

# Euro Banknotes in Circulation and the Allocation of Monetary Income within the Eurosystem

Martin Handig,  
Robert Holzfeind<sup>1</sup>

Banknotes in circulation are traditionally the most important liability item in the balance sheet of central banks. The launch of euro cash created the need to treat this item in new way to reflect the joint liability of all Eurosystem members – the ECB and all national central banks (NCBs) of the euro area – for euro banknotes. In this context, the implications of banknote migration expected both within and outside the euro area, as well as its potential impact on the distribution of profits among the euro area central banks, were subject to extensive discussions already before the cash changeover.

A major challenge for the Eurosystem has been the fair allocation of monetary income. This is the income accruing to the individual NCBs in the performance of their monetary policy functions. In particular, this income – traditionally referred to as seigniorage income – includes income derived from assets held against notes in circulation and deposit liabilities to credit institutions.

The experience of the first five years after the cash changeover shows that the combination of all relevant aspects of the Eurosystem's banknote circulation and seigniorage income rules has ensured a fair allocation of monetary income, the functional integrity of the Eurosystem,<sup>2</sup> and thus the fulfillment of the objective stipulated by Article 32 of the Statute of the European System of Central Banks<sup>3</sup> (ESCB).

JEL classification: E52, E58

Keywords: Seigniorage, monetary income, banknotes, liability base.

## 1 Introduction

Judging from the balance sheets and financial reports<sup>4</sup> of central banks in the euro area, the economic significance of the changeover to the euro did not become fully apparent until banknotes and coins were introduced on January 1, 2002. The important change was that since that date *banknotes in circulation, as reflected in the balance sheets of the euro area NCBs, have no longer corresponded with the net balance of banknotes physically put*

*into and withdrawn from circulation by the NCBs.*<sup>5</sup>

In the run-up to the launch of euro cash, sceptics<sup>6</sup> had warned that, in view of expected cash migration flows, income positions might shift to the detriment of certain members of the Eurosystem. The fact that such predicted distortions have not occurred is primarily attributable to the forward-looking implementation of the provisions stipulated under Article 32 of the ESCB Statute that

<sup>1</sup> The authors would like to thank Birgit Erdelmeier and Ian Ingram as well as Ernest Gnan for their valuable comments.

<sup>2</sup> See Scheller (2003, p. 131).

<sup>3</sup> Consisting of the NCBs of all EU Member States and the ECB.

<sup>4</sup> All balance sheet and profit and loss account items mentioned in this paper reflect the format and nomenclature laid down in the "Guideline of the ECB of 10 November 2006 on the legal framework for accounting and reporting in the European System of Central Banks" (ESCB), ECB/2006/16; see Annex IV in particular. The accounting provisions laid down by this guideline, in fact the world's only multilateral and central bank-specific framework for financial reporting, are recommended by the IMF for central bank accounting alongside the International Financial Reporting Standards (IFRS).

<sup>5</sup> Euro banknotes are fully fungible within the euro area, i.e. they may be exchanged for value at any euro area NCB, irrespective of the original issuer.

<sup>6</sup> See Sinn and Feist (2000), Bini Smaghi and Gros (2000) as well as Gros (1998) in detail.

Refereed by:  
Birgit Erdelmeier, ECB;  
Ian Ingram, ECB.

were designed to ensure fair allocation at all times.<sup>7</sup> The cornerstone of this regime is the proportional share of euro area NCBs in the ECB's fully paid-up capital (*relative capital share*): The relative capital share determines the *banknote allocation key* in line with which the total value of euro banknotes in circulation (excluding the ECB's share) is allocated among the NCBs and thus accounted for in the NCBs' balance sheets. Furthermore, the *banknote allocation key* also governs the reallocation of overall *monetary income* arising from banknotes in circulation (*seigniorage income*<sup>8</sup>).

However, ongoing efforts to observe the fairness principle have led to an operationally complex regime. While the (re)allocation regime is precisely defined in the ESCB Statute, its implementation and balance sheet presentation are complex for two reasons. First, the income<sup>9</sup> to be pooled for reallocation needs to be calculated on the basis of *earmarked assets*, taking into consideration various intra-Eurosystem balances arising from the application of the banknote allocation key. Second, the fact that the key for subscription of the ECB's capital has to be adjusted every five years<sup>10</sup> and also following any enlargement of the euro area entails repeated adjustments.

Following an explanation of the regulatory framework (section 2), section 3 of this paper clarifies the Eurosystem's accounting regime for euro banknotes in circulation. In this context, it is shown how the corresponding figures have developed in the balance sheet of the Oesterreichische Nationalbank (OeNB) since 2002. On this basis, sections 3 and 4 refer to the intra-Eurosystem balances that arise from the application of the banknote allocation key and explain how monetary income relates to the monetary assets reflected in NCBs' balance sheets. In addition, section 4 demonstrates how the key for the allocation of *monetary income* applicable since 2002 functions and shows on the basis of the OeNB's balance sheet how financial effects were kept neutral for the distribution of monetary income, particularly by smoothing *the net balance of euro banknotes put into and withdrawn from circulation*. Section 5 concludes.

