

# Cash Logistics in Austria and the Euro Area

Anton Schautzer<sup>1</sup>

Five years of euro banknotes and coins also means five years of experience with cross-border cash logistics. A total of 11.3 billion euro banknotes valued at EUR 628.2 billion are currently in circulation. Handling this enormous amount of cash involves numerous tasks for the national central banks (NCBs) of euro area countries. For example, NCBs must put banknotes and coins into circulation, monitor cash in circulation and its quality, manage the cash cycle and ensure the public's trust in the currency. These tasks are coordinated by the ECB and implemented at the national level.

Within the Eurosystem, the OeNB has established itself as a competence center for cash logistics. In particular, the OeNB's organization of the cash cycle based on close cooperation between the central bank and commercial banks in a public-private partnership model has earned worldwide recognition.

In 2006, a total of 1.2 billion banknotes and 1.7 billion coins were handled (i.e. checked for fitness and prepared for circulation) in Austria. These quantities clearly illustrate the scope of the underlying efforts and at the same time highlight the need for an efficient organizational structure. The highest priority in this context is to ensure the public's trust in the currency. For this purpose, it is important to continue developing cash as a product in the future, to invest in the security of cash as a means of payment, and to ensure a high-quality cash supply at the European level.

JEL classification: E51

Keywords: cash, cash logistics, banknote and coin production, cash in circulation, cash hub.

## 1 Introduction

January 1, 2007, marked the fifth anniversary of the introduction of euro banknotes and coins. Supplying an economy with cash requires extensive logistical efforts, but these efforts largely go unnoticed by the general public, which tends to take a ready supply of cash for granted.

The purpose of this article is to shed some light on how the cash cycle operates. The study begins with a discussion of the underlying decision-making process in the Eurosystem,<sup>2</sup> ranging from demand analysis based on theoretical models, benchmarks and simulations to the allocation of production quotas and cash transport logistics. This description focuses primarily on euro banknotes.

At the European level, responsibility for euro coins is assigned to the European Commission, not to the European Central Bank (ECB). In Austria, however, the Oesterreichische Nationalbank (OeNB) is also responsible for coins due to its 100 percent share in the Austrian mint (Münze Österreich AG). For this reason, coins are also covered in this study.

Due to its geographical location, Austria plays a key role in Central Europe – especially for the new Member States of the European Union (EU), which will gradually introduce euro banknotes and coins in the coming years. One of the OeNB's stated aims is to become the “cash hub” of Central Europe.

<sup>1</sup> The author would like to express his gratitude to Doris Schneeberger, Helmut Stix and Martin Taborsky for their valuable comments.

<sup>2</sup> The Eurosystem is an organizational unit established within the framework of the Economic and Monetary Union. The system consists of the ECB and the NCBs of those EU countries which have introduced euro banknotes and coins. The Eurosystem is not to be confused with the ESCB, which comprises the ECB and the NCBs of all EU Member States.

Refereed by:  
Helmut Stix, OeNB.

The study also describes the cash supply chain in Austria in greater detail. How is cash circulation organized? Which functions are performed by Oesterreichische Banknoten- und Sicherheitsdruck GmbH (OeBS), GELDSERVICE AUSTRIA Logistik für Wertgestionierung und Transportkoordination G.m.b.H. (GSA), and Münze Österreich AG? These questions will be answered using key figures and charts in order to provide as clear and complete a picture of Austrian cash logistics as possible. The discussion initiated by the European Payment Council (EPC) in 2005 regarding the costs of cash will also be addressed in light of the results of an OeNB study on payment habits in Austria.

The study concludes with a brief discussion of the future of cash. The banknotes and coins in circulation are high-technology products even today. However, the fact that preparations for the next series of euro banknotes are already in full swing also indicates that the future has already begun.

## 2 Cash Logistics in Euro Area Countries

Since the introduction of the euro as the sole legal tender in the euro area, cash has no longer been the responsibility of individual central banks alone. As a result, cash logistics have become a cross-border concern which can only be coordinated at a level superordinate to the individual central banks. For this purpose, the ECB acts as a platform which brings together representatives from all the central banks participating in the Eurosystem. This cooperation is a basic pre-

requisite for the functioning of the cash cycle in euro area countries. Standardization in cash-specific services as well as fair and equal competitive conditions for all stakeholders<sup>3</sup> within the euro area are meant to contribute to the single economic area and to maximize efficiency in the supply of cash.

