authors find that the collapse of the US banking system and subsequent financial retrenchment was the most important factor contributing to the decline in the US dollar's share in global foreign public debt between 1932 and 1939. In the case of the United Kingdom, economic stagnation (i.e. declines in its relative economic size) was the most important factor accounting for the pound sterling's declining share over the period in question (see Chart 16, Panel B).

As regards the determinants of these developments, the authors' empirical estimates point to the development of US financial markets as the main factor that helped the US dollar to

²⁹ The regression estimates also control for inertia (lagged currency shares), size (country shares in world GDP) and credibility (inflation) effects, as well as for unobserved country, currency and time effects.

Chart 16 Estimated contributions to changes in the shares of the US dollar and the pound sterling in global foreign public debt between 1918 and 1932

(in percentage points)



Sources: Chițu, Eichengreen and Mehl (2012).

Note: The contributions reported in these charts are calculated using the parameters estimated for the benchmark model in Chițu, Eichengreen and Mehl (2012), including dynamic effects.

4.4 CONCLUDING REMARKS

These findings have implications for the future of the international monetary system, to the extent that history is any guide. They could suggest that a transition to a multipolar system is not impossible, that it could occur sooner than is sometimes asserted, and that further financial deepening and integration are likely to be a key determinant of the ability of currencies other than the US dollar to strengthen their international currency status.

Moreover, the fact that financial retrenchment during the Great Depression of the 1930s was the

most important factor contributing to the decline in the US dollar's share in global debt markets highlights the fact that the pace and scope of financial sector reform should always be guided by the objective of medium-term sustainability. The experience of the yen is another cautionary tale in this respect. Attempts by the Japanese authorities to boost the international role of their currency suffered following the bursting of Japan's equity and real estate bubbles in the late 1980s and the banking and economic crisis of the 1990s (see Box 3). In turn, this highlights the important role that macro-prudential policies and tools will play in shaping the international status of currencies in the new millennium.

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Box 3

ATTEMPTS TO INTERNATIONALISE THE JAPANESE YEN: SOME POLICY LESSONS¹

The transition in Japan towards the opening-up of the capital and financial accounts was accompanied by a series of policies to boost the international role of the yen and promote Tokyo as a major international financial centre between the mid-1980s and late 1990s. These efforts would eventually be counteracted by the progressive decline of the Japanese economy. Nevertheless, some of the policy lessons that can be drawn from this partial failure are useful in assessing the process of internationalising currencies, particularly those of emerging markets.

In the mid-1980s the internationalisation of the yen was expected to be instrumental as regards progress towards a more open and efficient financial system in Japan and the promotion of Tokyo as a major financial centre. However, the decisive push for policy action came from the US Treasury with the intent to foster greater capital flows to Japan and trigger an appreciation of the yen against the background of widening bilateral trade imbalances between the United States and Japan. The bursting of Japan's asset price bubble in the early 1990s brought an end to the first wave of financial reforms and the promotion of the international role of the yen. These policies were then re-launched by the government in 1998 in an attempt to revive the economy. By 2003, these renewed policy initiatives in pursuit of greater internationalisation of the yen had been abandoned again, as the liberalisation of Japan's capital and financial accounts was largely complete, but the internationalisation of the Japanese yen was still lagging behind Japan's weight in the global economy.²

Indeed, analysis of trends in the internationalisation of the yen shows that this was most successful in its early stages, around the time of Japan's economic development in the 1970s and 1980s. Consequently, the peak in many key indicators of internationalisation (e.g. the yen's share of global

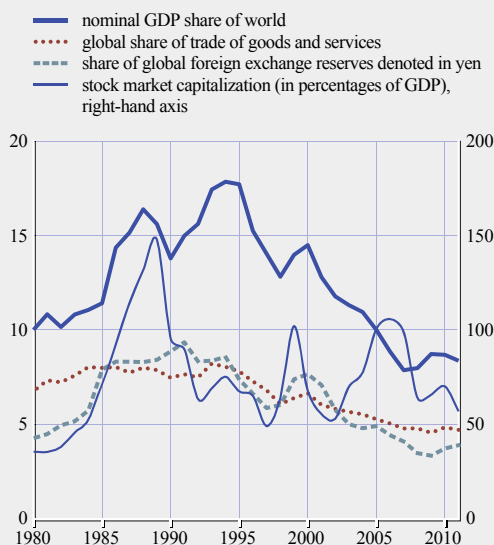
1 Frankel, J. (2011), *Historical Precedents for Internationalisation of the RMB*, Council of Foreign Relations, New York.

2 Ito, T., Koibuchi, S., Sato, K. and Shimizu, J. (2010), "Determinants of Currency Invoicing in Japanese Exports: A firm-level analysis", *Discussion Paper Series*, No 10034, Research Institute of Economy, Trade and Industry.

Selected indicators for Japan

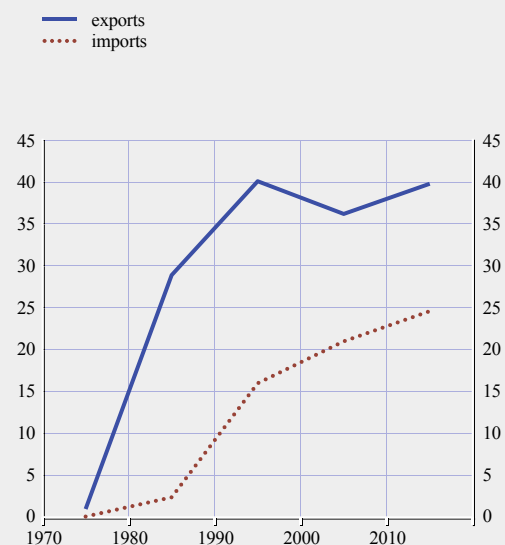
(percentage)

a) Selected macroeconomic indicators, Japan 1980-2011



Sources: IMF, Global Financial Data and ECB calculations.
Note: The yen's share in foreign exchange reserves is calculated on the basis of total reserves with a disclosed currency composition at constant exchange rates.

b) Japanese trade invoiced in yen, 1970-2010



Sources: Japanese Ministry of Finance and Ministry of International Trade and Industry (in Ito et al., 2011).

foreign exchange reserves; see Chart, Panel A) coincided with the Japanese asset price bubble between 1986 and 1991, when the capitalisation of the Japanese stock market as a percentage of domestic GDP surpassed even that of the United States. Remarkably, the internationalisation of the yen was moderately successful as regards the invoicing of trade. Starting from a very low level, having stood close to zero in the 1970s, the shares of exports and imports invoiced in yen rose to stand at 40% and 22% respectively in 2010 (see Chart, Panel B).

When the asset bubble unwound, Japan entered its two “lost decades”, characterised by depressed growth and moderate debt deflation, with the yen gradually losing ground as an international currency as the situation deteriorated. By the time the Japanese authorities took the necessary steps to foster the international role of the currency by opening up the financial account and establishing modern financial markets in the late 1980s, the economy’s growth momentum had already reached its peak and the international role of the yen had begun to decline. Political factors, such as Asian neighbours’ resentment of Japanese leadership, may also have prevented the yen from taking on a broader regional role. By contrast, the euro is widely used in the countries neighbouring the euro area, including use as an anchor currency.

A number of interesting policy lessons can be drawn from the process of internationalising the yen. First, this confirms that such a process is driven mainly by market forces, whereas policies can only set necessary – albeit not sufficient – conditions for broader use of a currency in international markets. Second, the internationalisation of the currency and the development of financial markets are two joint objectives, whose achievement may mutually reinforce

(or weaken) each other. Third, from a theoretical point of view, liberalisation of the financial sector should precede the internationalisation of a currency. However, the Japanese reforms of the 1980s and 1990s suggest that the internationalisation of a currency may be used as a policy lever to promote or justify the more contentious objective of financial liberalisation. Finally, this shows that, in some market segments – i.e. the invoicing of trade (particularly exports) – early and rapid success can be achieved in terms of fostering the internationalisation of a currency.

3 Takagi, S. (2011), “Internationalising the yen, 1984–2003: unfinished agenda or mission impossible?”, *Currency internationalisation: lessons from the global financial crisis and prospects for the future in Asia and the Pacific*, proceedings of a joint conference organised by the BIS and the Bank of Korea in Seoul on 19–20 March 2009, BIS Paper No 61.

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5 WAS UNOFFICIAL DOLLARISATION/ EUROISATION AN AMPLIFIER OF THE GLOBAL CRISIS OF 2007-09 IN EMERGING ECONOMIES?

A typical feature of many emerging market economies is that a significant share of their assets and liabilities are denominated in foreign currencies, such as the US dollar and the euro, which is known as “unofficial dollarization/euroisation”. This may, in turn, increase financial vulnerabilities and limit the scope for macroeconomic policies to act counter-cyclically. This special feature³⁰ draws on a recent empirical study which, building on a novel dataset, investigates whether – and if so, why – unofficially dollarised/euroised economies were harder hit by the recent global financial and economic crisis. It shows that conditional unofficial dollarisation/euroisation did indeed contribute to the severity of the global crisis in emerging economies. This adverse impact was transmitted mainly through heightened currency mismatches, reduced monetary policy autonomy and a limited ability to act as a lender of last resort, which became more binding constraints in the midst of the crisis.

5.1 INTRODUCTION

The rapidly growing body of literature analysing the cross-country incidence of the global financial and economic crisis of 2007-09 has identified several determinants of the severity of the crisis. In particular, strong pre-crisis credit growth, large current account deficits, trade openness, credit market regulation, financial openness, GDP per capita and exchange rate rigidity have all been shown to be major determinants of the severity of the crisis across countries.

One aspect that such studies have not yet considered, however, is the extent to which a country has assets or liabilities denominated in a foreign currency – i.e. its degree of “unofficial dollarisation/euroisation”. This aspect is particularly important for emerging economies, as shown by past crises, such as the Latin American debt crisis of the 1980s or the currency

crises of the late 1990s and early 2000s. Unofficial dollarisation/euroisation has been the focus of controversial policy debates in emerging market economies (see, for example, Levy Yeyati, 2006), giving rise to a body of analytical and empirical work looking at its causes and costs, as well as policy measures mitigating its adverse effects. At the same time, empirical work in this area has been severely constrained by the absence of comprehensive and systematic data on unofficial dollarisation/euroisation.

In a recent paper, Chițu (2012) looked at whether unofficial/dollarisation acted as an amplifier of the global crisis of 2007-09 – and if so, through which channels. This analysis builds on a unique dataset on unofficial dollarisation/euroisation, focusing on loan dollarisation (i.e. lending in foreign currency), which is currently the focus of policy discussions, notably in emerging European economies.

5.2 THE “GREAT RECESSION” AS A “NATURAL EXPERIMENT” OF THE COSTS ASSOCIATED WITH UNOFFICIAL EUROISATION/ DOLLARISATION

There are at least three theoretical costs associated with unofficial dollarisation/euroisation, namely: (i) the reduction of monetary policy autonomy/effectiveness; (ii) a limited ability to act as a lender of last resort; and (iii) adverse currency mismatches which arise for unhedged borrowers in case the domestic currency depreciates (see, for example, Levy Yeyati et al., 2003 for a survey of this literature). These costs are well-established in theory, but existing empirical studies have provided mixed results as to whether they matter in practice. Indeed, several studies have failed to find compelling evidence that the magnitude of such costs is significant, and, in particular, that unofficially dollarised/euroised economies are more vulnerable to crises than other economies, or that crises are more severe in unofficially dollarised/euroised economies (see, for example: Arteta, 2003; Levy Yeyati, 2006; and De Nicolò et al., 2003).

30 This section is based on recent research by L. Chițu (2012).

However, it may be that the costs associated with dollarisation/euroisation are visible only when crises are sufficiently severe. Hence, it could well be that past crises used in previous empirical studies were not of a significantly large magnitude to allow detecting these costs in the data. Consequently, the “Great Recession” of 2007-09, which is unrivalled in severity by any crisis since the Great Depression, offers a potentially unique opportunity to reveal these costs and test whether they have significant real implications or not. Thus, the Great Recession can almost be regarded as a “natural experiment” that may have rendered more visible the three main theoretical costs of dollarisation/euroisation, which the literature traditionally highlights.