## 2 Regulatory Framework

As set forth in Article 16 of the ESCB Statute,<sup>11</sup> the Governing Council of the ECB has the exclusive right under Article 106 of the Treaty establishing the European Community to authorize the issue of banknotes within the Community. To this effect, the Governing Council of the ECB decided in

<sup>7</sup> See Scheller (2003, p. 530–533) in detail.

<sup>8</sup> For the definition of this term, see Scheller (2003, p. 530).

<sup>9</sup> See subsection entitled "Cash, monetary policy and central bank profits" in *Deutsche Bundesbank* (2002, pp. 32–34; above all p. 34).

<sup>10</sup> Under article 29.3 of the ESCB Statute.

<sup>11</sup> The ESCB Statute was published as a "Protocol on the Statute of the European System of Central Banks and the ECB" annexed to the Treaty establishing the European Community and has since been adjusted by the Treaty of Amsterdam and the Treaty of Nice.

2001 that the ECB and the – then 12 – euro area NCBs would issue euro banknotes as legal tender from January 1, 2002.<sup>12</sup> The ECB's share of total banknotes in circulation was set at 8%, whereas the remaining 92% are to be allocated to the NCBs in proportion to their paid-up shares in the capital of the ECB (see also section 3.1). However, the physical issue – actually putting banknotes into circulation and withdrawing them from circulation, as well as any physical handling<sup>13</sup> – occurs only through NCBs. This division of responsibilities<sup>14</sup> as well as the disclosure of the ECB's share call for balance sheet adjustments within the Eurosystem (section 3).

Since euro banknotes in circulation constitute a key element of the regime governing the allocation of monetary income within the Eurosystem, the decisions of the ECB's Governing Council based on Article 16 of the ESCB Statute of 6 December 2001 on the issue of euro banknotes (ECB/2001/15) and those based on Article 32 on the allocation of monetary income to the NCBs of participating Member States from the financial year 2002 (ECB/2001/16) onward should be seen as a "twin solution."<sup>15</sup> In the end, monetary income is basically redistributed via

(remunerated) *intra-Eurosystem balances* created by the application of the banknote allocation key.

Table 5 shows the capital shares and banknote allocation keys that were valid until December 31, 2006, and those which apply from January 1, 2007,<sup>16</sup> onward, respectively.

### 3 Balance Sheet Presentation of Euro Banknotes

This section first clarifies the balance sheet presentation of euro banknotes in circulation and the adjustment of physical circulation levels via *intra-Eurosystem balances*. After illustrating the development of banknotes in circulation since 1999, the impact on the OeNB's annual accounts is described in detail.

#### 3.1 Banknotes in Circulation versus Banknote Liabilities Allocated to NCBs

Euro banknotes are issued by the ECB and euro area NCBs, whose number stood at 12 at end-2006 and now stands at 13 since Slovenia joined the euro area on January 1, 2007. To reflect the joint liability of the Eurosystem, the total value of euro banknotes in circulation is allocated on the last working day of each month among the members of the Eurosystem in accordance with a banknote allocation

<sup>12</sup> Decision of the ECB of 6 December 2001 on the issue of euro banknotes (ECB/2001/15), Official Journal of the European Union (OJ) L 337, 20.12.2001, p. 52–54. This decision was recently amended by the Decision of the ECB of 15 December 2006 (ECB/2006/25) as a result of capital key adjustments (owing to accessions and Article 30.5).

<sup>13</sup> Decision of the ECB (ECB/2001/15, Article 3.1).

<sup>14</sup> According to this concept, the ECB's share is put into circulation through the NCBs, in proportion to the relative capital key.

<sup>15</sup> Decision of the ECB (ECB/2001/16, recitals 6 to 9).

<sup>16</sup> On January 1, 2007 the capital shares and banknote allocation keys were readjusted on the accession of the Romanian and Bulgarian NCBs to the ESCB and owing to the switch of Slovenia to the euro and Banka Slovenije's concomitant accession to the Eurosystem. For a current overview of shares see [www.ecb.int](http://www.ecb.int).

key determined by the Governing Council of the ECB.<sup>17</sup>

The purpose of the banknote allocation key is to adjust the total value of banknotes in circulation by two factors. First, the total value of euro banknotes in circulation is reduced by 8% to account for the ECB's share. Second, the remaining 92% are distributed among the euro area NCBs in proportion to their shares in the ECB's fully paid-up capital. The percentage resulting for the OeNB – its *relative capital share* – has been 2.9002% (previously: 2.9095%) since January 1, 2007. The amount established with the capital share mechanism (CSM) described here corresponds to the OeNB's share in the total value of euro banknotes in circulation and is disclosed as the OeNB's banknote liabilities under "Banknotes in circulation."