*[...] the Governing Council of the European Central Bank (ECB) has the exclusive right to authorise the issue of banknotes within the Community; [...] Community law has foreseen a system of a plurality of issuers of banknotes. The ECB and the NCBs shall issue euro banknotes. (Decision of the European Central Bank of 6 December 2001 on the issue of euro banknotes, ECB/2001/15, paragraph 1)*

As authorized by the Governing Council of the ECB, euro area banknotes are legally issued by both the ECB and the NCBs of participating countries. However, as the ECB does not have a cash office and is not involved in any cash operations, in practice it is only the NCBs which put euro banknotes into circulation and later withdraw them from circulation. In line with this principle of decentralization for Eurosystem operations, any physical handling of euro banknotes is to be carried out by the NCBs.

In most European countries, the respective ministry of finance is responsible for coin production. In Austria, the government sold the Austrian mint to the OeNB in 1989, which means that through Münze Österreich AG, the OeNB is actively involved in the decision-making process with regard to coin production.

<sup>3</sup> Cash producers and their suppliers, central banks, commercial banks, wholesale and retail businesses, and cash-in-transit companies.

The OeNB and Münze Österreich AG cooperate in calculating demand for each year and submit the results to the European Commission for coordination in line with the defined decision-making process. Since January 1, 1999, production and issue quantities have been subject to approval by the ECB.

At present, approximately 11.3 billion banknotes valued at EUR 628.2 billion and some 69.5 billion coins valued at EUR 17.9 billion are in circulation (as of December 31, 2006). The quantity of cash in circulation thus totals approximately EUR 646.1 billion. This value has nearly tripled since euro banknotes and coins were introduced at the beginning of 2002. One reason for this increase is certainly the fact that the euro is not only used within euro area countries but has also increasingly established itself alongside the U.S. dollar as a reserve currency outside of the euro area.

### **2.1 Euro Banknotes and Coins: Demand and Production**

*The issue of euro banknotes need not be subject to quantitative or other limits, since putting banknotes into circulation is a demand driven process. (Decision of the European Central Bank of 6 December 2001 on the issue of euro banknotes, ECB/ 2001/15, paragraph 3)*

Naturally, this guideline must be seen against the backdrop of the ECB Governing Council's monetary policy decisions. The volume of euro banknotes produced annually must be sufficient to cover any increases in banknote circulation as well as the exchange of banknotes which are unfit for circulation. Moreover, sufficient logistical stocks must be available at all times in order to cover sea-

sonal fluctuations, especially during the holidays toward the end of each year.

Two approaches are used in the calculation of annual cash demand: On the one hand, the NCBs calculate their national demand for euro banknotes for each year and submit the results to the ECB (bottom-up approach), and on the other hand the ECB itself calculates the demand for the Eurosystem as a whole (top-down approach). The results generated by these two approaches are compared and harmonized by the relevant working groups in the Eurosystem. Ultimately, the Governing Council of the ECB decides on the volume to be produced.

Based on this calculated production volume, the actual production of various banknote denominations has been handled by means of a decentralized pooling system since 2002. This means that each NCB in the euro area is assigned a certain share of the overall annual production volume for euro banknotes. In this context, each NCB is only responsible for producing certain denominations (table 1). These shares are based on the capital share allocations of the central banks participating in the European System of Central Banks (ESCB). Each NCB's capital share is calculated on the basis of the respective country's share of the EU's overall population and gross domestic product (GDP). Since January 1, 2007, the OeNB's share of the ECB's subscribed capital has been 2.0159%, and its share of the ECB's fully paid-in capital (i.e., paid in by the central banks participating in the Eurosystem) has been 2.9002%. The latter figure is decisive in the allocation of national production volumes for banknotes.

Table 1

Production Volume in 2007			
Denomination	Quantity	Value	NCBs commissioning production
	millions of banknotes	EUR million	
EUR 5	980	4,900	Germany, Spain, France
EUR 10	1,280	12,800	Germany, Greece, France, Netherlands, Austria
EUR 20	1,890	37,800	Greece, Spain, France, Ireland, Italy, Portugal, Finland
EUR 50	1,730	86,500	Belgium, Germany, Spain, Italy
EUR 100	230	23,000	Italy, Luxembourg, Netherlands
EUR 200	x	x	x
EUR 500	190	95,000	Germany
Total	6,300	260,000	

Source: ECB (2006).