Data on unofficial dollarisation/euroisation are yet often sparse and not collected systematically. Data on loan dollarisation are particularly scarce and there is thus far no global dataset for this variable. Chițu (2012) takes up the issue and provides a comprehensive dataset on loan dollarisation for around 60 emerging economies from all of the major regions of the world (Latin America, the Middle East, Africa, emerging Europe and Asia).

This new dataset allows the author to test empirically whether unofficial/dollarisation acted as an amplifier of the Great Recession and if so, through which channels. The empirical investigation is carried out in two stages. In the first stage, the author tests whether unofficial dollarisation/euroisation acted as an amplifier of the Great Recession of 2007/2009 in a cross-section of around 60 emerging economies, using the following empirical specification:

$$(y_{i,09} - y_{i,07}) = \alpha + \beta x_{i,06} + \delta' Z_{i,07} + u_i \quad (1)$$

where y , the change in the real GDP growth rate between 2009 and 2007 in country i is regressed on: pre-crisis loan dollarisation/euroisation x (i.e. the ratio of foreign currency-denominated loans to total loans), and a set of control variables Z identified in the literature as being good predictors of the severity of the 2007-09

global crisis, namely GDP per capita, trade openness, private sector credit growth and the current account balance; α , β , and the δ s are parameters to be estimated and u the residual.³¹ The coefficient of interest in Eq. (1) is β . A negative coefficient estimate would suggest that more highly dollarised/euroised countries experienced larger declines in real GDP growth rates during the crisis.

At the second stage, the author analyses the channels through which the costs of unofficial dollarisation/euroisation, if any, have been transmitted to the real economy. These transmission channels are proxied by interaction terms between loan dollarisation and proxies for its various negative effects on balance sheets (currency mismatches) and monetary policy (changes in policy rates and liquidity provision). The empirical specification is as follows:

$$(y_{i,09} - y_{i,07}) = \alpha + \gamma (\Theta_i \times x_{i,06}) + \beta x_{i,06} + \eta \Theta_i + \delta' Z_{i,07} + u_i \quad (2)$$

5.3 EVIDENCE OF THE UNOFFICIAL EUROISATION/DOLLARISATION'S AMPLIFYING ROLE OF THE SEVERITY OF THE “GREAT RECESSION”

Table 5 reports the baseline estimation results, which suggest that loan dollarisation was indeed an important predictor of the decline in real GDP growth rates between 2007 and 2009 across a sample of 60 emerging economies, once other standard determinants of the severity of the crisis are taken into account. According to the estimates, real GDP growth declined on average by around 0.8 percentage point more in economies where loan dollarisation was 10 percentage points higher. These results are robust to a number of sensitivity tests on the definition of crisis severity, sample selection,

31 See, for example: Lane and Milesi-Ferretti (2010); Berglöf et al. (2009); Berckmen et al. (2009); Giannone et al. (2011); Rose and Spiegel (2010). The baseline model is estimated by OLS with robust-to-heteroscedasticity standard errors. All explanatory variables are predetermined in order to mitigate potential endogeneity with the dependent variable.

model specification or estimation methods. In addition, further sensitivity checks suggest that the crisis amplifying nature of unofficial dollarisation/euroisation was similar across regions, including in emerging Europe.

Table 6 presents estimation results when interaction terms are included in order to estimate the impact of the three main channels transmitting the costs of unofficial euroisation/dollarisation. There is evidence that all three channels (i.e. reduced monetary policy autonomy, limited ability to act as a lender of last resort, and currency mismatches) played a role in transmitting the adverse impact of dollarisation/euroisation to the real economy. Stronger currency mismatches translated into more severe growth declines during the crisis and policy intervention was constrained by an unofficially euroised/dollarised environment. Moreover, the findings also suggest that where it was possible to act as a lender of last resort, this was not effective in supporting growth during the crisis, its effect being found to be statistically insignificant. Finally, as regards the monetary policy channel, the results provide empirical support for the so-called “Fischer view” (see, for example: Kirsanova et al., 2007; and Fischer, 1998), according to which a temporary increase in interest rates in unofficially dollarised/euroised countries during crises could

in fact be growth supportive, and not harmful to growth, as the opposite view defended by Stiglitz (see, for example: Furman and Stiglitz, 1998) would argue. The reason for this is that an increase in interest rates helps to stabilise the exchange rate, thereby avoiding the undesirable balance sheet effects that would arise in the presence of significant currency mismatches should the exchange rate depreciate.

5.4 CONCLUDING REMARKS

Unofficial dollarisation/euroisation played a role in amplifying the severity of the Great Recession. All of the major costs traditionally associated with unofficial dollarisation/euroisation became more apparent during the crisis. The key role found for currency mismatches as a transmission channel to the real economy of the adverse effects of loan dollarisation/euroisation gives support to the so-called “Fischer view”, according to which a temporary tightening of monetary policy is not necessarily detrimental to growth in unofficially dollarised/euroised economies, as it can help to stabilise the exchange rate, thereby preventing the materialisation of adverse balance sheet effects. Overall, the findings presented here suggest that the use of foreign currencies in emerging economies can create financial stability risks and limit the scope for counter-cyclical policies.

Table 5 Baseline specification (OLS estimates with robust standard errors)

(percentage points)

	Dependent variable: changes in real GDP growth rates between 2007 and 2009					
	(1)	(2)	(3)	(4)	(5)	(6)
Foreign currency loans to total loans	-0.048 (0.035)	-0.090** (0.036)	-0.065* (0.034)	-0.075** (0.036)	-0.084** (0.038)	-0.084** (0.042)
GDP per capita		-3.688*** (0.796)	2.779*** (0.788)	-2.841*** (0.751)	-2.419** (0.955)	-2.425* (1.238)
Growth of private sector credit to GDP			-0.228** (0.087)	-0.251** (0.096)	-0.289** (0.115)	-0.273* (0.135)
Trade openness				0.030 (0.024)	0.033 (0.025)	-0.002 (0.028)
Current account to GDP					-0.079 (0.097)	-0.107 (0.111)
Financial openness						0.004*** (0.001)
Credit market regulation						
Inflation						
Financial development						
External debt to GDP						
Government balance to GDP						
IMF program (dummy)						
Swap line (dummy)						
Constant	-6.200*** (1.370)	28.498*** (7.751)	21.742*** (7.460)	19.919** (7.528)	16.662* (8.960)	18.141 (12.043)
No. of observations	60	60	59	57	57	47
R ²	0.030	0.246	0.353	0.356	0.366	0.397
R ² (adjusted)	0.0131	0.219	0.318	0.307	0.304	0.306
F-statistic	1.809	10.77	11.74	7.922	5.988	6.259

*** p<0.01, ** p<0.05, * p<0.1.

Note: The table reports OLS regression estimates (with robust standard errors) for the baseline specification where the change in real GDP over 2007-2009 is used as dependent variable and dollarisation is measured as the ratio of foreign currency-denominated loans to total loans. *Robust standard errors in parentheses.*

Dependent variable: changes in real GDP growth rates between 2007 and 2009

(7)	(8)	(9)	(10)	(11)	(12)	(13)
-0.082*	-0.078**	-0.072**	-0.085*	-0.087**	-0.085**	-0.082**
(0.042)	(0.038)	(0.033)	(0.043)	(0.039)	(0.034)	(0.039)
-1.436	-2.723**	-3.039***	-2.748**	-2.263**	-1.854**	-2.531**
(1.664)	(1.019)	(0.885)	(1.039)	(0.954)	(0.922)	(1.015)
-0.168	-0.265**	-0.329**	-0.297**	-0.278**	-0.282***	-0.284**
(0.135)	(0.118)	(0.135)	(0.123)	(0.124)	(0.104)	(0.117)
0.048*	0.030	0.018	0.015	0.036	0.020	0.032
(0.028)	(0.026)	(0.022)	(0.030)	(0.025)	(0.023)	(0.025)
0.039	-0.053	-0.051	-0.170	-0.032	-0.135	-0.070
(0.091)	(0.101)	(0.085)	(0.153)	(0.131)	(0.086)	(0.102)
-2.391**						
(1.038)						
	-0.184					
	(0.229)					
		0.067				
		(0.054)				
			0.010			
			(0.047)			
				-0.062		
				(0.141)		
					-4.905**	
					(1.917)	
						1.510
						(2.367)
24.113	20.545*	20.868**	20.073**	14.917	14.052	17.478*
(14.732)	(10.504)	(8.050)	(9.891)	(8.940)	(8.618)	(9.382)
36	57	57	49	56	57	57
0.460	0.375	0.391	0.373	0.372	0.452	0.368
0.349	0.300	0.318	0.284	0.295	0.387	0.292
5.156	4.991	4.567	5.241	5.031	6.926	5.065

Table 6 Transmission channels (OLS estimates with robust standard errors)

(Dependent variable: changes in real GDP growth rates between 2007 and 2009; percentage points)

	(1) Currency mismatch	(2) Monetary policy autonomy	(3) Lender of last resort	(4) Exchange market pressure
Loan dollarisation	-0.010 (0.067)	-0.093* (0.050)	-0.147*** (0.041)	-0.110*** (0.038)
Direct transmission channel effect	2.424 (1.879)	-5.123* (2.902)	-0.449 (1.824)	3.772* (2.110)
Interacted effect (channel* loan dollarisation)	-0.073* (0.039)	0.084* (0.048)	0.042 (0.026)	-0.063** (0.030)
GDP per capita	-0.716 (1.223)	-3.854*** (1.149)	-2.754*** (0.876)	-1.095 (1.097)
Trade openness	0.006 (0.031)	0.004 (0.033)	0.022 (0.023)	0.031 (0.028)
Growth of private sector credit to GDP	-0.311** (0.140)	-0.192 (0.122)	-0.202* (0.118)	-0.331** (0.125)
Current account to GDP	-0.180 (0.115)	-0.121 (0.119)	-0.061 (0.084)	-0.174** (0.077)
IMF program (dummy)	-4.005 (3.030)			-4.812** (2.191)
Constant	1.457 (11.941)	31.092*** (10.557)	21.058** (8.120)	6.860 (10.667)
No. of observations	35	37	57	51
R ²	0.513	0.474	0.460	0.502
R ² (adjusted)	0.363	0.347	0.383	0.407
F-statistic	8.796	3.567	8.312	7.565

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes: The table reports OLS regression estimates (with robust standard errors) for the baseline specification where the change in real GDP over 2007-2009 is used as dependent variable and dollarisation is measured as the ratio of foreign currency-denominated loans to total loans. The variables used as proxies for the various transmission channels are scaled by their standard deviation in order to express them in the same unit and to allow for comparability between the estimated interacted effects.