The difference between the *value of euro banknotes allocated to the individual euro area NCBs* and the *banknotes they have actually put into and withdrawn from circulation* gives rise to (remunerated) intra-Eurosistem claims or liabilities. If the net balance of banknotes in circulation exceeds the value of banknotes allocated to an NCB, a corresponding "net liability related to the allocation of euro banknotes within the Eurosistem" is disclosed. If, however, the net balance of banknotes in circulation is

lower, a corresponding net claim arises. Overall amounts of interest income and expense on these balances are cleared through the ECB as single net amounts and disclosed as "interest income" in the profit and loss account.

Since the ECB itself does not physically put banknotes into circulation, it always discloses a net intra-Eurosistem claim. The interest income earned on this claim corresponds to the seigniorage income that the ECB derives from its 8% share in the issue of euro banknotes.

The Governing Council of the ECB has decided that the seigniorage income of the ECB shall be due to the NCBs in the same financial year it accrues and distributed to NCBs as an advance dividend on the second working day after the end of each financial year.<sup>18</sup> It shall be so distributed in full to the NCBs unless the ECB's net profit for the financial year is less than its seigniorage income for the same year. Furthermore, the Governing Council of the ECB can decide to reduce the distribution amount proportionally in respect of costs incurred by the ECB in connection with the issue and handling of euro banknotes or to transfer part or all of the seigniorage income to the ECB's provision for foreign exchange rate, interest rate and gold price risks.<sup>19,20</sup> In the NCBs' profit and loss accounts,

<sup>17</sup> Decision of the ECB of 6 December 2001 on the allocation of monetary income of the NCBs of participating Member States from the financial year 2002 (ECB/2001/16), OJ L 337, 20.12.2001, pp. 55–61, as amended by ECB/2003/22, OJ L 9, 15.1.2004, p. 39.

<sup>18</sup> Decision of the ECB of 17 November 2005 on the distribution of the ECB's income on euro banknotes in circulation to the NCBs of the participating Member States (ECB/2005/11). As with other net profits of the ECB, this distribution is made on the basis of the relative capital key. The interest paid by NCBs on the ECB's claims against them in respect of its share of banknotes will usually be offset in the profit and loss account by profit distributions for that year.

<sup>19</sup> Decision of the ECB of 17 November 2005 amending decision ECB/2002/11 on the annual accounts of the ECB (ECB/2005/12); replaced by ECB/2006/17 on January 1, 2007.

<sup>20</sup> See Scheller (2004, p. 129).

seigniorage income distributed by the ECB is disclosed under “Income from equity shares and participating interest.” With respect to 2005 and 2006, the Governing Council of the ECB decided to retain all seigniorage income.

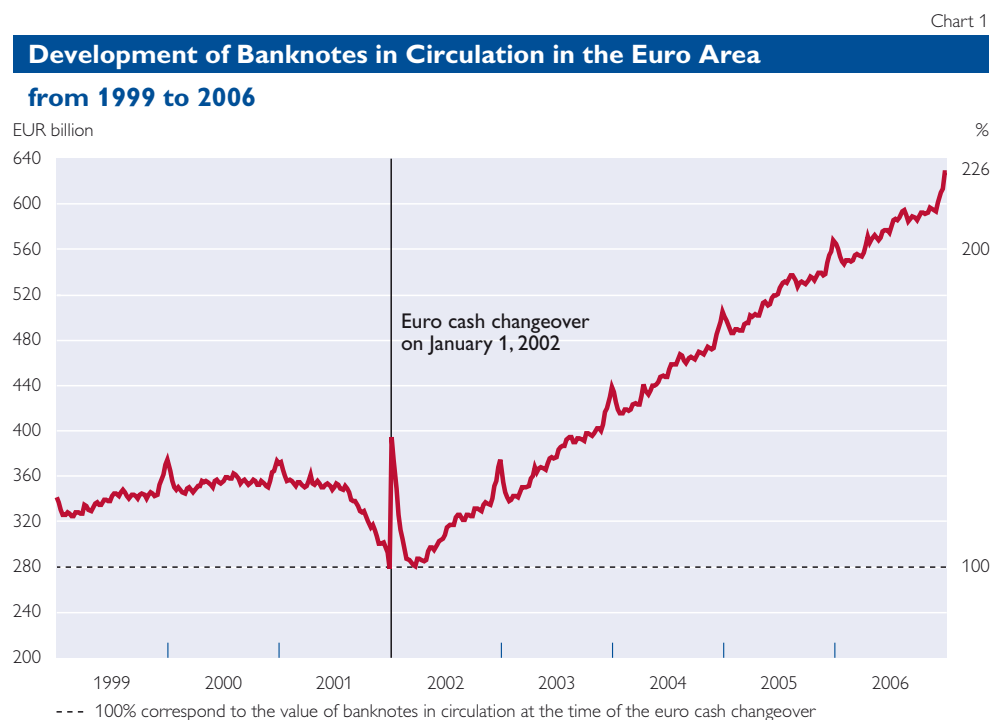
### 3.2 Development of Euro Banknotes in Circulation and Intra-Eurosystem Balances since 2002

