

## 3 BANKNOTES AND COINS

### 3.1 THE CIRCULATION OF BANKNOTES AND COINS AND THE HANDLING OF CURRENCY

#### DEMAND FOR EURO BANKNOTES AND COINS

At the end of 2008 the number of euro banknotes in circulation stood at 13.1 billion, with a value of €762.8 billion. This represented an increase of 8.3% in terms of volume and 12.7% in terms of value compared with the levels at the end of 2007 (12.1 billion banknotes with a value of €676.6 billion).

Following the intensification of the financial market turmoil, a strong increase in the number of euro banknotes in circulation was recorded in the first half of October 2008, equivalent to a value of €35 to €40 billion.

In the last quarter of 2008 demand was particularly high for the denominations €100 and €500 and was to a large extent driven by demand from outside the euro area. As a result, by the end of the year the average value of a banknote in circulation had increased to €58.15 (compared with €55.85 at the end of the previous year).

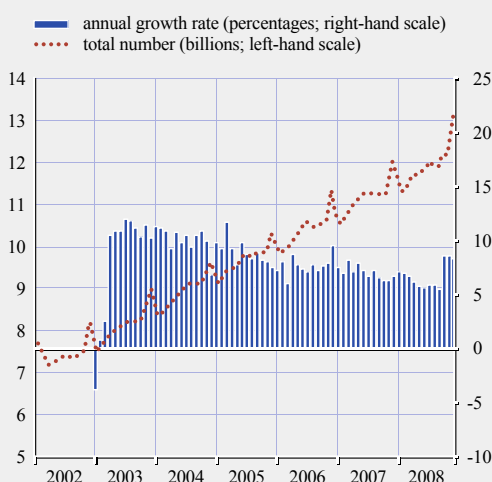
Statistics indicate that net shipments of euro banknotes by euro area credit institutions to

destinations outside the euro area reached a total value of around €96 billion by the end of December 2008, which represents a share of 13% of the total value of euro banknotes in circulation. These shipments were due to an increase in demand from foreign residents. Given that there are additional reasons for euro banknotes to travel beyond the euro area (such as tourism or guest worker remittances), it is estimated that, in value terms, close to 20% of the euro banknotes in circulation are held by non-euro area residents.

Charts 46 and 47 illustrate the steady increase in the total number and value of euro banknotes in circulation, together with the annual growth rates.

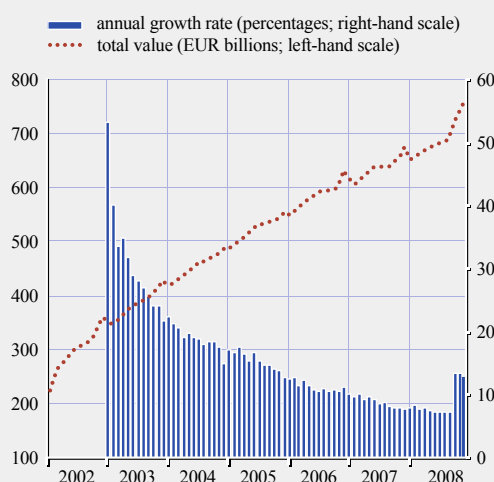
Looking at the breakdown of the denominations, the €500 banknote, which is to a large extent used for hoarding, showed the strongest growth in circulation, rising by 17.1% at the end of 2008 compared with one year earlier. It was followed by the €100, €50 and €200 banknotes, which rose by 14.2%, 10.6% and 9.3% respectively. The number of the lower denominations in circulation rose at rates of between around 3% and 6% (see Chart 48).

**Chart 46 Number of euro banknotes in circulation between 2002 and 2008**



Source: ECB.