In this decentralized pooling system, the production costs are borne by the NCBs according to the share of banknote production assigned to them.

In the future, the production of euro banknotes will be based on a single Eurosystem tender procedure (SETP). In accordance with the principles of an open market economy, this system is intended to ensure the efficient allocation of resources as well as free and equal competition for all actors involved in production.

## 2.2 Distribution of Cash and Management of Circulation

As mentioned above, the production of banknotes is divided up among the banknote printing works according to the allocation of capital shares to NCBs in the ESCB. However, as not all banknote denominations are produced at all printing facilities, and as stocks of banknotes are built up or reduced at different speeds due to specific national circumstances, it is also necessary to transport cash between euro area central banks. These cross-border transports ensure that banknotes are distributed according to schedule in the euro area.

At the same time, cash flows are driven by various direct and indirect

factors. Direct influencing factors include economic ties, cross-border commuting, labor migration, tourism and the tendency to hoard cash. These factors are in turn influenced by population numbers, income levels, economic power and each population's preferences for specific payment methods. These cross-border flows result in national imbalances in cash circulation which cannot be accounted for completely in banknote production and distribution planning. Yet given their responsibility for managing national cash supply chains, the NCBs need to compensate for these imbalances with individual cross-border cash transports. These are carried out on an ad-hoc basis according to demand.

As euro coins are legal tender in all countries in the euro area regardless of their national side, it is also necessary in this case (albeit to a lesser extent) to observe the phenomenon of cross-border flows and the resulting imbalances. However, coin transports are largely restricted to compensating for regional imbalances.

In order to ensure an efficient supply of cash, logistical warehouses have been set up in all euro area countries. Should drastic changes in de-

mand for euro banknotes or a sudden disruption in the banknote supply arise, additional strategic reserves are available.

Together with the NCBs, the ECB monitors stocks of euro banknotes and coins. Circulation is monitored using detailed monthly reports on stocks, circulation and handling. Quantitative circulation monitoring is complemented by observing the quality of cash in circulation, which is done by recording handling statistics (unfit rates) as well as random statistical testing.

### 3 The OeNB as a Hub in the Euro Area

Austria's geographical location in the center of Europe, at the crossroads of important European transport axes, and in the midst of emerging economic and high-population areas (e.g. in the Centroe Region) brings about a competitive advantage for the OeNB. The enlargement of the EU has given rise to a historical opportunity to develop long-term partnerships with the countries of Central, Eastern and Southeastern Europe. Especially in the field of banknotes and coins, the OeNB and its subsidiaries have already begun to establish themselves as a competence and logistics center as well as a "cash hub." One of the major pillars of this strategy is ensuring the availability of state-of-the-art vault systems which meet the requirements of a supra-regional cash logistics center.

The success of these efforts has already begun to show itself in various ways:

- The OeNB has been designated as a location for strategic stocks within the framework of a new cash storage scheme for euro area countries which focuses on only

a few locations for logistical reasons.

- The OeNB's expertise proved instrumental in the preparations leading up to the introduction of euro banknotes and coins in Slovenia in 2007 and in the initial supply of banknotes for that country in order to ensure a smooth transition to the new currency. In this context, the actual supply of euro banknotes was handled via the OeNB.
- On the basis of an international treaty, the OeNB is responsible for supplying Kosovo, which is under the administration of the United Nations.
- Moreover, the OeNB serves as a key advisor in cash-related matters for many central banks in Central, Eastern and Southeastern Europe.

It is also a fact that – not least due to the strong presence of Austrian commercial banks in Central, Eastern and Southeastern Europe – a great deal of euro cash flows back into the euro area via Austria. This underpins the strategic importance of the OeNB, but at the same time it also requires substantial additional effort in banknote handling.

### 4 Cash Logistics in Austria

Cash logistics are traditionally based on a cyclical system. Once banknotes are printed at the banknote printing works or the coins are minted at the mint, they are accepted by the central bank and distributed to commercial banks, which then supply the economy – businesses and households – with cash. The return flow of cash from economic actors is also handled via commercial banks, which return cash received from customers to the central bank. The central bank then

processes the returned cash, verifies that it is fit for circulation, sorts out unfit banknotes and coins, and once again makes new and still-fit banknotes and coins available to commercial banks.