Since euro banknotes were first issued on January 1, 2002, the levels of circulation have steadily increased. At end-2006, the value of banknotes in circulation peaked at a historic high of more than EUR 628 billion. This means that circulation levels have grown some 19% on average per year.<sup>21</sup>

Chart 1 shows the development of banknotes put into and withdrawn from circulation by the Eurosystem since the beginning of 1999. Until 2002, banknotes in circulation were exclusively composed of national banknotes from euro area countries. In 2002, following the introduction of euro cash, banknotes in circulation comprised both national banknotes and euro banknotes, with the share of national banknotes in circulation falling significantly during the year.

### 3.3 Impact of the Eurosystem Accounting Regime for Banknotes in Circulation on the OeNB's Balance Sheet

The amount disclosed under the liability item “Banknotes in circulation” in the OeNB's balance sheet corre-



<sup>21</sup> Since the focus of this paper is on accounting aspects, the reasons for this growth will not be analyzed. Instead, only the facts underlying this development will be highlighted.

Table 1

### Value of Euro Banknotes in Circulation versus Euro Banknote Liabilities

EUR million

Banknotes in circulation disclosed on the OeNB's balance sheet	December 31, 2006
Net balance of euro banknotes put into and withdrawn from circulation by the OeNB	1,138
<b>Adjustments arising from</b>	
OeNB liability related to the ECB's share of euro banknotes in circulation <sup>1</sup>	-1,462
OeNB claim related to the allocation of euro banknotes within the Eurosystem (CSM)	17,139
<b>Euro banknote liabilities allocated to the OeNB<sup>2</sup></b>	<b>16,815</b>

Source: OeNB.

<sup>1</sup> This amount corresponds to the OeNB's share of 8% of the euro banknotes in circulation that is disclosed on the ECB's balance sheet.

<sup>2</sup> This amount corresponds to 2.6765% (in accordance with the OeNB's banknote allocation key applicable as at December 31, 2006) of the total of value euro banknotes in circulation.

Chart 2

### Development of Banknotes in Circulation Disclosed in the OeNB's Balance Sheet from 1999 to 2006



Source: OeNB.

sponds to the OeNB's share of total euro banknotes in circulation within the euro area as established in line with the accounting regime described in section 3.1. The starting point for calculating that liability is the value of banknotes that the OeNB physically put into and withdrew from circulation in the given period, as set out in the Decision of the Governing Council of the ECB of 6 December 2001 (ECB/2001/15).

Table 1 shows the relevant figures for the OeNB as at December 31, 2006, based on a total value of euro banknotes in circulation in the euro area of EUR 628 billion.

Adjustments resulting from this reallocation give rise to an intra-Eurosystem claim for the OeNB at end-2006, recorded in the OeNB balance sheet as the asset item "Net claims related to the allocation of euro banknotes within the Eurosystem."



Table 2

**Euro Banknotes in Circulation Allocated to the OeNB (Annual Averages)**

	Annual average euro banknote liabilities <sup>1</sup>	Change	
		EUR million	%
2002	8,887	-3,632	-29.0
2003	9,913	+1,026	+11.5
2004	11,751	+1,838	+18.5
2005	13,618	+1,867	+15.9
2006	15,218	+1,511	+11.1
<b>Average 2002 to 2006</b>	<b>11,859</b>	<b>x</b>	<b>x</b>

Source: OeNB.

<sup>1</sup> See footnote 21.

The share of euro banknotes allocated to the OeNB has been increasing in line with the total value of euro banknotes in circulation within the euro area. Chart 2 shows the development of banknotes in circulation disclosed in the OeNB's balance sheet<sup>22</sup> since 1999; euro banknotes have, of course, only been included since 2002.

Table 2 shows the annual average value of the liability item "Banknotes in circulation" over the past five years.

#### 4 Allocation of Monetary Income within the Eurosystem

According to the concept defined in Article 32 of the ESCB Statute, the monetary income of euro area NCBs is pooled and then reallocated to the NCBs in proportion to their share in the fully paid-up capital of the ECB.<sup>23</sup> Since the financial year 2003, the so-called semi-direct method<sup>24</sup> has been used to calculate such income in line

with Article 32.2 of the ESCB Statute and will be used at least until end-2007.

In order to better describe the process of allocating monetary income, this section is divided into three subsections. The first introduces the regime for allocating *monetary income*. The second provides a detailed explanation of the smoothing mechanism (*compensatory amount*) introduced in connection with the banknote allocation key (section 3). The third and final subsection presents the financial impact on the OeNB's income.