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STATISTICAL ANNEX

I THE EURO IN GLOBAL FOREIGN EXCHANGE RESERVES AND EXCHANGE RATE ANCHORING

Table I Global holding of foreign exchange reserves

		All countries					Advanced economies		
		Total holdings of foreign reserves ¹⁾	Allocated reserves ²⁾	EUR	USD	JPY	Other	Total holdings of foreign reserves ¹⁾	Allocated reserves ²⁾
Outstanding amounts (in USD billions, at current exchange rates)									
2002		2,408	1,796	427	1,205	78	86	1,443	1,279
2003		3,025	2,223	559	1,466	88	111	1,767	1,557
2004		3,748	2,655	659	1,751	102	144	2,071	1,826
2005		4,320	2,844	684	1,903	102	155	2,078	1,822
2006		5,253	3,316	832	2,171	102	210	2,253	1,982
2007		6,702	4,119	1,082	2,642	120	275	2,432	2,157
2008		7,341	4,210	1,112	2,698	132	267	2,491	2,198
2009		8,166	4,590	1,270	2,848	133	340	2,779	2,429
2010	Q1	8,292	4,667	1,273	2,882	139	373	2,827	2,471
	Q2	8,421	4,788	1,257	2,995	153	384	2,930	2,568
	Q3	8,990	5,112	1,362	3,147	178	425	3,100	2,719
	Q4	9,262	5,158	1,342	3,190	189	438	3,092	2,709
2011	Q1	9,701	5,343	1,412	3,259	196	475	3,162	2,756
	Q2	10,083	5,507	1,470	3,331	207	499	3,231	2,822
	Q3	10,164	5,594	1,435	3,457	206	496	3,327	2,935
	Q4	10,197	5,646	1,414	3,507	209	516	3,399	3,015
Currency shares in foreign exchange reserves with disclosed currency composition (at constant exchange rates)									
2002		-	76.0	27.2	62.1	6.2	4.5	-	89.4
2003		-	73.8	25.3	64.8	5.3	4.6	-	88.4
2004		-	70.7	23.7	66.4	5.1	4.8	-	88.2
2005		-	66.7	25.4	64.4	5.2	5.0	-	88.1
2006		-	63.2	24.6	65.3	4.7	5.5	-	88.1
2007		-	60.8	23.8	66.1	4.4	5.8	-	88.5
2008		-	57.1	24.8	64.8	3.7	6.7	-	88.2
2009		-	55.6	25.5	63.6	3.5	7.4	-	87.2
2010	Q1	-	56.2	26.3	62.0	3.6	8.1	-	87.4
	Q2	-	57.4	27.1	61.3	3.6	8.0	-	87.9
	Q3	-	56.6	25.6	62.3	3.8	8.3	-	87.6
	Q4	-	55.5	25.4	62.2	3.9	8.5	-	87.5
2011	Q1	-	54.5	24.6	62.4	4.0	8.9	-	86.9
	Q2	-	53.9	24.6	62.2	4.0	9.2	-	87.1
	Q3	-	54.8	24.9	62.5	3.7	8.9	-	88.1
	Q4	-	55.4	25.0	62.1	3.7	9.1	-	88.7
Currency shares in foreign exchange reserves with disclosed currency composition (at current exchange rates)									
2002		-	74.6	23.8	67.1	4.4	4.8	-	88.6
2003		-	73.5	25.2	65.9	3.9	5.0	-	88.1
2004		-	70.8	24.8	65.9	3.8	5.4	-	88.2
2005		-	65.8	24.1	66.9	3.6	5.5	-	87.6
2006		-	63.1	25.1	65.5	3.1	6.3	-	88.0
2007		-	61.5	26.3	64.1	2.9	6.7	-	88.7
2008		-	57.4	26.4	64.1	3.1	6.4	-	88.2
2009		-	56.2	27.7	62.0	2.9	7.4	-	87.4
2010	Q1	-	56.3	27.3	61.8	3.0	8.0	-	87.4
	Q2	-	56.9	26.2	62.5	3.2	8.0	-	87.6
	Q3	-	56.9	26.6	61.6	3.5	8.3	-	87.7
	Q4	-	55.7	26.0	61.8	3.7	8.5	-	87.6
2011	Q1	-	55.1	26.4	61.0	3.7	8.9	-	87.2
	Q2	-	54.6	26.7	60.5	3.8	9.1	-	87.3
	Q3	-	55.0	25.7	61.8	3.7	8.9	-	88.2
	Q4	-	55.4	25.0	62.1	3.7	9.1	-	88.7

Sources: IMF and ECB calculations.

1) Includes unallocated reserves, i.e. reserves with undisclosed currency composition.

2) Reserves with disclosed currency composition. Their shares are in total holdings of foreign reserves.

Advanced economies				Emerging and developing economies					
EUR	USD	JPY	Other	Total holdings of foreign reserves ¹⁾	Allocated reserves ²⁾	EUR	USD	JPY	Other
Outstanding amounts (in USD billions, at current exchange rates)									
297	850	69	63	965	517	130	355	9	23
359	1,045	81	73	1,258	666	200	421	7	38
417	1,228	91	90	1,678	829	241	523	11	54
387	1,261	86	87	2,242	1,022	297	641	16	68
440	1,350	84	107	3,000	1,333	392	821	18	103
522	1,423	85	126	4,270	1,962	560	1,218	35	149
511	1,476	94	117	4,850	2,012	601	1,223	38	150
616	1,582	95	136	5,387	2,161	653	1,266	38	204
625	1,605	99	143	5,464	2,196	648	1,277	41	230
632	1,686	101	148	5,491	2,220	624	1,309	51	236
671	1,750	121	177	5,890	2,393	691	1,397	58	248
647	1,762	121	179	6,170	2,450	695	1,428	68	259
688	1,764	123	181	6,539	2,588	724	1,495	73	295
706	1,799	124	194	6,851	2,685	765	1,532	83	305
696	1,922	125	192	6,837	2,659	739	1,536	81	303
692	1,996	130	197	6,798	2,630	721	1,511	79	319
Currency shares in foreign exchange reserves with disclosed currency composition (at constant exchange rates)									
26.5	61.2	7.7	4.6	-	55.2	29.1	64.3	2.4	4.1
23.1	65.6	7.0	4.3	-	53.1	30.6	62.7	1.5	5.2
21.7	67.3	6.6	4.4	-	48.9	28.2	64.4	1.8	5.6
22.3	66.4	6.9	4.4	-	46.4	30.9	60.9	2.2	6.0
21.6	67.3	6.5	4.7	-	44.2	29.2	62.2	2.1	6.6
21.7	67.3	5.8	5.2	-	44.9	26.1	64.7	2.7	6.5
21.8	67.6	5.0	5.6	-	41.1	28.2	61.6	2.3	7.9
23.2	66.4	4.8	5.6	-	39.4	28.0	60.4	2.2	9.5
24.3	65.0	4.8	5.9	-	40.0	28.5	58.5	2.2	10.7
25.5	64.4	4.4	5.7	-	40.9	29.1	57.7	2.6	10.6
23.6	65.0	4.8	6.5	-	40.3	27.8	59.2	2.6	10.4
23.2	65.4	4.7	6.7	-	39.5	27.7	58.8	2.9	10.6
23.2	65.3	4.9	6.6	-	39.0	26.1	59.3	3.1	11.5
23.0	65.4	4.7	6.9	-	38.5	26.3	58.9	3.3	11.5
23.0	66.2	4.3	6.6	-	38.6	27.0	58.5	3.1	11.5
23.0	66.2	4.3	6.5	-	38.7	27.4	57.4	3.0	12.1
Currency shares in foreign exchange reserves with disclosed currency composition (at current exchange rates)									
23.3	66.4	5.4	4.9	-	53.6	25.1	68.7	1.7	4.5
23.1	67.1	5.2	4.7	-	52.9	30.1	63.2	1.1	5.7
22.9	67.3	5.0	4.9	-	49.4	29.1	63.1	1.3	6.5
21.2	69.2	4.7	4.8	-	45.6	29.0	62.8	1.5	6.7
22.2	68.1	4.2	5.4	-	44.4	29.4	61.6	1.3	7.7
24.2	66.0	4.0	5.9	-	46.0	28.5	62.1	1.8	7.6
23.3	67.1	4.3	5.3	-	41.5	29.9	60.8	1.9	7.5
25.4	65.1	3.9	5.6	-	40.1	30.2	58.6	1.8	9.4
25.3	65.0	4.0	5.8	-	40.2	29.5	58.2	1.8	10.5
24.6	65.7	4.0	5.8	-	40.4	28.1	58.9	2.3	10.6
24.7	64.4	4.4	6.5	-	40.6	28.9	58.4	2.4	10.3
23.9	65.0	4.5	6.6	-	39.7	28.4	58.3	2.8	10.6
25.0	64.0	4.5	6.6	-	39.6	28.0	57.8	2.8	11.4
25.0	63.7	4.4	6.9	-	39.2	28.5	57.1	3.1	11.4
23.7	65.5	4.2	6.5	-	38.9	27.8	57.7	3.1	11.4
23.0	66.2	4.3	6.5	-	38.7	27.4	57.4	3.0	12.1

Table 2 Currency composition of foreign exchange reserves for selected countries

(share of the euro in total foreign exchange reserve holdings; percentages; at current exchange rates)

	2007	2008	2009	2010	2011
Non-euro area EU Member States	68.6	61.3	63.7	61.6	60.9
<i>of which</i>					
Bulgaria	99.1	99.1	99.1	99.6	99.9
Czech Republic	54.0	62.6	61.3	57.4	60.1
Latvia	38.8	60.5	63.1	58.3	57.0
Lithuania	96.1	97.3	96.8	98.9	94.9
Poland	36.3	33.7	36.7	35.0	30.4
Romania	67.8	63.2	65.2	67.2	77.8
Sweden	46.9	48.5	48.1	50.0	37.0
United Kingdom	64.4	40.2	63.3	59.0	59.1
Acceding and candidate countries					
Croatia	84.1	76.6	71.7	73.7	75.9
Serbia	71.1	70.3	71.9		
Turkey	55.2	46	44.6	46.5	
Other industrial countries					
Canada	47.5	40.4	41.9	40.0	37.0
Norway	44.0	48.3	47.2	36.4	36.1
Russia	38.8	40.0	33.2		
Switzerland	40.2	47.9	55.6	54.9	57.0
United States	37.9	53.7	54.0	54.2	53.5
Latin American countries					
Chile	34.8	37.3	34.8	35.2	35.5
Peru	11.9	14.9	17.4	16.8	38.0
Uruguay	12.5	9.5	2.6		

Sources: National central banks and ECB calculations.

Notes: Calculations are generally based on international reserve and foreign currency liquidity statistics. Figures for Sweden and Poland up to 2010 refer to currency benchmarks as published in the annual reports of the central banks of these countries. Figures for Bulgaria and Serbia refer to currency compositions as published in the annual reports of the central banks of these countries. Figures for the United Kingdom refer to combined currency shares for the Bank of England and the UK government (including other foreign currency assets, such as claims vis-à-vis residents). Data for the United States refer to combined currency shares for the Open Market Account at the Federal Reserve and the US Treasury Exchange Stabilization Fund; reciprocal currency arrangements are not included. In the case of Norway, currency shares refer to the fixed income part of Norges Bank's foreign exchange reserve investment portfolio, while the currency composition is taken from quarterly reports. Data for Chile refer to the combined currency shares in the liquidity and investment portfolio of the Central Bank of Chile. In the case of Peru, the euro's share refers to reserve assets denominated in currencies other than the US dollar. According to the Central Reserve Bank of Peru, these are mostly euro-denominated assets.

Table 3 Countries and territories with exchange rate regimes linked to the euro

(as at end-April 2012)

Region	Exchange rate regimes	Countries
EU (non-euro area)	ERM II	Denmark, Latvia, Lithuania
	Euro-based currency boards	Bulgaria
	Managed floating with the euro as reference currency and an inflation target <i>Pro memoria:</i> Free-floating regime with an inflation target	Czech Republic, Romania Hungary, Poland, Sweden, United Kingdom
EU acceding, candidate and potential candidate countries	Unilateral euroisation	Kosovo, Montenegro
	Euro-based currency boards	Bosnia and Herzegovina
	Pegs or managed floating with the euro as a reference currency <i>Pro memoria:</i> Free-floating regime with an inflation target	Croatia, Former Yugoslav Republic of Macedonia Albania, Iceland, Serbia, Turkey
Others	Euroisation	European microstates, some French overseas collectivities
	Pegs based on the euro	CFA franc zone, CFP franc zone, Cape Verde, Comoros, São Tomé e Príncipe
	Other arrangements using the euro as a reference currency	Switzerland
	Pegs and managed floats based on the SDR and other currency baskets involving the euro (share of the euro)	Algeria, Belarus, Botswana, Fiji, Iran, Kuwait, Libya, Morocco (80%), Russian Federation (45%), Samoa, Singapore, Syria, Tunisia, Vanuatu

Denmark: Participates in ERM II with a +/-2.25% fluctuation band.

Latvia: Participates in ERM II with a +/-15% fluctuation band. Latvia continues with a fluctuation band of +/-1% as a unilateral commitment.

Bulgaria: Maintains a peg to the Euro within the framework of a currency board arrangement.

European microstates: Republic of San Marino, Vatican City, Principality of Monaco and Andorra. The other countries and jurisdictions are entitled to use the euro as their official currency. Liechtenstein uses the Swiss franc as its official currency.

Saint Barthelémy, Saint Martin and Saint-Pierre and Miquelon are French overseas collectivities but use the euro as their official currency.

CFA franc zone: WAEMU (Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, Togo) and CEMAC (Cameroon, Central African Republic, Chad, Republic of Congo, Equatorial Guinea and Gabon).

CFP franc zone: New Caledonia and the French overseas collectivities of French Polynesia and Wallis and Futuna.