However, this traditional approach has frequently been called into question. The need to cut costs and increase efficiency have led to the development of new models. While central banks in many countries are withdrawing from the cycle, that is, leaving handling and sorting activities to commercial banks and only providing for the issuance of new banknotes and coins, Austria has chosen a unique solution based on a public-private partnership.

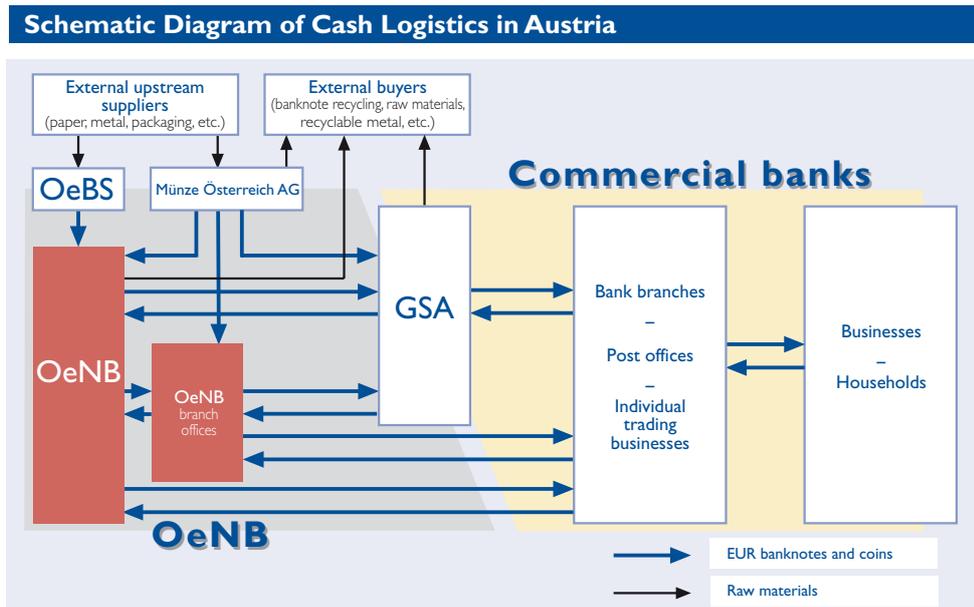
This partnership was enabled by the establishment of GSA, an organization in which the OeNB and Austria's commercial banks cooperate as shareholders. GSA's main task is to handle banknotes and coins. This specialization and cooperation arrangement has made it possible to achieve

economies of scale in cash handling, thus enabling both the commercial banks and the OeNB to reduce costs. Moreover, the OeNB's control function supports the high quality of banknotes in circulation, which central banks in the Eurosystem have undertaken to ensure in order to maintain the public's trust in the currency. The specialized nature of this organization enables it to offer a range of services which is perfectly tailored to the needs of the market.

In addition to GSA's customer-oriented services subject to fees, the Eurosystem guarantees a standardized range of services which is made available to customers free of charge and is offered by the OeNB in Austria.

From a legal standpoint and in light of the core sovereign functions of a central bank, this duality (i.e. the OeNB and GSA) is entirely permissible. The central banks in the Eurosystem are obliged to issue banknotes. In Austria, this obligation is accom-

Chart 1



Source: OeNB.

Table 2

Statistics on Banknotes and Coins in 2006			
	Lodgments	With- drawals	Handled
	billions of Banknotes		
Banknotes	1.2	1.0	1.2
	%		
of which: in Vienna	60	55	40
	billions of coins		
Coins	1.8	2.2	1.7
	%		
of which: in Vienna	44	41	40

Source: OeNB.

panied by a national legal requirement under which the OeNB is obliged to receive the fractional coins minted by Münze Österreich AG and to put them into circulation (§ 8 paragraph 5 of the Fractional Coin Act). Analogous or similar obligations can be found – even without an explicit basis in EU law – in all Member States of the Economic and Monetary Union (EMU).

However, the sovereign duties assigned to the NCBs in the Eurosystem not only include the actual process of putting banknotes and coins in circulation, but also accepting returned banknotes, counting, sorting and verifying authenticity, storing and holding reserve stocks, exchanging and withholding unfit or incomplete banknotes, and removing counterfeit banknotes and coins from circulation.