The guiding principle of the provisions governing reallocation is the fair allocation of seigniorage income<sup>25</sup> arising from the use of monetary policy instruments, irrespective of which euro area NCB actually earns this income. The pooled monetary income of euro area NCBs is also reallocated in line with their share in the ECB's fully paid-up capital.

<sup>22</sup> In 2002 the OeNB disclosed both euro banknotes and Austrian schilling banknotes in circulation under this balance sheet item. From 2003 it shows only euro banknotes in circulation under this item.

<sup>23</sup> Income will not be reallocated provided the pooled amount for covering an annual loss incurred by the ECB is fully/partially retained by the ECB under Article 33.2.

<sup>24</sup> Decision of the Governing Council of the ECB of 6 December 2001 (ECB/2001/16), recently amended by the Decision of the Governing Council of the ECB of 19 May 2006 (ECB/2006/7).

<sup>25</sup> See Scheller (2003, p. 530 ff.) in detail.

#### 4.1 Regime for Allocating Monetary Income within the Eurosystem

The concept of monetary income pursuant to Article 32 of the ESCB Statute refers to the monetary income that accrues to the euro area NCBs in the performance of the Eurosystem's monetary policy function. As defined by the ESCB Statute, the monetary income of the euro area NCBs corresponds to their annual income derived from earmarkable assets held as a counterpart against notes in circulation and their deposit liabilities to credit institutions (*monetary base*).<sup>26</sup> The monetary income so accrued is reduced by expenses incurred due to the use of liquidity-absorbing monetary policy instruments. In particular, the Eurosystem's minimum reserve requirements materially affect the calculation of monetary income, as the interest paid by NCBs to credit institutions on their minimum reserve deposits reduces the income to be pooled under Article 32.4 of the ESCB Statute.

In addition, costs that may be claimed by business partners in the event of defined TARGET<sup>27</sup> malfunctioning are deductible from the monetary income to be pooled. Interest to be paid for the financial year and incurred in the context of the remunerated intra-Eurosystem net liability related to the allocation of euro banknotes within the Eurosystem is also deducted. Furthermore, costs

incurred in connection with the issue of banknotes may also be deducted, subject to a decision of the Governing Council of the ECB under Article 32.4 of the ESCB Statute. However, such a decision has not been made so far.

Any income from monetary policy-related refinancing operations (the asset item "*Lending to euro area credit institutions related to monetary policy operations denominated in euro*," mainly arising from tender operations), TARGET claims and other relevant intra-Eurosystem balances<sup>28</sup> are part of the monetary income to be pooled under the semi-direct method applicable from 2003 to 2007. Gold holdings equivalent to the share of each euro area NCB in the ECB's capital are also taken into consideration, but for the calculation of monetary income a zero return is assumed for gold, since gold effectively generates no income.

Where the value of an NCB's earmarkable assets exceeds or falls short of the value of its monetary base, the difference is offset by applying to the value of the difference the average annual rate of return on all euro area NCBs' assets earmarked for the calculation of monetary income. The average annual rate is calculated by the ECB and has so far fallen just short of the average annual *marginal rate of return on the Eurosystem's main refinancing operations*.<sup>29</sup> The resulting amount is added to the monetary income to

<sup>26</sup> For the definition of relevant income versus other income, see Scheller (2003, p. 533).

<sup>27</sup> *Trans-European Automated Real-time Gross settlement Express Transfer*. TARGET is a real-time gross settlement system for settling large-value euro-denominated payments, which consists of 16 national real time gross settlement (RTGS) systems, the ECB payment mechanism and an interlinking component connecting the RTGS systems.

<sup>28</sup> In particular, this includes balance sheet asset items comprising remunerated euro claims equivalent to the transfer of foreign reserve assets to the ECB, as well as disclosed net balances related to the allocation of euro banknotes in circulation within the Eurosystem provided these are shown as a net claim in the relevant financial year.

<sup>29</sup> Specifically, the latest available (marginal) rate for the Eurosystem's main weekly refinancing operation.



be pooled as income when the monetary base exceeds the value of the earmarkable assets. Conversely, the result is deducted as an expense from the monetary income to be pooled when the earmarkable assets exceed the monetary base.

The sum of income thus calculated is to be pooled by individual euro area NCBs following adjustment for expenses incurred with regard to the use of monetary policy instruments (especially minimum reserve balances) as well as for TARGET liabilities and other significant intra-Eurosystem balances. Finally, the aggregate net income is reallocated to the euro area NCBs in proportion to their respective share in the ECB's fully paid-up capital.

The actual annual reallocation of monetary income takes place retroactively on the last working day in January of the following year through TARGET payments among the euro area NCBs.

Both this calculation – which is based on the daily transfer of financial data from euro area NCBs to the ECB – and the net payments of monetary income among the NCBs resulting from the reallocation occur via the ECB, which acts as a central clearing house.