Switzerland: On 6 September 2011 the Swiss National Bank issued a statement establishing a minimum exchange rate for the euro of CHF 1.20 per euro.

As stated in the Swiss National Bank's annual report for 2011, the Swiss National Bank would "enforce this minimum rate with the utmost determination and was prepared to buy foreign currency in unlimited quantities."

Algeria: Managed floating regime with no preannounced path for the exchange rate.

Belarus: The currency was pegged to a basket comprising the euro, the US dollar and the Russian rouble at the beginning of 2009, with a fluctuation margin of 10%. In April 2011 the Belarussian rouble lost more than a third of its value against the US dollar after the central bank introduced a free floating exchange rate for trade between banks.

Botswana: Weighted basket of currencies comprising the SDR and the South African rand.

Fiji: The currency was pegged to a basket of international currencies in May 2007.

Iran: Maintains de jure a managed floating arrangement against a basket of currencies including the euro, the US dollar and the Japanese yen.

Kuwait: The currency was pegged to a basket of international currencies in May 2007.

Libya: The rate of exchange is established using a basket of SDR currencies with a fluctuation margin of 25%.

Morocco: Bi-currency basket comprising the euro (80%) and the US dollar (20%).

Russian Federation: Trade-weighted currency basket for monitoring and setting ceilings for real appreciation (combined share of euro and euro-linked currencies of around 60%); since February 2005 US dollar-euro basket for daily exchange rate management (since February 2007 the euro's share has been 45%). The Bank of Russia does not target a specific exchange rate level against the currency basket.

Samoa: The central bank maintains an exchange rate peg based on a basket comprising the currencies of Samoa's six main trading partners.

Singapore: Managed floating regime against an undisclosed basket of currencies maintained within an undisclosed target band. The US dollar is the intervention currency.

Syria: In August 2007, the authorities changed the de facto exchange rate regime from a peg to the US dollar regime to an SDR basket within a relatively wide fluctuation margin.

Tunisia: The de facto exchange rate regime is a conventional peg to an undisclosed basket of currencies.

Vanuatu: Weighted basket comprising (undisclosed) currencies of Vanuatu's major trading partners.

2 THE EURO IN INTERNATIONAL DEBT MARKETS

Table 4 Outstanding international debt securities by currency

	Global measure					Narrow measure					
	Total	EUR	USD	JPY	Other	Total	EUR	USD	JPY	Other	
Outstanding amounts (in USD billions, at current exchange rates, end of period)											
2000	35,491	7,386	16,986	6,208	4,911	3,390	726	1,704	471	489	
2001	37,120	7,644	18,450	5,936	5,091	3,567	822	1,802	426	516	
2002	42,390	9,852	19,808	6,827	5,903	4,070	1,107	1,904	411	648	
2003	50,145	13,162	21,416	8,321	7,247	4,963	1,560	2,136	439	828	
2004	57,997	15,672	24,073	9,400	8,852	5,848	1,969	2,392	456	1,031	
2005	59,481	14,879	26,110	8,851	9,641	6,166	1,924	2,712	401	1,128	
2006	67,800	18,444	28,792	8,905	11,659	7,838	2,457	3,461	413	1,507	
2007	78,301	22,779	31,768	9,464	14,290	9,660	3,111	4,186	510	1,853	
2008	83,084	23,618	33,917	11,831	13,717	9,615	3,098	4,295	654	1,568	
2009	90,965	26,402	35,354	12,232	16,978	10,341	3,249	4,737	600	1,756	
2010	Q1	89,812	25,107	35,396	12,243	17,066	10,261	3,089	4,869	583	1,721
	Q2	88,632	22,918	35,639	13,172	16,904	9,937	2,777	4,883	604	1,672
	Q3	94,288	25,725	36,223	14,039	18,301	10,596	3,060	5,056	650	1,831
	Q4	95,196	25,205	36,675	14,516	18,799	10,576	2,907	5,146	666	1,857
2011	Q1	98,094	27,164	37,208	14,284	19,438	11,026	3,117	5,332	650	1,928
	Q2	100,216	27,863	37,424	14,942	19,987	11,294	3,161	5,450	665	2,017
	Q3	98,723	26,003	37,633	15,934	19,152	11,070	2,962	5,499	692	1,917
	Q4	98,388	25,259	37,950	15,731	19,448	10,965	2,795	5,579	676	1,916
Percentages of outstanding amounts (at constant exchange rates, end of period)											
2000		100.0	24.7	40.8	22.1	12.4	100.0	25.2	42.5	17.4	14.9
2001		100.0	24.9	40.9	22.2	12.0	100.0	27.6	41.3	16.5	14.6
2002		100.0	25.1	40.9	21.6	12.4	100.0	29.6	41.3	13.7	15.5
2003		100.0	25.2	40.0	21.5	13.4	100.0	30.9	41.3	11.7	16.2
2004		100.0	24.8	40.2	20.8	14.2	100.0	32.0	40.9	10.3	16.7
2005		100.0	24.9	39.9	20.6	14.7	100.0	32.0	41.1	9.3	17.6
2006		100.0	25.2	40.1	19.1	15.6	100.0	30.4	43.6	8.0	18.0
2007		100.0	25.3	40.1	17.3	17.3	100.0	29.2	44.7	7.9	18.3
2008		100.0	26.2	40.5	16.5	16.7	100.0	30.0	44.8	8.0	17.2
2009		100.0	26.2	39.0	16.1	18.6	100.0	28.8	46.8	7.1	17.4
2010	Q1	100.0	26.3	38.7	16.1	18.8	100.0	28.7	47.2	6.8	17.3
	Q2	100.0	26.3	38.7	16.4	18.6	100.0	28.6	47.6	6.7	17.1
	Q3	100.0	26.0	38.6	16.1	19.4	100.0	27.7	48.2	6.7	17.4
	Q4	100.0	25.7	38.6	16.0	19.8	100.0	26.8	48.9	6.7	17.6
2011	Q1	100.0	25.6	38.6	15.8	20.0	100.0	26.4	49.6	6.5	17.6
	Q2	100.0	25.5	38.3	15.9	20.2	100.0	25.9	49.9	6.3	17.8
	Q3	100.0	25.6	38.6	16.2	19.6	100.0	26.0	50.4	6.3	17.4
	Q4	100.0	25.7	38.6	16.0	19.8	100.0	25.5	50.9	6.2	17.5
Percentages of outstanding amounts (at current exchange rates, end of period)											
2000		100.0	20.8	47.9	17.5	13.8	100.0	21.4	50.2	13.9	14.4
2001		100.0	20.6	49.7	16.0	13.7	100.0	23.1	50.5	11.9	14.5
2002		100.0	23.2	46.7	16.1	13.9	100.0	27.2	46.8	10.1	15.9
2003		100.0	26.2	42.7	16.6	14.5	100.0	31.4	43.0	8.9	16.7
2004		100.0	27.0	41.5	16.2	15.3	100.0	33.7	40.9	7.8	17.6
2005		100.0	25.0	43.9	14.9	16.2	100.0	31.2	44.0	6.5	18.3
2006		100.0	27.2	42.5	13.1	17.2	100.0	31.3	44.2	5.3	19.2
2007		100.0	29.1	40.6	12.1	18.3	100.0	32.2	43.3	5.3	19.2
2008		100.0	28.4	40.8	14.2	16.5	100.0	32.2	44.7	6.8	16.3
2009		100.0	29.0	38.9	13.4	18.7	100.0	31.4	45.8	5.8	17.0
2010	Q1	100.0	28.0	39.4	13.6	19.0	100.0	30.1	47.4	5.7	16.8
	Q2	100.0	25.9	40.2	14.9	19.1	100.0	28.0	49.1	6.1	16.8
	Q3	100.0	27.3	38.4	14.9	19.4	100.0	28.9	47.7	6.1	17.3
	Q4	100.0	26.5	38.5	15.2	19.7	100.0	27.5	48.7	6.3	17.6
Percentages of outstanding amounts (at current exchange rates, end of period)											
2011	Q1	100.0	27.7	37.9	14.6	19.8	100.0	28.3	48.4	5.9	17.5
	Q2	100.0	27.8	37.3	14.9	19.9	100.0	28.0	48.3	5.9	17.9
	Q3	100.0	26.3	38.1	16.1	19.4	100.0	26.8	49.7	6.3	17.3
	Q4	100.0	25.7	38.6	16.0	19.8	100.0	25.5	50.9	6.2	17.5

Sources: BIS and ECB calculations.

Table 5 Outstanding international bonds and notes, by currency and by sector

		EUR				USD		
		Sovereigns	Other public entities	Corporations	Financial institutions	International organisations	Sovereigns	Other public entities
(Outstanding amounts in USD billions, end of period)								
1999		95	25	104	225	127	358	125
2000		97	22	140	286	111	397	124
2001		93	21	194	366	100	397	129
2002		111	24	266	518	119	420	137
2003		140	29	353	763	148	433	152
2004		160	35	352	1,104	168	462	171
2005		148	33	296	1,160	148	496	200
2006		165	38	320	1,575	167	465	224
2007		182	40	383	2,095	187	463	259
2008		168	38	374	2,131	181	451	284
2009		190	39	428	2,186	238	536	382
2010	Q1	181	36	390	2,062	245	556	399
	Q2	167	33	352	1,847	226	566	399
	Q3	190	37	389	2,031	257	580	422
	Q4	187	35	385	1,932	243	590	435
2011	Q1	199	36	403	2,053	293	605	437
	Q2	201	39	407	2,062	327	619	457
	Q3	185	34	372	1,894	341	631	467
	Q4	174	32	357	1,781	325	643	475
(Percentages of outstanding amounts, end of period)								
1999		16.5	4.3	18.0	39.1	22.1	26.3	9.2
2000		14.8	3.4	21.3	43.5	17.0	26.0	8.1
2001		12.0	2.8	25.1	47.3	12.9	24.0	7.8
2002		10.7	2.3	25.6	49.9	11.5	23.8	7.8
2003		9.8	2.0	24.6	53.2	10.4	21.9	7.7
2004		8.8	1.9	19.4	60.6	9.2	20.9	7.7
2005		8.3	1.8	16.6	65.0	8.3	18.5	7.9
2006		7.3	1.7	14.1	69.5	7.4	14.5	7.0
2007		6.3	1.4	13.3	72.6	6.5	12.0	6.7
2008		5.8	1.3	12.9	73.7	6.2	11.3	7.1
2009		6.2	1.3	13.9	71.0	7.7	12.0	8.6
2010	Q1	6.2	1.2	13.4	70.8	8.4	12.2	8.7
	Q2	6.4	1.2	13.4	70.4	8.6	12.2	8.6
	Q3	6.5	1.3	13.4	70.0	8.8	12.1	8.8
	Q4	6.7	1.3	13.8	69.4	8.7	12.1	8.9
2011	Q1	6.7	1.2	13.5	68.8	9.8	12.0	8.6
	Q2	6.6	1.3	13.4	67.9	10.8	11.9	8.8
	Q3	6.6	1.2	13.2	67.0	12.1	12.1	8.9
	Q4	6.5	1.2	13.4	66.7	12.2	12.1	8.9

Sources: BIS and ECB calculations.

Notes: Narrow definition of international bonds and notes. Other public entities include public corporations, public banks and other public financial institutions.