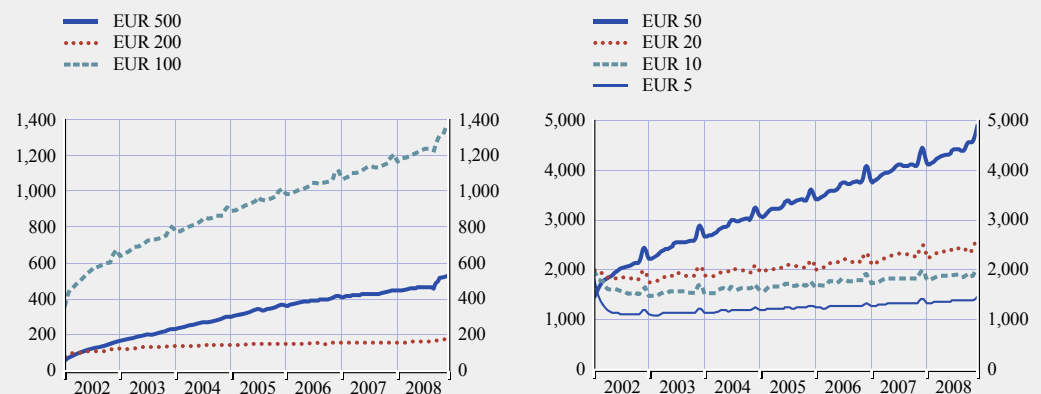
**Chart 47 Value of euro banknotes in circulation between 2002 and 2008**



Source: ECB.

**Chart 48 Number of euro banknotes in circulation between 2002 and 2008**

(millions)



Source: ECB.

In 2008 the total number of euro coins in circulation (i.e. net circulation excluding stocks held by the NCBs) grew by 7.9% to 82.3 billion, while their value rose by 5.7% to €20.4 billion. The 1 and 2 cent coins accounted for most of this increase. The share of the low-value coins, the 1, 2 and 5 cent coins, in the total number of coins in circulation remained stable at 59%.

#### BANKNOTE HANDLING BY THE EUROSISTEM

In 2008 the euro area NCBs issued 34.1 billion banknotes, while 33.2 billion banknotes were returned to them. The return frequency<sup>7</sup> of banknotes in circulation remained almost unchanged at 2.79, meaning that, on average, a banknote was checked for authenticity and circulation fitness by the fully automated banknote processing machines of the euro area NCBs around once every four months.

Since 2004 the Eurosystem has conducted annual surveys with the aim of monitoring the condition of euro banknotes in circulation at the euro area level. In 2008 a trend towards an improvement in the condition of the banknotes in circulation was observed. The condition of the banknotes also became more homogeneous within the euro area, reflecting the Eurosystem's coordinated sorting/issuing policies. The NCBs identified some 5.6 billion banknotes as unfit for circulation and replaced them accordingly. The

unfit rate,<sup>8</sup> at around 17.0%, remained close to the rate recorded in the previous year.

### 3.2 BANKNOTE COUNTERFEITING AND COUNTERFEIT DETERRENCE

#### COUNTERFEIT EURO BANKNOTES

The total number of counterfeit euro banknotes received by National Analysis Centres<sup>9</sup> in 2008 was around 666,000<sup>10</sup>, which represented an increase from the relatively stable levels observed in previous years. However, the number of genuine banknotes in circulation also increased significantly in 2008. Compared with the number of genuine euro banknotes in circulation, which reached 13.1 billion by the end of 2008, the quantity of counterfeits is very small indeed. Therefore, the probability of randomly receiving a counterfeit banknote from circulation remains very low. Chart 49 shows the trend in counterfeits removed from circulation, with figures taken at half-yearly

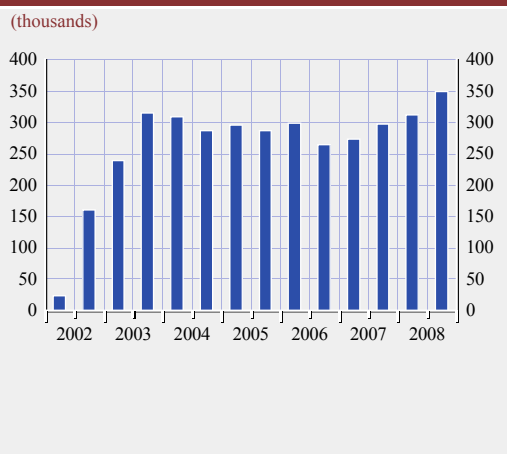
7 Defined as the total number of banknotes returned to NCBs in a given period divided by the average number of banknotes in circulation during that period.