#### **4.2 Compensatory Amounts Adjusting Banknote-Related Intra-Eurosystem Balances**

In order to prevent sudden significant changes in the relative income positions of individual NCBs compared with the pre-cash changeover period, the intra-Eurosystem balances created by the allocation of banknote liabilities are subject to a smoothing mechanism<sup>30</sup> in the first five years following the cash changeover year. This mechanism is based on compensating factors, which reflect the difference between the average value of banknotes in circulation<sup>31</sup> in a *reference period*<sup>32</sup> before the euro cash changeover and the corresponding theoretical value calculated on the basis of the banknote allocation key. These compensating factors are progressively reduced to zero until, from the sixth year after the cash changeover, the income generated by banknotes in circulation is distributed only in accordance with the banknote allocation key. The smoothing regime (including a special provision for Luxembourg), introduced in 2002 for the OeNB and all other central banks participating in the Eurosystem at the time (i.e. except for Banka Slovenije<sup>33</sup>), will terminate on December 31, 2007. By the same token, *compensa-*

<sup>30</sup> Decision of the Governing Council of the ECB of 6 December 2001 on the allocation of monetary income to NCBs of participating Member States from the financial year 2002 (ECB/2001/16), recently amended by the Decision of the Governing Council of the ECB of 19 May 2006 (ECB/2006/7).

<sup>31</sup> For the financial year 2002 only, a special rule was in force until 31 December 2002. According to this, in addition to euro banknotes, national (in this case, Austrian schilling) banknotes in circulation were also included in the calculation of the total value of banknotes in circulation.

<sup>32</sup> The start of the two-year reference period will always be the 30th month prior to the introduction of euro cash. This means that the reference period for Slovenia, for instance, ranges from July 2004 to June 2006. These rules are to be applied accordingly to all NCBs joining the Eurosystem in future.

<sup>33</sup> The smoothing adjustments will apply for Slovenia from January 1, 2007.

tory amounts apply, however, for *Banka Slovenije* from January 1, 2007, i.e. the day it joined the Eurosystem, and these compensatory amounts will be progressively adjusted over the six<sup>34</sup> years ahead.

Each new entry to the Eurosystem will give rise to new compensatory amounts for a smoothing period of six years each. The original plan was to allocate all monetary income fully in accordance with the ECB's capital key from 2008; now, of course, compensatory amounts will continue to apply for Slovenia beyond that date. The compensatory amounts to which every euro area central bank is entitled in the six-year smoothing period are offset in the balance sheet by a nonremunerated counterpart of the same amount.

The net intra-Eurosystem balances related to the allocation of euro banknotes within the Eurosystem, as adjusted for the compensatory amount, are remunerated on a daily basis. The remuneration rate used is the marginal rate for the main refinancing operations.<sup>35</sup> As mentioned above, the counterpart for offsetting the compensatory amount does not incur interest.

### 4.3 The OeNB's Share of Monetary Income Earned by the Eurosystem in the Financial Year 2005

For the OeNB, monetary income earned, interest income or expense on intra-Eurosystem balances arising from the allocation of euro banknote liabilities, the entitlement to ECB seigniorage payments for 2005, and the effects arising from transfers to risk provisions<sup>36</sup> made by the ECB are as follows:

#### 4.3.1 The OeNB's Net Result from the Allocation of Monetary Income within the Eurosystem in 2005

According to the method described in sections 4.1 and 4.2, the OeNB contributed EUR 278 million to the monetary income pooled by all euro area NCBs, but was reallocated EUR 285 million in 2005.

The OeNB's resulting net monetary income of EUR 7 million reflects the reallocation effect within the Eurosystem, which is based on the difference between the net contributions of euro area NCBs and their redistribution entitlements based on their relative shares in the ECB's capital.

Table 3

#### Net Result of Monetary Income Pooled by and Reallocated to the OeNB

EUR million

	2005
Monetary income	644
Deductions (especially interest expense)	-366
Net monetary income to be pooled	-278
Reallocated monetary income	285
<b>Net result from reallocation</b>	<b>7</b>

Source: OeNB.

<sup>34</sup> The six-year rule is obtained from the special euro changeover year plus the five following years.

<sup>35</sup> Pursuant to decision ECB/2001/16, as amended by a decision of the Governing Council of the ECB of 19 May 2006 (ECB/2006/7).

<sup>36</sup> Decision of the Governing Council of the ECB of 17 November 2005 amending decision ECB/2002/11 on the annual accounts of the ECB (ECB/2005/12); replaced by ECB/2006/17 on January 1, 2007.

Table 3 shows the OeNB's net result from the allocation of monetary income for 2005.<sup>37</sup>

#### 4.3.2 Impact on the OeNB's Result for the Financial Year 2005 Taking All Relevant Components into Consideration

The result of the pooling of monetary income as explained above should be seen in the context of payment flows arising from the reallocation of banknotes in circulation. For this reason, this article presents in the following an overview of the financial impact arising from the monetary income regime in connection with the remuneration of net balances related to the allocation of euro banknotes within the Eurosystem.