Corporations	USD			Sovereigns	Other public entities	JPY		
	Financial institutions	International organisations				Corporations	Financial institutions	International organisations
312	451	113	89	34	65	223	40	
361	517	129	77	28	64	217	32	
386	590	151	62	19	61	210	27	
384	657	166	61	20	60	217	30	
422	799	174	60	22	60	246	35	
447	949	180	53	21	65	269	35	
466	1,214	180	38	18	53	251	32	
542	1,795	177	32	17	55	265	31	
619	2,325	185	30	21	59	332	35	
653	2,396	213	35	29	80	434	45	
776	2,497	273	32	36	75	398	44	
794	2,553	276	31	33	72	387	43	
812	2,557	298	34	38	76	394	45	
852	2,619	307	35	42	81	423	48	
897	2,657	314	38	42	83	434	49	
946	2,747	324	40	41	80	424	48	
985	2,801	323	41	42	79	435	49	
995	2,805	333	43	41	83	453	51	
1,028	2,829	343	41	40	82	444	51	
23.0	33.2	8.3	19.6	7.6	14.4	49.4	8.9	
23.6	33.8	8.4	18.4	6.6	15.3	52.0	7.7	
23.3	35.7	9.1	16.4	5.0	16.0	55.4	7.1	
21.8	37.2	9.4	15.8	5.1	15.5	55.9	7.8	
21.3	40.4	8.8	14.2	5.2	14.3	58.0	8.3	
20.2	42.9	8.2	12.0	4.7	14.7	60.7	7.9	
18.4	48.0	7.1	9.7	4.6	13.4	64.1	8.2	
16.9	56.0	5.5	8.0	4.3	13.8	66.2	7.7	
16.1	60.4	4.8	6.2	4.4	12.4	69.6	7.4	
16.3	59.9	5.3	5.5	4.7	12.8	69.7	7.2	
17.4	56.0	6.1	5.5	6.2	12.7	68.0	7.5	
17.3	55.8	6.0	5.5	5.9	12.6	68.3	7.6	
17.5	55.2	6.4	5.8	6.5	12.9	67.2	7.6	
17.8	54.8	6.4	5.5	6.6	12.9	67.4	7.6	
18.3	54.3	6.4	5.9	6.4	12.9	67.2	7.6	
18.7	54.3	6.4	6.3	6.5	12.6	67.1	7.6	
19.0	54.0	6.2	6.3	6.5	12.2	67.3	7.6	
19.0	53.6	6.4	6.4	6.1	12.3	67.6	7.6	
19.3	53.2	6.5	6.3	6.1	12.4	67.5	7.7	

Table 6 Outstanding international bonds and notes, by currency and by region

	Euro area	DK, SE, UK	Other non-euro area EU	Non-EU Europe	EUR			Offshore centres	International org.	Other
					North America	Asia & Pacific	Latin America			
(Outstanding amounts in USD billions, end of period)										
1999		144	7	17	117	24	42	92	127	7
2000		172	8	24	144	25	49	116	111	8
2001		223	11	25	183	27	47	151	100	7
2002		313	16	33	259	35	54	200	119	10
2003		479	26	49	368	52	59	240	148	13
2004		689	39	60	436	94	63	251	168	12
2005		747	47	65	399	100	46	222	148	12
2006		971	63	85	529	130	50	253	167	18
2007		1,311	77	111	692	158	52	275	187	27
2008		1,383	84	121	677	150	43	232	181	24
2009		1,480	97	123	707	148	44	221	238	23
2010	Q1	1,410	96	116	646	139	39	201	245	23
	Q2	1,265	89	110	576	121	38	179	226	21
	Q3	1,399	101	121	623	138	44	196	257	23
	Q4	1,333	99	116	600	135	44	189	243	24
2011	Q1	1,431	105	125	627	133	45	197	293	27
	Q2	1,469	110	119	614	133	45	193	327	26
	Q3	1,363	103	111	551	119	41	173	341	24
	Q4	1,287	97	111	511	111	41	162	325	23
(Percentages of outstanding amounts, end of period)										
1999		25.0	1.3	2.9	20.3	4.2	7.3	15.9	22.1	1.2
2000		26.2	1.2	3.6	21.9	3.8	7.4	17.7	17.0	1.2
2001		28.8	1.5	3.2	23.7	3.5	6.1	19.4	12.9	0.9
2002		30.1	1.5	3.2	25.0	3.4	5.2	19.3	11.5	0.9
2003		33.4	1.8	3.4	25.6	3.6	4.1	16.7	10.4	0.9
2004		38.3	2.2	3.3	23.9	5.2	3.4	13.8	9.2	0.7
2005		41.8	2.6	3.7	22.3	5.6	2.6	12.4	8.3	0.7
2006		42.8	2.8	3.7	23.3	5.8	2.2	11.2	7.4	0.8
2007		45.4	2.7	3.8	24.0	5.5	1.8	9.5	6.5	0.9
2008		47.8	2.9	4.2	23.4	5.2	1.5	8.0	6.2	0.8
2009		48.0	3.1	4.0	23.0	4.8	1.4	7.2	7.7	0.7
2010	Q1	48.4	3.3	4.0	22.2	4.8	1.3	6.9	8.4	0.8
	Q2	48.2	3.4	4.2	22.0	4.6	1.4	6.8	8.6	0.8
	Q3	48.2	3.5	4.2	21.5	4.8	1.5	6.8	8.8	0.8
	Q4	47.9	3.6	4.2	21.6	4.8	1.6	6.8	8.7	0.9
2011	Q1	47.9	3.5	4.2	21.0	4.5	1.5	6.6	9.8	0.9
	Q2	48.4	3.6	3.9	20.2	4.4	1.5	6.4	10.8	0.9
	Q3	48.2	3.6	3.9	19.5	4.2	1.5	6.1	12.1	0.9
	Q4	48.2	3.7	4.1	19.1	4.2	1.5	6.1	12.2	0.9

Sources: BIS and ECB calculations.

Note: Narrow definition of international bonds and notes.

Euro area	DK, SE, UK	Other non-euro area EU	Non-EU Europe	USD						Other
				North America	Asia & Pacific	Latin America	Offshore centres	International org.		
(Outstanding amounts in USD billions, end of period)										
272	169	15	27	130	189	230	175	113	36	
304	217	13	33	130	199	242	197	129	63	
330	230	13	37	148	209	240	229	151	66	
360	260	10	36	154	224	240	236	166	77	
450	320	10	38	159	249	241	255	174	83	
524	378	9	47	160	285	242	286	180	98	
629	453	10	56	162	324	237	363	180	112	
784	575	9	79	170	375	234	652	177	145	
908	718	9	84	184	394	247	954	185	164	
956	750	7	83	198	398	236	982	231	169	
1,085	823	12	88	237	475	270	1,010	273	186	
1,123	837	16	92	245	495	286	1,017	276	185	
1,108	836	17	93	263	501	299	1,017	297	195	
1,138	860	19	100	280	519	312	1,038	307	203	
1,152	875	18	104	296	537	325	1,055	313	210	
1,193	907	23	119	308	564	343	1,053	324	217	
1,225	920	26	129	324	577	358	1,072	323	223	
1,221	928	26	131	335	590	368	1,068	333	221	
1,223	938	29	131	353	594	384	1,076	342	236	
(Percentages of outstanding amounts, end of period)										
20.1	12.5	1.1	2.0	9.6	13.9	16.9	12.9	8.4	2.7	
19.9	14.2	0.8	2.2	8.6	13.0	15.9	12.9	8.4	4.1	
20.0	13.9	0.8	2.2	8.9	12.6	14.5	13.9	9.1	4.0	
20.4	14.8	0.6	2.1	8.7	12.7	13.6	13.4	9.4	4.3	
22.7	16.2	0.5	1.9	8.0	12.6	12.2	12.9	8.8	4.2	
23.7	17.1	0.4	2.1	7.2	12.9	11.0	12.9	8.2	4.5	
24.9	17.9	0.4	2.2	6.4	12.8	9.4	14.4	7.1	4.4	
24.5	18.0	0.3	2.5	5.3	11.7	7.3	20.4	5.5	4.5	
23.6	18.7	0.2	2.2	4.8	10.2	6.4	24.8	4.8	4.3	
24.0	18.8	0.2	2.1	5.0	10.0	5.9	24.6	5.3	4.2	
24.3	18.5	0.3	2.0	5.3	10.7	6.1	22.7	6.1	4.2	
24.6	18.3	0.4	2.0	5.4	10.8	6.2	22.2	6.0	4.0	
24.0	18.1	0.4	2.0	5.7	10.8	6.5	22.0	6.4	4.2	
23.8	18.0	0.4	2.1	5.9	10.9	6.5	21.7	6.4	4.3	
23.6	17.9	0.4	2.1	6.1	11.0	6.6	21.6	6.4	4.3	
23.6	18.0	0.5	2.3	6.1	11.2	6.8	20.8	6.4	4.3	
23.7	17.8	0.5	2.5	6.2	11.1	6.9	20.7	6.2	4.3	
23.4	17.8	0.5	2.5	6.4	11.3	7.0	20.4	6.4	4.2	
23.1	17.7	0.5	2.5	6.6	11.2	7.2	20.3	6.4	4.4	

Table 6 Outstanding international bonds and notes, by currency and by region (cont'd)

		JPY									
		Euro area	DK, SE, UK	Other non-euro area EU	Non-EU Europe	North America	Asia & Pacific	Latin America	Offshore centres	International org.	Other
(Outstanding amounts in USD billions, end of period)											
1999		122	63	5	8	55	29	10	116	40	3
2000		110	56	4	9	60	25	11	109	32	2
2001		98	46	3	8	60	19	12	104	27	3
2002		105	39	3	8	63	20	11	106	30	3
2003		112	45	3	9	67	23	9	117	35	3
2004		124	51	3	10	73	21	8	117	35	3
2005		116	49	4	10	65	18	4	91	32	2
2006		120	51	5	12	69	19	2	91	31	2
2007		140	66	6	14	93	25	4	93	35	2
2008		174	92	7	22	120	40	3	118	45	2
2009		156	88	7	25	103	46	5	111	44	2
2010	Q1	144	87	7	25	97	48	4	108	43	2
	Q2	149	93	7	27	101	49	4	110	45	2
	Q3	155	106	7	31	105	54	5	116	48	2
	Q4	159	112	7	32	103	57	7	119	49	2
2011	Q1	153	109	7	35	99	58	6	116	48	2
	Q2	159	116	7	36	97	59	7	114	49	2
	Q3	163	121	7	38	97	62	7	122	51	2
	Q4	158	120	7	39	93	61	7	121	51	2
(Percentages of outstanding amounts, end of period)											
1999		27.1	13.9	1.1	1.8	12.3	6.5	2.1	25.7	8.9	0.6
2000		26.5	13.4	0.9	2.1	14.3	5.9	2.6	26.1	7.7	0.5
2001		25.9	12.2	0.7	2.1	15.9	5.1	3.1	27.3	7.1	0.7
2002		27.0	10.1	0.6	2.2	16.1	5.2	2.9	27.4	7.8	0.8
2003		26.6	10.6	0.7	2.2	15.9	5.3	2.1	27.6	8.3	0.8
2004		27.9	11.6	0.7	2.1	16.4	4.8	1.7	26.3	7.9	0.6
2005		29.6	12.6	1.0	2.6	16.7	4.5	1.0	23.2	8.2	0.6
2006		29.9	12.6	1.2	3.0	17.1	4.7	0.5	22.7	7.7	0.5
2007		29.4	13.7	1.2	3.0	19.4	5.3	0.9	19.5	7.4	0.4
2008		27.9	14.7	1.2	3.5	19.3	6.4	0.4	19.0	7.2	0.4
2009		26.7	15.0	1.2	4.2	17.6	7.8	0.8	18.9	7.5	0.4
2010	Q1	25.5	15.4	1.2	4.5	17.2	8.4	0.8	19.1	7.6	0.4
	Q2	25.3	15.9	1.2	4.6	17.2	8.3	0.8	18.7	7.6	0.4
	Q3	24.7	16.9	1.1	4.9	16.7	8.6	0.8	18.5	7.6	0.3
	Q4	24.7	17.3	1.0	5.0	16.0	8.7	1.0	18.4	7.6	0.3
2011	Q1	24.3	17.2	1.0	5.2	15.7	9.1	0.9	18.3	7.6	0.3
	Q2	24.7	18.0	1.0	5.3	15.0	9.2	1.0	17.7	7.6	0.3
	Q3	24.4	18.1	1.1	5.3	14.5	9.2	1.0	18.2	7.6	0.3
	Q4	24.0	18.2	1.1	5.6	14.1	9.2	1.1	18.4	7.7	0.2

Sources: BIS and ECB calculations.

Note: Narrow definition of international bonds and notes.