In the ECB's opinion, it is permissible to outsource certain tasks related to the issuance of banknotes as long as the responsibility for fulfilling these duties remains with the central bank. This requirement is met in Austria. The Cashier's Division at the OeNB acts as the leading operational control and review unit. Central bank

officials perform strategic control and review functions in the supervisory bodies of the companies within the OeNB group. This ensures that the sovereign functions and services are provided, the quality standards prescribed by the ECB are fulfilled, and changing ECB requirements are implemented in their entirety.

Table 2 illustrates the scope of activities related to the cash cycle at the OeNB (including the GSA). In 2006, some 1.2 billion banknotes and 1.7 billion coins were handled. 40% of these handling activities were carried out in Vienna. Of the banknotes processed, 18% were destroyed. Coins which are unfit for circulation are returned to Münze Österreich AG for further processing.

#### 4.1 Role of the OeNB

*Subject to the approval of the ECB, the Oesterreichische Nationalbank shall be empowered to issue banknotes denominated in euro. (Nationalbank Act 1984 as amended in 2002, Section XI, Article 61 paragraph 1)*

According to the Nationalbank Act, the OeNB is authorized to put banknotes (and coins) into circulation in Austria. In this context, the OeNB must ensure that the following tasks are fulfilled:

- issuing cash;
- accepting returned cash;
- maintaining the Austrian population's trust in the currency;
- providing protection against counterfeit banknotes and coins by means of training sessions;
- ensuring sufficient quality in the banknotes and coins circulating in Austria.

The OeNB makes every effort to increase the efficiency of cash logistics in Austria in accordance with the general conditions and security

requirements of the Eurosystem. This requires strategic decisions, as was the case with the establishment of the GSA.

*The Oesterreichische Nationalbank shall be obliged, upon demand, to exchange banknotes which are legal tender in Austria against banknotes of other denominations which are legal tender in Austria. (Nationalbank Act 1984 as amended in 2002, Section XI, Article 62 paragraph 1)*

At the Eurosystem level, an agreement was made to offer certain services in banknote and coin transactions (lodgments and withdrawals) free of charge in all euro area countries if certain formal requirements are met (packaging, presorting). In Austria, these free services are provided by the OeNB.

#### **4.2 Oesterreichische Banknoten- und Sicherheitsdruck GmbH (OeBS)**

OeBS is the company responsible for printing and producing banknotes in Austria and for developing security features. From 1816 – the year in which the OeNB was established – until 1998, the banknote printing works operated as a department within the OeNB. This department was spun off in 1998, with ownership remaining in the hands of the OeNB. The printing works was spun off in order to address the new challenges Austria faced due to its accession to the EU and its participation in the monetary union. At the time, the Eurosystem was expected to put the production of banknotes out to tender in line with competition law, and the OeBS wanted to be prepared for this competition through the spinoff.

Within the framework of the ESCB, OeBS now produces the share

of annual banknote production assigned to Austria on the basis of its ECB capital share allocation. In addition, OeBS also participates in invitations to tender for banknote production worldwide. In this way, OeBS was awarded the contract for the production of the new Azerbaijani manat (AZN), which has been in circulation since the beginning of 2006, as well as other contracts.

Extensive research and development (R&D) activities are required in order for a company such as OeBS to meet the requirements of high-quality and secure banknotes and to hold its own on the world market for banknote production. Therefore, OeBS also places great emphasis on its R&D activities, the importance of which is highlighted by a number of patents.

#### **4.3 GELDSERVICE AUSTRIA G.m.b.H. (GSA)**

The tasks of GSA range from cash handling to cash deliveries and destruction as well as trade in foreign banknotes and coins. The company has been operating in its current form since mid-2001. Today, GSA has nearly 300 employees and handles some EUR 77 billion in banknotes and coins each year. GSA's majority shareholder is the OeNB, which currently holds 91.4% of the company's shares. The remaining 8.6% is held by Austrian commercial banks and insurance companies.

#### **4.4 Münze Österreich AG**

The tasks of Münze Österreich AG include minting, putting into circulation and withdrawing fractional and trade coins, as well as manufacturing and selling other products made of precious and nonprecious metals. The origins of the company date as far

back as 1194, when the minting of coins began under Babenberg rule in Austria. In 1989, the Republic of Austria sold 100% of the shares in Münze Österreich AG to the OeNB. Using state-of-the-art machinery, some 200 employees produce approximately 300 million coins each year. Münze Österreich AG's product range includes not only circulating and commemorative coins but also gold coins and bars.