Table 4 shows the financial impact for the OeNB, including all the relevant financial components of the current monetary income regime.

In 2005, the value of banknotes put into and withdrawn from circulation by the OeNB fell well short of the value of banknotes allocated to the OeNB and thus actually reported in its annual accounts as banknotes in circulation. The financial impact of this development is reflected in the

interest income on the intra-Eurosystem balances related to the allocation of euro banknotes within the Eurosystem.

Table 4 also shows the financial smoothing effect of the method described in section 4.2. The smoothing mechanism for the period from 2002 to 2007 offsets only past imbalances (from July 1999 to June 2001) via remuneration of the compensatory amount.

## 5 Conclusions

Until euro banknotes were issued, the disclosure of *banknotes in circulation* did not require any special regulatory framework, as each central bank was the sole institution authorized to issue banknotes in its country and would not accept banknotes issued by other central banks. This meant that each NCB disclosed the exact overall value of the banknotes it had *physically put into and withdrawn from circulation*, and no adjustment was required. In the transitional period between the establishment of the Eurosystem on January 1, 1999, and the introduction of euro banknotes on January 1, 2002,<sup>38</sup> the national currencies of other euro area NCBs

Table 4

Overall Monetary Income	
EUR million	
	2005
Net result from the pooling and reallocating of monetary income	7
Remuneration of the intra-Eurosystem balances related to:	146
the ECB's share of euro banknotes in circulation (ECB seigniorage)	-25
the allocation of euro banknotes within the Eurosystem (CSM)	144
the remunerated compensatory amount	27
<b>Net income</b>	<b>153</b>

Source: OeNB.

<sup>37</sup> As disclosed in the OeNB's annual accounts.

<sup>38</sup> This also applied to the dual phase when both national and euro banknotes were accepted as legal tender in 2002.

had to be accepted for conversion (at an already fixed irrevocable euro conversion rate) pursuant to Article 52 of the ESCB Statute and then had to be repatriated to the issuing central bank (where they would be finally destroyed); yet ultimately this regime did not affect the banknote liabilities of the accepting central bank.

With the introduction of euro cash as the Eurosystem's single currency, these national procedures could not be maintained since, in addition to euro banknotes withdrawn by domestic commercial banks, each euro area NCB is obliged to accept all euro banknotes returned to it, irrespective of whether they were issued by itself or by another euro area NCB.

In the absence of the now approved regime, banknote migration would have obliged a single euro area central bank to accept, in an extremely hypothetical case, liability for the total value of euro banknotes in circulation. Since, however, the current legal framework<sup>39</sup> limits the liability of each NCB to its *relative capital share*, it was necessary to provide, first, for a *fair allocation of banknotes* and, second, for smoothing process that would offset imbalances arising from the migration of euro banknotes across national borders within the EU both in accounting and financial terms.

The same principle logically applies, third, to the income derived by each NCB from its banknotes in circulation (seigniorage income) and its monetary policy instruments. Here,

too, seigniorage income used to accrue directly to each NCB before it became an integral part of the Eurosystem, and was clearly distinguishable from the income of other central banks with regard to the distribution of dividends to shareholders and/or the state. The financial consequences of joint banknote issuance and withdrawal were already acknowledged when the establishment of the Economic and Monetary Union (Treaty of Maastricht) was approved and were taken into account under Article 32 of the ESCB Statute. The Governing Council of the ECB was authorized to adopt all further measures for implementing Article 32 in the Eurosystem.

Prior to the coming into force of the aforementioned regime for the expected diverse consequences of banknote migration and for the *allocation of monetary income*, it was hardly possible to meaningfully predict how the many determinants would develop. Nevertheless, expert working groups<sup>40</sup> of the Eurosystem managed to create for both the balance sheet presentation of euro banknotes in circulation and the allocation of monetary income within the Eurosystem a fair and feasible regulatory framework that is open to new entrants to the Eurosystem and takes account of the principles of fairness, neutrality and equal treatment. The current monetary income regime was approved by the Governing Council of the ECB in December 2001 and is binding at least until 2007.

<sup>39</sup> See recitals 7 and 8 of the Decision ECB/2001/15.

<sup>40</sup> Committees in the Eurosystem are composed of experts from NCBs (see the corresponding section in the relevant ECB annual report, e.g. 2005, p. 171). In collaboration with experts from other areas of expertise, the Accounting and Monetary Income Committee (AMICO) was responsible for the development of the currently regulatory framework.

In 2007, expert working groups will conduct a systematic<sup>41</sup> review of the current regime governing the allocation of monetary income, following a mandate of the Governing

Council of the ECB in order to ensure its future applicability in conformity with the principles of fair allocation and the functional integration of the Eurosystem.