Table 7 Outstanding international bonds and notes in selected regions at the end of the review period, by currency

(percentages; end-2011; narrow measure; USD billions and as a percentage of the total amount outstanding)

	Total amounts outstanding (USD billion)	US dollar	Euro	Japanese yen	Other currencies
Africa	42	64.8	31.5	3.1	0.6
Asia and Pacific	855	69.6	12.9	7.1	10.4
<i>of which:</i>					
Japan	78	73.6	13.2	...	13.1
Europe	5,150	45.8	28.9	6.2	19.1
<i>of which:</i>					
Euro area	2,120	57.7	...	7.5	34.8
Denmark, Sweden, United Kingdom	2,510	37.4	51.3	4.8	6.6
Other non-euro area EU Member States	174	18.4	72.0	4.1	5.4
EU27	4,804	45.7	28.8	5.9	19.6
Non-EU developed Europe ¹⁾	253	33.8	37.5	14.5	14.2
Non-EU developing Europe	101	79.2	14.8	0.0	6.0
International organisations	1,244	27.5	26.2	4.1	42.2
Latin America	442	86.9	9.2	1.6	2.3
Middle East	163	86.5	9.9	1.6	1.9
North America	1,209	29.2	42.2	7.7	20.9
<i>of which:</i>					
Canada	430	82.1	9.0	2.0	6.9
United States	779	...	60.6	10.8	28.6
Offshore centres	1,514	73.3	10.8	8.0	7.9
Total	10,619	50.0	25.1	6.2	18.7

Sources: BIS and ECB calculations.

1) Iceland, Norway, Switzerland and European microstates.

Table 8 International dimensions of euro-denominated debt securities

(EUR billions; percentages)

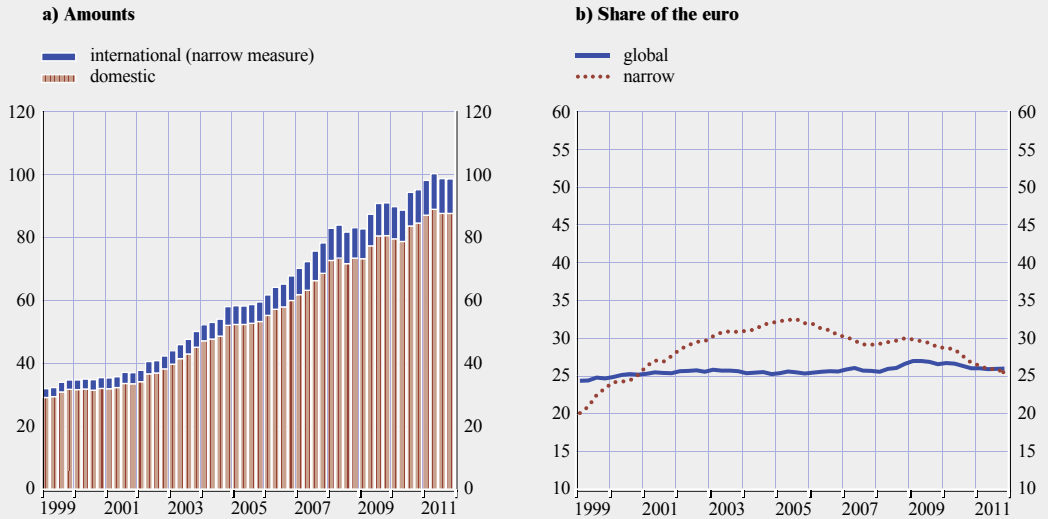
	Held by residents	Held by non-residents	Total
a) As at end-June 2011			
Issued by residents	11,527 69%	2,906 17%	14,434 87%
Issued by non-residents	1,426 9%	760 5%	2,185 13%
Total	12,953 78%	3,666 22%	16,619 100%
b) As at end-June 2010			
Issued by residents	11,055 68%	2,843 18%	13,897 86%
Issued by nonresidents	1,476 9%	786 5%	2,262 14%
Total	12,530 78%	3,629 22%	16,159 100%

Source: ECB.

Chart 1 Narrow and global measures of outstanding international debt securities

(USD trillions, at current exchange rates)

(percentages; at constant exchange rates)

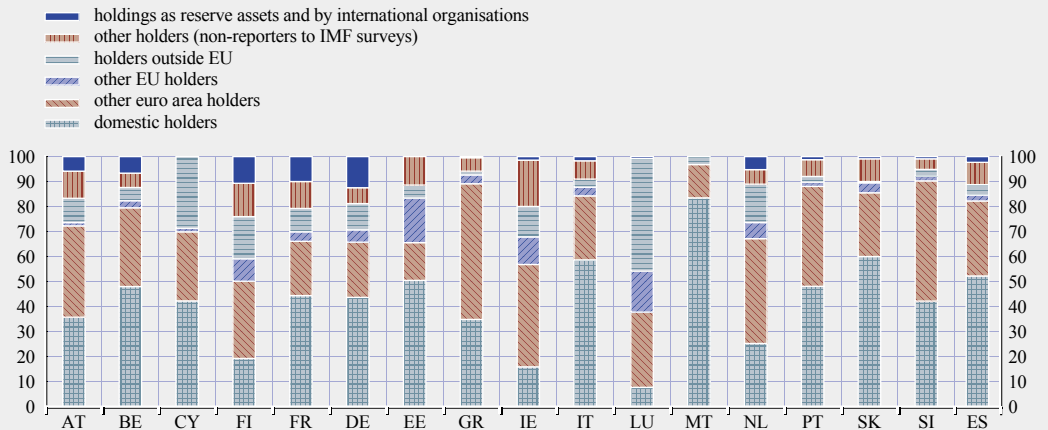


Sources: BIS and ECB calculations.

Note: The shares at constant exchange rates are reported using exchange rates for the fourth quarter of 2011.

Chart 2 Debt securities issued by euro area countries, by holder

(percentages of total outstanding amounts; as at end-2010)

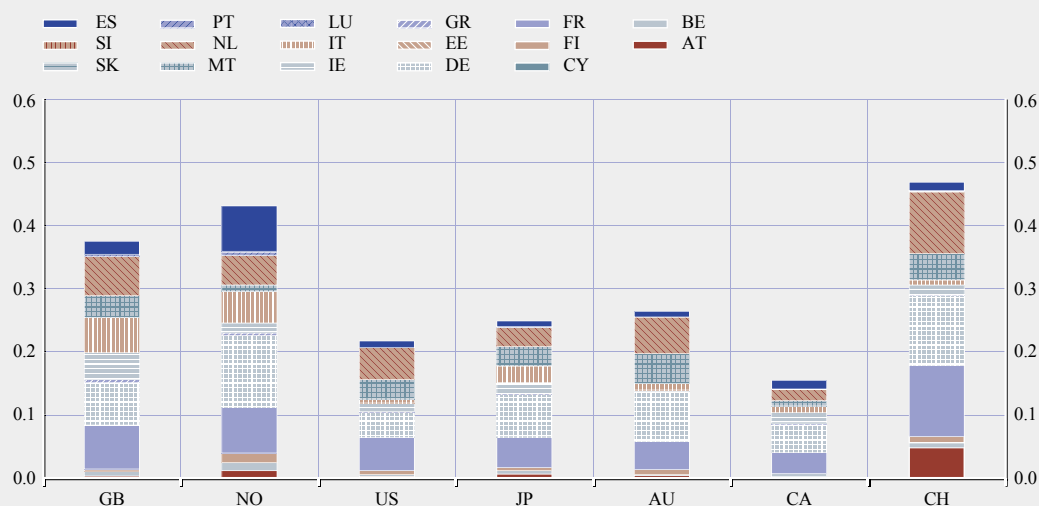


Sources: ECB calculations, IMF (CPIS, SEFER and SSIO surveys) and National sources (national accounts and i.i.p. data).

Notes: i.i.p. figures for Cyprus and the Netherlands include 'Special Financial Institutions'. Reserve assets and holdings by international organisations cannot be allocated to reporting countries, since the results of the IMF's surveys on Securities Held as Foreign Exchange Reserves (SEFER) and Securities Held by International Organizations (SSIO) report figures only in aggregate form.

Chart 3 Debt securities issued by euro area residents held in the portfolios of selected countries outside the euro area

(as a percentage of total debt securities held as portfolio investment assets; as at end-2010)


Table 9 Net issuance of international debt securities

(narrow measure – i.e. excluding home currency issuance USD billions; at current exchange rates)

	Annual					Quarterly			
	2006	2007	2008	2009	2010	2010 Q4	2011 Q1	2011 Q2	2011 Q3
Euro	291.3	332.0	179.6	37.3	-102.5	-89.9	25.2	-10.7	4.4
US dollar	748.9	725.3	108.3	441.7	409.1	90.3	184.5	118.7	46.8
Japanese yen	15.4	75.9	10.0	-44.2	-10.2	0.9	-3.4	-3.8	-0.4
Total (including other currencies)	1,320.1	1,395.0	380.4	456.2	353.2	15.8	236.3	150.7	106.2

Sources: BIS and ECB calculations.

Table 10 The top 20 non-euro area issuers of euro-denominated bonds and non-US issuers of US dollar-denominated bonds

(total amount issued in 2011; EUR millions)

Top 20 non-Euro Area Issuers of euro-denominated bonds		Top 20 non-US Issuers of US dollar-denominated bonds	
Arran Residential Mortgages Funding plc	9,309	KfW Bankengruppe – KfW	24,423
Lloyds TSB Bank plc	9,122	European Investment Bank – EIB	23,623
Royal Bank of Scotland plc	8,324	Silverstone Master Issuer plc Series 2011-1	14,551
Barclays Bank plc	8,188	International Bank for Reconstruction & Development – World Bank	14,406
Abbey National Treasury Services plc	6,982	Toronto-Dominion Bank	9,487
DnB NOR Boligkreditt AS	6,383	Caisse d' Amortissement de la Dette Sociale – CADES	7,205
Skandinaviska Enskilda Banken AB – SEB	4,567	Province of Ontario	6,781
Fosse Master Issuer plc Series	4,305	HSBC Bank plc	6,772
Permanent Master Issuer plc	4,132	Royal Bank of Canada	6,507
Swedbank Mortgage AB	4,125	Rabobank Nederland	6,274
Nordea Bank AB	3,660	Asian Development Bank	5,970
Gracechurch Mortgage Financing plc	3,617	Lloyds TSB Bank plc	5,675
Danske Bank A/S	3,500	Bank Nederlandse Gemeenten NV – BNG	5,361
UBS AG (London)	3,363	National Australia Bank Ltd	5,338
HSBC Bank plc	3,301	BP Capital Markets plc	5,281
Ipic GMTN Ltd	3,139	Arran Residential Mortgages Funding 2011-1 plc	5,192
SpareBank 1 Boligkreditt AS	3,000	Bolivarian Republic of Venezuela	5,118
Nationwide Building Society	2,873	Sanofi-Aventis SA	4,936
Holmes Master Issuer plc	2,769	BNP Paribas SA	4,857
National Iranian Oil Co	2,700	Bank of Nova Scotia	4,785
Memo Items:			
European Investment Bank – EIB	34,823		
European Financial Stability Facility (EFSF)	16,000		
European Community	9,450		

Source: DCM Analytics.