8 Defined as the number of banknotes identified as unfit in a given period divided by the total number of banknotes sorted during that period.

9 Centres established in each EU Member State for the initial analysis of counterfeit euro banknotes at the national level.

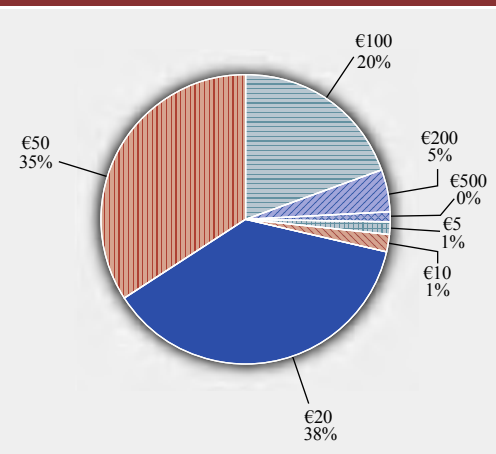
10 This figure is subject to a very slight correction on account of late reports, particularly from outside the EU.

**Chart 49 Number of counterfeit euro banknotes recovered from circulation between 2002 and 2008**



Source: ECB.

**Chart 50 Distribution of euro banknote counterfeits by denomination in 2008**



Source: ECB.

Note: The figures have been rounded to the nearest percentage point.

intervals since the euro banknotes were launched. In 2008 the €20 and €50 banknotes were the counterfeiters' biggest targets, between them accounting for about three-quarters of the number of counterfeits. Chart 50 gives a detailed breakdown of the distribution of counterfeits in terms of volume.

The public can remain confident in the security of the euro: it has proven to be a well-protected currency, in terms of both the sophistication of its security features and the effectiveness of European and national law enforcement authorities. However, this confidence should never give rise to complacency, and the ECB's advice to the public remains to be alert to the possibility of fraud and to remember the "feel-look-tilt" test.<sup>11</sup> The Eurosystem continues to invest considerable effort in ensuring that both the public and professional cash handlers are well-informed with regard to the recognition of counterfeit banknotes.

#### COUNTERFEIT DETERRENCE

The Eurosystem continued in 2008 to work closely with Europol and the European Commission (in particular the European Anti-Fraud Office, OLAF) in the fight against counterfeiting of the euro. The Eurosystem is

active, both in the EU and beyond, in training professional cash handlers in the recognition and handling of counterfeit banknotes.

The Eurosystem participates actively in the work of the Central Bank Counterfeit Deterrence Group (CBCDG) (a working group of 31 central banks and note-printing authorities cooperating under the auspices of the G10). The group sponsors research into techniques designed to prevent the illicit reproduction of banknotes. The ECB hosts the International Counterfeit Deterrence Centre (ICDC), which acts as the technical centre for all CBCDG members. Its main role is to provide technical support and to operate a centralised communication system serving all parties involved in the field of counterfeit deterrence systems. The ICDC also maintains a public website<sup>12</sup> which provides information and guidance concerning the reproduction of banknote images as well as links to country-specific websites.

<sup>11</sup> For details, see <http://www.ecb.europa.eu/euro/banknotes/security/html/index.en.html>

<sup>12</sup> For details, see <http://www.rulesforuse.org>

### 3.3 BANKNOTE PRODUCTION AND ISSUANCE

#### PRODUCTION ARRANGEMENTS

A total of 6.4 billion euro banknotes were produced in 2008, compared with 6.3 billion in 2007.