Table 5

Capital Shares of EU Central Banks						
	Subscribed capital		Paid-up capital		Banknote allocation key	
	as at December 31, 2006	from January 1, 2007	as at December 31, 2006	from January 1, 2007	as at December 31, 2006	from January 1, 2007
Deutsche Bundesbank	21.1364	20.5211	29.5652	29.5229	27.2000	27.1610
Banque de France	14.8712	14.3875	20.8016	20.6987	19.1375	19.0430
Banca d'Italia	13.0516	12.5297	18.2563	18.0260	16.7960	16.5840
Banco de España	7.7758	7.5498	10.8766	10.8616	10.0065	9.9925
De Nederlandsche Bank	3.9955	3.8937	5.5888	5.6017	5.1415	5.1535
Nationale Bank van België/Banque Nationale de Belgique	2.5502	2.4708	3.5672	3.5546	3.2820	3.2705
<b>Oesterreichische Nationalbank</b>	<b>2.0800</b>	<b>2.0159</b>	<b>2.9095</b>	<b>2.9002</b>	<b>2.6765</b>	<b>2.6680</b>
Bank of Greece	1.8974	1.8168	2.6541	2.6138	2.4415	2.4045
Banco de Portugal	1.7653	1.7137	2.4693	2.4654	2.2715	2.2680
Suomen Pankki	1.2887	1.2448	1.8026	1.7908	1.6585	1.6475
Central Bank and Financial Services Authority of Ireland	0.9219	0.8885	1.2895	1.2782	1.1865	1.1760
Banka Slovenije	x	0.3194	x	0.4595	x	0.4225
Banque centrale du Luxembourg	0.1568	0.1575	0.2193	0.2266	0.2020	0.2090
	<b>71.4908</b>	<b>69.5092</b>	<b>100.0000</b>	<b>100.0000</b>	<b>92.0000</b>	<b>92.0000</b>
Bank of England	14.3822	13.9337	x	x	x	x
Narodowy Bank Polski	5.1380	4.8748	x	x	x	x
Banca Națională a României	x	2.5188	x	x	x	x
Sveriges Riksbank	2.4133	2.3313	x	x	x	x
Danmarks Nationalbank	1.5663	1.5138	x	x	x	x
Česká národní banka	1.4584	1.3880	x	x	x	x
Magyar Nemzeti Bank	1.3884	1.3141	x	x	x	x
Bulgarian National Bank	x	0.8833	x	x	x	x
Národná banka Slovenska	0.7147	0.6765	x	x	x	x
Lietuvos bankas	0.4425	0.4178	x	x	x	x
Banka Slovenije	0.3345	x	x	x	x	x
Latvijas Banka	0.2978	0.2813	x	x	x	x
Eesti Pank	0.1784	0.1703	x	x	x	x
Central Bank of Cyprus	0.1300	0.1249	x	x	x	x
Central Bank of Malta	0.0647	0.0622	x	x	x	x
	<b>28.5092</b>	<b>30.4908</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
<b>Total</b>	<b>100.0000</b>	<b>100.0000</b>	<b>100.0000</b>	<b>100.0000</b>	<b>92.0000</b>	<b>92.0000</b>
ECB	x	x	x	x	8.0000	8.0000
<b>Total</b>	<b>100.0000</b>	<b>100.0000</b>	<b>100.0000</b>	<b>100.0000</b>	<b>100.0000</b>	<b>100.0000</b>

Source: OeNB, based on the corresponding legal acts of the ECB.

<sup>41</sup> See recital 11 of the Decision ECB/2001/16.

## References

- Bini Smaghi, L. and D. Gros. 2000.** Open Issues in European Central Banking. European Central Banking. London.
- Deutsche Bundesbank. 2002.** Circulation of the Deutsche Mark – From Currency Reform to European Monetary Union. Monthly Report. March.
- Gros, D. 1998.** Distributing Seigniorage under EMU. In: ifo Schnelldienst 51 (17–18). 29 ff and CEPS Working Document 118. March.
- Scheller, H.-P. K. 2003.** Art. 32 der Satzung des ESZB. Verteilung der monetären Einkünfte der nationalen Zentralbanken. In: Von der Groeben, H. and J. Schwarze (eds.). Kommentar zum Vertrag über die Europäische Union und zur Gründung der Europäischen Gemeinschaft. Volume 3. Art. 98–188 of the Treaty Establishing the European Community. 6<sup>th</sup> edition. Baden-Baden. Nomos Verlag.
- Scheller, H.-P. K. 2004.** Die Europäische Zentralbank – Geschichte, Rolle und Aufgaben. ECB. ISBN 92-9181-858-5.
- Sinn, H.-W. and H. Feist. 2000.** Der Euro und der Geldschöpfungsgewinn: Gewinner und Verlierer durch die Währungsunion. In: ifo Schnelldienst 31. 14 ff.
- Smits, R. 1997.** The European Central Bank – Institutional Aspects. Volume 5. Kluwer Law International. London.





# NOTES