3 THE EURO IN INTERNATIONAL LOAN AND DEPOSIT MARKETS

Table 11 Outstanding international loans, by currency

	All cross-border loans ¹⁾					Loans by banks outside the euro area to borrowers outside the euro area ²⁾				
	Total	EUR	USD	JPY	Other	Total	EUR	USD	JPY	Other
Outstanding amounts (in USD billions, at current exchange rates, end of period)										
1999	1,856	-	-	-	-	481	-	-	-	-
2000	1,852	266	999	81	506	413	23	181	-	-
2001	2,024	304	1,174	84	463	377	44	201	46	85
2002	2,233	379	1,241	105	507	364	64	189	44	67
2003	2,678	521	1,469	116	572	399	92	237	38	33
2004	3,082	668	1,615	152	647	430	136	236	37	22
2005	3,423	640	1,890	118	775	528	108	297	50	74
2006	4,507	833	2,546	121	1,007	695	135	413	44	103
2007	5,653	1,256	3,130	182	1,086	1,066	306	689	65	6
2008	5,418	1,200	3,061	168	990	1,105	239	771	68	28
2009 Q4	5,128	1,060	2,962	110	997	1,131	223	796	41	71
2010 Q1	5,162	1,060	2,999	102	1,001	1,135	229	791	40	75
Q2	5,060	1,006	2,957	111	985	1,106	250	786	44	27
Q3	5,430	1,149	3,125	115	1,041	1,226	271	860	49	46
Q4	5,507	1,108	3,215	125	1,059	1,240	259	876	42	62
2011 Q1	5,832	1,240	3,357	119	1,115	1,281	295	896	46	43
Q2	6,005	1,300	3,449	125	1,131	1,322	256	899	49	119
Q3	5,967	1,300	3,379	155	1,134	1,379	239	944	48	147
Percentages of outstanding amounts (at constant exchange rates, end of period)										
1999	-	-	-	-	-	-	-	-	-	-
2000	100.0	18.8	48.7	5.9	26.6	-	-	-	-	-
2001	100.0	20.4	51.3	6.2	22.1	100.0	15.7	46.5	18.3	19.5
2002	100.0	20.2	51.3	6.7	21.8	100.0	20.2	46.6	16.6	16.6
2003	100.0	20.2	53.2	5.9	20.8	100.0	23.2	56.0	12.6	8.2
2004	100.0	21.3	52.0	6.5	20.3	100.0	30.4	53.0	11.0	5.6
2005	100.0	20.4	52.6	5.0	21.9	100.0	21.5	51.7	13.4	13.3
2006	100.0	18.7	55.8	4.1	21.4	100.0	19.1	56.7	9.4	14.8
2007	100.0	20.7	56.2	4.7	18.4	100.0	26.3	64.5	8.8	0.4
2008	100.0	21.4	56.1	3.6	18.9	100.0	20.8	69.3	7.2	2.7
2009 Q4	100.0	19.5	58.3	2.6	19.6	100.0	18.6	70.7	4.3	6.4
2010 Q1	100.0	20.4	57.6	2.4	19.7	100.0	20.0	69.0	4.3	6.7
Q2	100.0	21.3	56.8	2.5	19.4	100.0	24.2	68.9	4.4	2.5
Q3	100.0	20.9	57.6	2.3	19.2	100.0	21.8	70.1	4.4	3.7
Q4	100.0	20.2	58.1	2.4	19.2	100.0	21.0	70.4	3.6	5.0
2011 Q1	100.0	20.4	58.2	2.2	19.2	100.0	22.1	70.6	3.9	3.4
Q2	100.0	20.6	58.4	2.2	18.9	100.0	18.3	68.8	3.9	9.0
Q3	100.0	21.8	56.6	2.6	19.0	100.0	17.3	68.5	3.5	10.7
Percentages of outstanding amounts (at current exchange rates, end of period)										
1999	100.0	-	-	-	-	100.0	-	-	-	-
2000	100.0	14.4	53.9	4.4	27.3	100.0	5.6	44.0	-	-
2001	100.0	15.0	58.0	4.1	22.9	100.0	11.8	53.4	12.3	22.5
2002	100.0	17.0	55.6	4.7	22.7	100.0	17.5	52.1	12.0	18.4
2003	100.0	19.4	54.9	4.3	21.4	100.0	23.0	59.2	9.6	8.2
2004	100.0	21.7	52.4	4.9	21.0	100.0	31.6	54.7	8.5	5.1
2005	100.0	18.7	55.2	3.4	22.6	100.0	20.4	56.1	9.5	14.0
2006	100.0	18.5	56.5	2.7	22.3	100.0	19.5	59.4	6.3	14.8
2007	100.0	22.2	55.4	3.2	19.2	100.0	28.7	64.7	6.1	0.5
2008	100.0	22.1	56.5	3.1	18.3	100.0	21.6	69.7	6.1	2.5
2009 Q4	100.0	20.7	57.8	2.1	19.4	100.0	19.7	70.4	3.6	6.3
2010 Q1	100.0	20.5	58.1	2.0	19.4	100.0	20.2	69.7	3.6	6.6
Q2	100.0	19.9	58.4	2.2	19.5	100.0	22.6	71.0	3.9	2.4
Q3	100.0	21.2	57.6	2.1	19.2	100.0	22.1	70.2	4.0	3.7
Q4	100.0	20.1	58.4	2.3	19.2	100.0	20.9	70.7	3.4	5.0
2011 Q1	100.0	21.3	57.6	2.0	19.1	100.0	23.1	69.9	3.6	3.4
Q2	100.0	21.7	57.4	2.1	18.8	100.0	19.3	68.0	3.7	9.0
Q3	100.0	21.8	56.6	2.6	19.0	100.0	17.3	68.5	3.5	10.7

Sources: BIS and ECB calculations.

Note: Excluding interbank loans.

1) Including loans to/from Japan, Switzerland, the United Kingdom and the United States in their domestic currency.

2) Excluding loans to/from Japan, Switzerland, the United Kingdom and the United States in their domestic currency.

Table 12 Outstanding international deposits, by currency

	All cross-border deposits ¹⁾					Deposits by depositors outside the euro area in banks outside the euro area ²⁾				
	Total	EUR	USD	JPY	Other	Total	EUR	USD	JPY	Other
Outstanding amounts (in USD billions, at current exchange rates, end of period)										
1999	1,930	-	-	89	-	535	-	-	40	-
2000	2,102	391	1,303	85	323	-	77	464	29	-
2001	2,419	465	1,435	84	435	689	103	507	35	44
2002	2,789	598	1,542	93	555	712	135	449	38	90
2003	3,472	819	1,899	84	670	852	192	523	40	97
2004	4,075	992	2,201	112	770	906	239	530	34	103
2005	4,242	921	2,362	116	843	1,047	237	628	55	127
2006	5,380	1,098	3,062	135	1,085	1,304	288	804	46	165
2007	6,723	1,405	3,948	146	1,225	1,688	441	1,120	48	79
2008	6,342	1,333	3,816	127	1,066	1,581	407	1,012	58	105
2009 Q4	5,944	1,272	3,472	94	1,105	1,635	414	964	41	216
2010 Q1	5,983	1,309	3,537	81	1,056	1,611	413	936	36	227
Q2	5,896	1,194	3,553	94	1,056	1,526	363	944	38	180
Q3	6,274	1,357	3,721	98	1,097	1,674	401	1,037	41	195
Q4	6,352	1,340	3,853	81	1,078	1,710	395	1,076	34	206
2011 Q1	6,626	1,386	4,046	92	1,103	1,756	393	1,147	41	175
Q2	6,622	1,452	3,938	90	1,142	1,838	398	1,145	44	251
Q3	6,526	1,464	3,990	94	978	1,814	414	1,265	44	92
Percentages of outstanding amounts (at constant exchange rates, end of period)										
1999	100.0	-	-	-	-	-	-	-	-	-
2000	100.0	24.0	55.1	5.4	15.5	-	-	-	-	-
2001	100.0	25.6	51.6	5.1	17.7	100.0	20.3	65.4	7.7	6.5
2002	100.0	25.4	50.8	4.7	19.0	100.0	22.5	58.1	7.5	11.9
2003	100.0	24.7	53.5	3.3	18.5	100.0	23.4	59.5	6.4	10.8
2004	100.0	24.2	54.2	3.7	17.9	100.0	26.1	58.4	5.0	10.5
2005	100.0	23.7	53.2	4.0	19.0	100.0	24.5	56.6	7.5	11.4
2006	100.0	20.8	56.5	3.9	18.9	100.0	22.3	60.5	5.4	11.8
2007	100.0	19.6	60.1	3.2	17.1	100.0	24.4	67.6	4.2	3.8
2008	100.0	20.3	59.9	2.3	17.4	100.0	24.9	63.8	4.3	7.0
2009 Q4	100.0	20.3	59.1	1.9	18.7	100.0	24.0	59.6	3.0	13.4
2010 Q1	100.0	21.8	58.7	1.6	17.9	100.0	25.4	57.7	2.7	14.2
Q2	100.0	21.7	58.6	1.8	17.9	100.0	25.4	60.0	2.8	11.8
Q3	100.0	21.4	59.4	1.7	17.5	100.0	23.7	61.9	2.7	11.7
Q4	100.0	21.2	60.4	1.3	17.0	100.0	23.2	62.7	2.1	12.0
2011 Q1	100.0	20.1	61.7	1.5	16.7	100.0	21.5	66.0	2.6	10.0
Q2	100.0	20.8	60.5	1.4	17.2	100.0	20.5	63.2	2.5	13.7
Q3	100.0	22.4	61.1	1.4	15.0	100.0	22.8	69.7	2.4	5.1
Percentages of outstanding amounts (at current exchange rates, end of period)										
1999	100.0	-	-	4.6	-	100.0	-	-	-	-
2000	100.0	18.6	62.0	4.1	15.3	-	-	-	-	-
2001	100.0	19.2	59.3	3.5	18.0	100.0	14.9	73.6	5.1	6.3
2002	100.0	21.5	55.3	3.3	19.9	100.0	19.0	63.1	5.3	12.7
2003	100.0	23.6	54.7	2.4	19.3	100.0	22.5	61.4	4.7	11.4
2004	100.0	24.3	54.0	2.8	18.9	100.0	26.4	58.5	3.7	11.4
2005	100.0	21.7	55.7	2.7	19.9	100.0	22.7	60.0	5.2	12.1
2006	100.0	20.4	56.9	2.5	20.2	100.0	22.1	61.7	3.5	12.7
2007	100.0	20.9	58.7	2.2	18.2	100.0	26.1	66.4	2.8	4.7
2008	100.0	21.0	60.2	2.0	16.8	100.0	25.7	64.0	3.7	6.6
2009 Q4	100.0	21.4	58.4	1.6	18.6	100.0	25.3	59.0	2.5	13.2
2010 Q1	100.0	21.9	59.1	1.4	17.6	100.0	25.6	58.1	2.2	14.1
Q2	100.0	20.3	60.3	1.6	17.9	100.0	23.8	61.9	2.5	11.8
Q3	100.0	21.6	59.3	1.6	17.5	100.0	24.0	61.9	2.5	11.6
Q4	100.0	21.1	60.7	1.3	17.0	100.0	23.1	62.9	2.0	12.0
2011 Q1	100.0	20.9	61.1	1.4	16.6	100.0	22.4	65.3	2.3	10.0
Q2	100.0	21.9	59.5	1.4	17.2	100.0	21.7	62.3	2.4	13.7
Q3	100.0	22.4	61.1	1.4	15.0	100.0	22.8	69.7	2.4	5.1

Sources: BIS and ECB calculations.

Note: Excluding interbank deposits.

1) Including deposits to/from Japan, Switzerland, the United Kingdom and the United States in their domestic currency.

2) Excluding deposits to/from Japan, Switzerland, the United Kingdom and the United States in their domestic currency.

4 THE EURO IN INTERNATIONAL TRADE IN GOODS AND SERVICES

Table 13 The euro's share as a invoicing/settlement currency in extra-euro area transactions of euro area countries

(as a percentage of the total)

1. Exports and imports of goods

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Exports										
Euro area	-	-	-	-	59.5	59.6	63.8	64.2	63.5	66.7
<i>of which</i>										
Belgium	53.6	56.6	57.7	54.8	58.5	52.8	56.2	57.4	52.3	55.3
France	50.5	49.0	49.2	49.8	50.8	51.5	49.3	52.5	52.3	53.7
Italy	54.1	58.2	59.0	58.3	59.4	64.3	68.7	69.2	67.4	-
Greece	36.4	45.1	41.8	35.1	34.1	35.5	32.6	36.3	33.7	35.5
Spain	57.5	61.7	62.4	62.1	61.6	65.2	60.6	61.7	59.2	60.1
Cyprus	-	-	-	-	-	2.8	21.2	24.3	25.9	49.1
Luxembourg	44.0	51.5	61.8	61.4	57.7	59.2	51.9	50.3	63.2	55.3
Portugal	44.3	50.6	55.5	56.5	55.8	61.4	63.1	64.2	63.4	61.9
Slovenia	-	-	-	-	74.2	79.0	79.4	84.7	82.7	83.5
Slovakia	-	-	-	-	-	-	96.5	94.8	94.4	94.1
Estonia	-	-	-	-	-	-	-	52.4	48.2	69.7
Imports										
Euro area	-	-	-	-	48.8	47.9	47.5	45.3	49.6	50.2
<i>of which</i>										
Belgium	53.7	57.8	55.7	51.2	58.3	56.1	56.4	57.7	53.0	55.7
France	40.8	44.1	45.7	46.3	44.7	44.8	44.2	44.3	45.5	53.0
Italy	44.2	44.5	41.2	39.4	43.0	44.3	47.8	49.7	46.9	-
Greece	35.4	39.2	39.6	32.6	32.3	33.6	37.3	37.9	30.8	33.1
Spain	55.9	61.1	61.3	56.0	54.8	56.7	58.8	60.6	59.1	57.7
Cyprus	-	-	-	-	-	1.7	9.8	12.7	11.6	41.1
Luxembourg	31.9	41.9	50.0	43.8	38.8	37.9	38.8	55.3	55.0	48.7
Portugal	54.9	58.1	58.0	54.4	52.6	51.8	53.7	56.6	52.1	45.7
Slovenia	-	-	-	-	64.0	73.1	75.0	69.9	61.9	64.2
Slovakia	-	-	-	-	-	-	82.1	77.8	76.5	76.6
Estonia	-	-	-	-	-	-	-	47.1	45.1	60.9

Sources: National Central Banks and ECB calculations.