#### 4.5 OeNB Cashier's Division

The OeNB Cashier's Division is Austria's main cash office. This division has supervisory and directive authority in the OeNB group (OeBS, Münze Österreich AG, GSA), and together with the OeNB branch offices it supplies the Austrian economy with banknotes and coins as needed. Its various organizational units help ensure the high quality of the currency in circulation.<sup>4</sup>

One of the division's key activities is forecasting the demand for banknotes and coins in Austria. In addition, the analytical preparation of data material for cash cycle management is also gaining in importance. As qualified specialists from the Cashier's Division are delegated to the relevant bodies in the Eurosystem, the division also actively participates in decision-making for euro area countries.

When cash is returned from circulation, GSA and the Cashier's Division check whether banknotes and coins are authentic and still fit for circulation. Analyzing the results of these tests and constantly reviewing the quality of currency in circulation form the basis for managing quality standards using parameters such as

unfit rates and machine settings. Unusable and thus unfit banknotes are destroyed, while damaged or unfit coins are passed on to Münze Österreich AG. Counterfeit banknotes and coins are recorded, collected, assessed and classified. This information forms the basis for international counterfeiting investigations.

The OeNB Test Center performs an important function in connection with the sovereign duty of verifying the fitness and authenticity of banknotes and coins. By performing functional tests on banknote authentication devices and counting machines as well as cash recycling systems, the Test Center creates a solid foundation for efficient and accurate banknote authentication throughout Austria.

From the central bank's perspective, cash is regarded as a product. It is produced, delivered, exchanged and returned for inspection. As is the case with other products, the demand for cash also fluctuates. This means that proper and secure storage is also necessary. The sovereign mandate of safekeeping banknotes and coins in vaults is also the responsibility of the Cashier's Division.

In order to enhance the public's trust in the currency, the Cashier's Division also offers cash authentication training sessions for the general public. In these training sessions, the euro's security features are explained in detail. Actual counterfeit cash is used in order to demonstrate how counterfeits can be detected in just a few simple steps.

In addition to providing guidance for authenticity checks, the Cashier's Division also enables the public to exchange old schilling banknotes and

<sup>4</sup> OeNB Test Center, National Counterfeit Center (NCC), Eastern Austria Unit.

coins for euro. This service is provided at all OeNB cash offices – at two locations in Vienna and at all of the branch offices throughout Austria. As an additional measure, the “Euro Bus” has been touring Austria since 2002 in order to raise people’s awareness of the euro’s security features and to provide people with an opportunity to exchange schillings for euro outside of Austria’s provincial capitals. Through this initiative, the OeNB has been able to reach more than 372,000 people, and as a result more than ATS 272 million has been exchanged for euro in the last five years.

These OeNB services are also offered by the Cashier’s Division in cooperation with the public relations unit and the OeNB’s branch offices.

## 5 Cash in Austria

With the euro launch, Austria introduced a new currency which now enjoys worldwide acceptance, is legal tender in 13 EU Member States and can thus also move freely beyond the borders of euro area countries. In order to ensure optimal planning and the efficient deployment of banknotes and coins in the euro area, it is becoming increasingly important to analyze the use and flows of banknotes and coins. The results and insights derived from such analyses have an impact on short- to medium-term cash production planning as well as the long-term strategic orientation of a central bank.

In the fall of 2005, the OeNB conducted a survey on the payment habits of households in Austria and compared the findings to those of similar surveys from the years 1996 and 2000. This research focused on the question of whether it was possi-

ble to identify shifts in usage between individual payment means over time.

One of the key statements in the study “How are Payments Made in Austria?” (Mooslechner et al., 2006) is the fact that cash is still by far the most important means of payment for Austrian households. Moreover, no major shifts in preferences are expected in the future, which also means that no drastic effects on monetary policy or cash logistics can be expected.

In addition to analyzing households, the study also took a closer look at the retail and banking sectors. The findings for households were largely congruent with those for the retail sector, especially with regard to the significance of payment media relative the overall number of transactions.

One fundamental issue in the project was the question of how much cash costs in an economy. Based on the share of total transactions calculated for each payment method and on extensive surveys in the retail and banking sectors, it was possible to estimate the costs of cash in Austria and compare them to similar research in other euro area countries.