The allocation of euro banknote production continued to be based on the decentralised production scenario with pooling, adopted in 2002. Under this arrangement, each euro area NCB is responsible for the procurement of an allocated share of the total requirement for certain denominations. Table 12 summarises the 2008 production allocation.

#### THE EXTENDED CUSTODIAL INVENTORY PILOT PROGRAMME

In 2008 the Extended Custodial Inventory (ECI) pilot programme for euro banknotes in Asia, which had been established in 2007, was successfully operated by two large commercial banks active in the wholesale market for banknotes. An ECI is a cash depot maintained by a commercial bank that holds currency on a custodial basis. ECIs facilitate the international distribution of euro banknotes and provide statistical data on euro banknote circulation outside the euro area, as well as information on counterfeits found in their region. In view of the success of the pilot programme, the Governing Council decided in March 2008 to launch a three-year ECI programme based on the experience with the pilot. Following a negotiated tender

procedure, three wholesale banknote banks applied for the three-year ECI programme. One started operations in Hong Kong and another in Singapore in February 2009, and it is foreseen that the third will start ECI operations in Hong Kong in mid-2009. These are the main logistical hubs for trading euro banknotes in the East Asian region, which has the highest turnover of euro banknotes outside Europe. The Deutsche Bundesbank is the logistical and administrative counterpart for the ECI banks. Before the end of the three-year term, the Eurosystem will assess whether and where the ECI programme should be continued.

#### ROADMAP FOR GREATER CONVERGENCE OF NCB CASH SERVICES

Following the Governing Council's adoption in 2007 of a roadmap which aimed to achieve, in the medium term, greater convergence of the cash services offered by euro area NCBs, the Eurosystem continued its work in this area in 2008. Greater convergence is important because it will allow stakeholders – in particular those with significant cross-border cash activities – to fully reap the benefits of the single currency, and will ensure fair competitive treatment. In view of the different national economic and geographical environments, the Eurosystem does not envisage a “one-size-fits-all” cash supply system. The process of convergence will require some flexibility regarding customer requirements, the cash infrastructure and transitional periods for implementation.

The Eurosystem has also been working on a number of further steps, including an electronic data exchange with credit institutions for cash lodgements and withdrawals and banknote packaging standards for the free-of-charge NCB cash services. Consultations with stakeholders have been conducted at both the national and the European level, in particular with regard to the issue of common banknote packaging, in view of the possible operational and cost implications.

Technological developments with regard to banknote processing machines now allow

**Table 12 Allocation of euro banknote production in 2008**

Denomination	Number (millions of banknotes)	NCB commissioning production
€5	1,370.0	DE, ES, FR, PT
€10	2,130.0	DE, GR, FR, AT
€20	1,755.0	ES, FR, IE, IT, LU, NL, SI, FI
€50	1,060.0	BE, DE, ES, IT, NL
€100	130.0	IT
€200	-	-
€500	-	-
<b>Total</b>	<b>6,445.0</b>	

Source: ECB.

banknotes to be read and processed irrespective of the way in which they are fed into the machine. In time NCBs will introduce these improvements free of charge, as foreseen in the roadmap.

### **THE SECOND SERIES OF EURO BANKNOTES**

In 2005 the ECB started work on the development of a new series of euro banknotes. The functional and technical requirements were established and the security features to be included in the new series of banknotes were developed. In 2008 work focused on the further development of the design and security features of the banknotes and the integration of the security features into the design. The development of the origination materials, the master materials used for banknote production, also started in 2008.

The design of the second series of euro banknotes will be based on the “ages and styles of Europe” theme and will include the most important design elements from the first series of banknotes. As the design and development of the origination materials is an iterative process, this work will continue in 2009. All major stakeholders involved in the cash cycle are being consulted and kept informed of the progress made during the development process. The new series will be launched over a period of several years, with the first denomination expected to be issued in a few years’ time. The exact launch date will be determined at a later stage. The ECB will inform the public well in advance about the modalities of the introduction of the new banknotes. The NCBs will redeem euro banknotes from the first series for an unlimited period of time.