1) Data for Greece, Cyprus, Slovenia, Spain, Italy (goods), Portugal and Luxembourg refer to the currency of settlement.

2) Services data for Greece and Spain exclude travel item.

3) Data for Italy for 2011 refer to the first quarter only.

2. Exports and imports of services									
2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Exports									
-	-	-	-	51.0	54.5	55.5	55.4	55.2	61.9
64.1	70.6	72.2	73.0	73.7	74.2	73.9	76.0	74.9	75.7
40.3	42.4	42.4	43.6	47.2	49.0	39.9	36.5	35.1	48.5
43.1	47.0	48.9	56.5	53.9	59.3	80.4	75.7	77.1	79.2
12.5	15.4	13.0	14.1	12.8	13.3	15.5	19.0	19.2	25.1
59.5	64.1	64.3	67.5	67.2	71.8	71.2	70.6	71.8	81.0
-	-	-	-	-	40.0	39.9	40.7	41.3	39.6
40.4	41.6	41.9	42.4	47.7	48.4	46.6	47.2	45.7	48.3
47.7	54.0	56.2	58.2	60.8	59.9	65.8	68.1	62.1	62.1
-	-	-	-	80.1	80.8	83.2	82.7	80.1	85.4
-	-	-	-	-	-	-	43.5	44.4	57.1
Imports									
-	-	-	-	53.8	55.7	57.7	56.1	57.6	61.4
60.1	65.8	68.3	71.2	73.9	72.4	74.0	71.1	72.1	71.5
44.0	46.6	49.2	50.3	54.6	54.8	54.9	49.1	52.3	67.3
53.2	54.4	52.3	55.5	56.0	59.1	65.6	62.7	64.4	61.5
16.4	19.6	21.3	22.5	24.5	27.5	28.9	34.4	28.5	31.7
48.8	54.3	57.0	60.2	60.3	60.7	61.5	61.7	61.0	62.1
-	-	-	-	-	27.9	13.3	12.9	26.9	25.5
27.7	34.3	30.2	31.2	29.8	34.0	38.4	41.2	48.0	45.8
64.9	68.9	70.8	72.5	74.5	72.6	73.3	72.7	71.3	66.7
-	-	-	-	53.1	57.2	58.1	64.8	67.1	69.2
-	-	-	-	-	-	-	43.0	43.9	53.3

Table 14 The euro's share as a invoicing/settlement currency in extra-EU exports and imports of goods

(as a percentage of the total)

	Exports				Imports			
	2008	2009	2010	2011	2008	2009	2010	2011
Euro area countries								
Austria	75.6	74.9	74.1	75.1	63.0	55.9	55.4	55.9
Cyprus	19.3	23.4	63.4	47.6	22.6	22.3	24.6	36.3
Estonia	-	37.7	43.4	48.6	-	35.5	35.9	32.3
France	49.3	43.8	43.5	45.9	44.2	37.3	39.4	48.1
Germany	-	66.4	66.6	67.8	41.2	35.3	49.1	48.7
Greece	20.9	26.0	26.2	27.3	28.2	24.5	20.3	26.9
Ireland	17.1	16.7	14.9	11.0	36.3	34.7	23.4	21.4
Italy	64.1	64.3	62.0	-	39.4	38.6	38.3	-
Luxembourg	44.9	43.9	59.4	42.0	38.2	48.6	47.0	37.5
Netherlands	-	-	56.0	-	-	-	32.8	-
Portugal	61.1	61.2	60.7	59.2	48.1	50.7	46.7	39.5
Slovakia	-	81.3	81.2	81.2	-	43.9	44.8	45.0
Slovenia	82.9	81.5	81.7	82.8	65.0	58.7	56.6	60.7
Spain	55.2	57.4	55.1	52.6	49.7	52.1	52.3	52.3
Non-euro area EU countries								
Bulgaria	41.5	45.0	43.1	39.5	25.0	28.9	26.4	26.3
Czech Republic	-	50.1	50.8	50.3	-	25.0	23.6	23.4
Hungary	56.5	52.4	48.6	-	25.2	26.7	29.5	-
Latvia	-	41.8	38.9	34.1	-	49.2	45.1	41.7
Lithuania	42.6	45.8	48.5	50.1	22.9	24.7	24.9	25.6
Romania	41.3	55.1	52.1	47.5	35.7	34.7	35.2	35.5

Sources: National Central Banks.

1) Data for Czech Republic for 2011 refer to the first quarter only.

2) Data for Greece, Luxembourg, Lithuania, Latvia, Slovenia, Spain refer to the currency of settlement.

Table 15 The euro's share in total exports and imports in non-euro area countries

(as a percentage of the total)

1. Exports and imports of goods

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Exports										
Bulgaria	52.4	60.7	62.2	60.4	57.7	60.5	61.5	68.6	62.2	59.0
Czech Republic	68.2	70.3	73.4	71.9	68.8	72.0	73.6	76.0	76.4	76.0
Latvia	40.4	41.6	47.9	53.3	54.8	59.5	66.9	66.4	64.1	62.2
Lithuania	36.6	46.8	49.7	51.3	56.2	56.5	55.7	60.5	59.7	57.9
Poland	60.1	64.9	69.3	70.1	69.9	69.8	68.2	66.1	-	-
Romania	58.6	63.8	66.3	64.3	67.6	67.7	68.5	75.9	71.5	66.5
Imports										
Bulgaria	60.1	62.7	63.6	60.4	58.9	60.2	65.7	70.9	62.6	59.7
Czech Republic	66.7	67.6	71.3	70.6	67.8	68.0	68.3	68.9	68.5	68.0
Latvia	51.9	49.6	52.8	59.2	61.2	67.2	67.4	66.1	62.1	63.2
Lithuania	48.5	53.0	55.0	51.3	53.8	55.4	55.6	57.2	55.8	54.9
Poland	59.6	60.2	61.7	60.5	58.6	59.1	56.4	54.8	-	-
Romania	65.6	67.9	70.8	71.1	73.4	71.5	70.9	73.2	66.6	64.4

2. Exports and imports of services

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Exports										
Bulgaria	-	-	-	-	73.1	76.3	77.9	79.0	65.1	68.4
Czech Republic	67.9	67.9	68.3	64.6	70.3	67.2	72.3	76.0	76.9	77.3
Latvia	-	20.7	26.4	33.2	37.9	42.5	51.5	53.9	52.0	52.5
Lithuania	38.4	42.8	49.4	51.1	51.9	53.9	54.7	58.4	57.4	56.2
Poland	60.1	64.9	69.3	70.1	69.9	69.8	68.2	66.1	-	-
Romania	-	-	-	71.0	72.0	71.2	75.2	73.8	62.1	67.3
Imports										
Bulgaria	-	-	-	-	69.9	77.1	77.1	80.8	73.8	71.5
Czech Republic	62.9	59.0	64.8	61.1	61.4	61.3	69.3	78.4	75.6	75.5
Latvia	-	25.4	29.0	33.3	36.8	39.3	42.7	42.8	43.7	35.8
Lithuania	40.6	43.0	47.0	47.8	54.1	53.5	51.0	48.9	49.8	49.2
Poland	46.8	52.1	53.0	54.8	54.3	54.0	54.0	58.9	-	-
Romania	-	-	-	64.0	69.0	74.6	74.5	78.6	69.2	68.9

Sources: National Central Banks.

1) Data for Lithuania and Latvia refer to the currency of settlement.

2) Data for Czech Republic for 2011 refer to the first quarter only.

5 THE EURO AS A PARALLEL CURRENCY: THE USE OF EURO-DENOMINATED BANK LOANS AND DEPOSITS IN COUNTRIES OUTSIDE THE EURO AREA

Table 16 Outstanding euro-denominated bank loans in selected countries

	Outstanding amounts (in EUR millions)		As a percentage of total loans		As a percentage of foreign currency loans	
	2010	2011	2010	2011	2010	2011
Non-euro area EU Member States						
Bulgaria	15,605	16,763	59.2	61.5	96.8	96.7
Czech Republic	5,962	6,458	7.6	8.1	92.4	92.5
Hungary	15,345	14,448	23.8	25.6	37.2	40.5
Latvia	15,610	13,943	89.3	85.8	96.9	95.9
Lithuania	12,332	11,414	71.8	71.3	96.6	95.9
Poland	15,877	19,671	8.7	10.7	26.8	31.2
Romania	26,772	28,471	54.5	55.1	86.4	87.0
Denmark	58,234	46,447	11.7	9.5	78.2	76.3
Sweden	7,068	8,406	1.5	1.6	38.9	39.0
United Kingdom	258,719	209,989	8.8	7.2	47.8	43.3
Other countries						
Bosnia and Herzegovina	5,069	4,881	68.2	62.4	89.5	91.6
Croatia	21,224	23,221	57.9	60.4	78.9	81.3
FYR Macedonia	766	900	24.9	26.7	98.1	96.6
Israel	3,322	3,243	2.3	2.2	17.3	16.0
Moldova	404	521	25.7	26.5	55.2	54.1
Norway	13,820	7,272	4.6	2.3	33.5	17.2
Russia*	106,919	118,014	23.0	20.4	...	...
Serbia	10,126	9,634	65.7	63.3	82.7	83.7
Switzerland	28,933	30,309	3.4	3.3	22.7	22.5
Turkey	27,040	30,829	10.6	11.0	33.2	32.8

Sources: National Central Banks and ECB calculations.

Notes: Definitions of loans may vary across countries. Data may be subject to revisions as compared with previous issues of this report owing to methodological changes. Where available, foreign exchange-indexed loans are included.

Table 17 Outstanding euro-denominated bank deposits in selected countries

	Outstanding amounts in EUR millions		As a percentage of total deposits		As a percentage of foreign currency deposits	
	2010	2011	2010	2011	2010	2011
Non-euro area EU Member States						
Bulgaria	9,347	9,730	42.4	39.1	84.3	83.9
Czech Republic	6,439	6,515	6.5	6.4	80.1	79.2
Hungary	8,073	6,791	17.7	15.8	82.2	78.7
Latvia	3,424	3,364	43.5	43.2	86.5	83.5
Lithuania	2,850	2,641	25.0	22.5	84.1	81.9
Poland	9,938	9,840	5.9	5.8	66.5	61.1
Romania	13,095	12,643	31.4	29.2	87.2	87.0
Denmark	4,556	5,105	2.8	3.2	55.9	55.5
Sweden	6,972	8,645	3.2	3.7	58.8	63.3
United Kingdom	173,860	174,063	6.3	6.3	42.9	43.2
Other countries						
Bosnia and Herzegovina	2,821	2,786	44.0	41.9	91.1	90.2
Croatia	18,929	17,807	64.0	59.5	91.9	89.3
FYR Macedonia	1,596	1,656	56.4	52.6	90.8	89.7
Israel	9,552	9,036	5.5	4.9	22.4	20.5
Moldova	569	632	33.1	30.7	70.0	69.7
Norway	22,255	22,001	7.4	6.5	32.7	23.7
Russia*	107,283	114,164	29.4	24.8	...	...
Serbia	9,534	9,715	67.1	66.6	88.9	92.0
Switzerland	82,443	86,199	11.7	10.7	38.4	34.5
Turkey	33,552	35,010	11.3	12.4	38.5	36.8

Sources: National Central Banks and ECB calculations.

Notes: Definitions of deposits may vary across countries. Data may be subject to revisions as compared with previous issues of this report owing to methodological changes. Where available, foreign exchange-indexed deposits are included.

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