This examination of the costs of cash rested on three main pillars:

- costs of cash to the central bank (OeNB);
- costs of cash to the banking sector;
- costs of cash in the retail sector.

An overall view of the results for these three areas warrants the conclusion that despite the country's high level of circulation, the costs of cash in Austria are fairly low by international comparison. This points to the efficiency of organization in cash logistics. Measured as a percentage of

GDP, the costs of cash were estimated at 0.47% of GDP, with 0.02% of GDP attributed to the central bank, 0.22% to the banking sector and 0.23% to the retail sector.

## 6 The Future of Cash

The origins of cash date back a very long time, yet its significance as a universal medium of exchange, as an accounting unit and as a store of value has remained unchanged until this day. Through the efforts of central banks to combat counterfeiting, banknotes and coins have now become high-technology products based on a great deal of research and development work.

Even today, physical cash is by far the most important means of payment for trade in goods and services. Preference for a means of payment is mainly based on factors which are difficult to quantify, such as transaction times, anonymity, risk of loss (loss of value, physical loss due to theft, etc.), purchasing power, traceability of transactions, technical equipment and availability. In the specific case of cash, the actual costs play a secondary role in the eyes of the consumer. Given low interest levels, opportunity costs (loss of interest income) are barely a consideration in the development of consumer preferences.

The shares of various payment media in the total volume of transactions is shifting only very slowly (Mooslechner et al., 2006). Against this backdrop, the significance of cash is not likely to change in the coming years. In order to maintain the public's trust in the currency and its resistance to counterfeiting at a high level in the future, the relevant units in the ECB are constantly working on future generations of banknotes. In fact, the launch of the second series

of euro banknotes is already scheduled for the beginning of the next decade.

## 7 Summary

The introduction of euro banknotes and coins as legal tender in the first 12 euro area countries initially raised the question of an efficient cross-border supply of cash. In this context, it was necessary to adapt cash supply logistics to the new circumstances and to coordinate activities at the Eurosystem level. At the national level, it was necessary to observe and in some cases respond to phenomena which had barely merited attention in the past (e.g. cash migration).

Most cash-related decisions are made centrally by the ECB for – and in accordance with – the Eurosystem. However, the implementation of these decisions is left to the NCBs. At present, numerous differences still prevail between national systems. However, one of the stated objectives of the Eurosystem is to create fair and equal competitive conditions for all actors in cash services with due consideration of specific national circumstances.

In the field of cash handling, Austria has chosen its own model in the form of a group structure which has served to reduce costs and increase efficiency, as well as earning international recognition. The expertise accumulated in this way has helped the OeNB establish itself more and more as a hub and a competence center in the field of cash logistics in Central Europe.

Percentage shifts toward noncash payment methods can be identified, but this has not undermined the high significance of cash in day-to-day life: In terms of value and quantity, there has even been a steady increase. The

ECB maintains a neutral position with regard to the various payment media, leaving it up to the consumers to decide which ones to use. In any case, however, it is important to ensure that cash remains a secure, stable and universal means of payment.

## References

- ECB. 2001.** Decision of the European Central Bank of 6 December 2001 on the issue of euro banknotes (ECB/2001/15).
- ECB. 2006.** Latest figures on euro banknotes and coins.  
[www.ecb.int/bc/faqbc/figures/html/index.en.html](http://www.ecb.int/bc/faqbc/figures/html/index.en.html)  
 (retrieved on December 2, 2006).
- Mooslechner, P., H. Stix and K. Wagner. 2006.** How Are Payments Made in Austria? Results of a Survey on the Structure of Austrian Households' Use of Payment Means in the Context of Monetary Policy Analysis. In: Monetary Policy & the Economy Q2/06. OeNB, 111–134.
- OeNB. 2002.** Nationalbank Act 1984, as amended in 2002. Vienna: OeNB.
- OeNB. 2006.** The Money Museum and Collections.  
[www.oenb.at/ueber\\_die\\_oenb/geldmuseum/geldmuseum\\_und\\_sammlungen.jsp](http://www.oenb.at/ueber_die_oenb/geldmuseum/geldmuseum_und_sammlungen.jsp)  
 (retrieved on December 2, 2006).
- TODAY.AZ. 2006.** New Banknotes to Be Issued Next Week.  
[www.today.az/news/business/25446.html](http://www.today.az/news/business/25446.html)  
 (accessed on April 22, 2006). Baku: TODAY.AZ)