

COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN
PARLIAMENT, THE ECONOMIC AND SOCIAL COMMITTEE, THE COMMITTEE OF THE
REGIONS AND THE EUROPEAN CENTRAL BANK

The introduction of euro banknotes and coins — one year after

(2003/C 36/02)

1. EXECUTIVE SUMMARY

Almost one year after the introduction of the euro banknotes and coins the euro has found its place in the daily life of Europe's citizens.

According to the Eurobarometer survey conducted in November 2002, the majority of Europeans feel happy with the euro. There are five times more persons indicating not having any problems, compared to those, who indicate still having some difficulties. The large majority of people quickly got used to the euro cash: 92,8 % find it easy to handle banknotes and more than two-thirds (68,8 %) have no problems handling the euro coins. The vast majority of Europeans believe that the number of existing denominations for banknotes (83,7 %) and for coins (53,5 %) is just right.

The citizens are now well acquainted with the coins from other euro area countries. Especially in regions along the borders, in big cities and in tourist areas, a rising share of the coins in circulation are of 'foreign' origin. The different national faces of the coins are clearly a source of interest and 92,6 % of the respondents confirm that they have no difficulties with the variety of coins. Many citizens have actually started to collect them. The interest of coin collectors was also directed towards the 80 'genuine' euro collector coins that were issued during 2002 by different Member States and which are not destined for regular payment purposes.

The introduction of euro banknotes and coins had an impact on the use of the euro outside the euro area, not only in Europe but also in other parts of the world. Among others, the behaviour of European travellers favours this development: 53 % of them indicate taking euro cash with them when leaving the euro area, as opposed to only 16 % taking US dollars. It appears that payment with euro cash is regularly accepted in the three Member States outside the euro area (Denmark, Sweden and the United Kingdom) as well as in the 12 accession countries, although this practice is usually confined to the capitals and to tourist areas. Some shopkeepers even display prices in euro. In certain areas in the Balkan region, such as Montenegro and Kosovo, the euro is de facto used as the local currency, often as replacement for the former German mark. On the other continents, the introduction of euro notes and coins also had some impact, although on a more limited scale. Apart from the French overseas departments which are geographically located outside Europe but form part of the EU, and where the euro replaced the French franc, the euro is also accepted as a means of payment in the tourist areas of some American, Asian and

African countries, sometimes in connection with the display of prices in euro.

In some countries, citizens linked the euro changeover to significant price increases. This perception is actually not confirmed by hard facts. In particular, a detailed statistical analysis of price evolution based on the harmonised index of consumer prices (HIPC) indicates that the impact of the introduction of euro banknotes and coins on prices ranges between 0,0 % and 0,20 %. Further analysis demonstrates the existence of a clear gap between perceived and measured inflation; this is explained by significant price increases of certain frequently bought goods and services (there are indeed clear indications that prices have gone up in the service sector, particularly in restaurants, hotels, bars, etc.), which are more relevant for the formation of consumers' perceptions.

Whether the introduction of euro cash has influenced the payment habits of the population is not clear at this stage. A significant increase in the use of non-cash payments has been noticed in the course of 2002, but it is difficult to attribute this shift exclusively to the introduction of the euro. The average amount withdrawn at ATMs (automatic teller machines) also seems to have increased.

The recent Eurobarometer survey confirms that the 'mental conversion' of the Europeans is underway but far from completed: 42,2 % of the consumers already calculate mainly in euro, but this percentage drops to 12,5 % when important purchases are being made (e.g. a house or a car), as most people continue to calculate in national currencies for such important transactions. Retailers are still using the dual display of prices, as it is still appreciated by certain categories of consumers, particularly those who are still calculating in national currency. While a small majority (50,6 %) of consumers no longer wants shopkeepers to display prices in old and new currency, 47,2 % still prefer the dual display of prices. At the same time, it should be recognised that a continued dual display of prices inevitably delays the mental changeover to the euro and even risks becoming counterproductive for a smooth transition. **In agreement with Euro-commerce, the Commission therefore recommends to the retail sector to discontinue the dual display by 30 June 2003 at the latest**, while informing their customers well in advance of this change. The same approach is recommended in other sectors where prices and amounts are still being displayed in national currency and in euro. This is, for instance, the case on the invoices of certain companies and on the account statements provided by financial institutions to their customers.

THE INTRODUCTION OF EURO BANKNOTES AND COINS — ONE YEAR AFTER

FACTS AND FIGURES FOR THE EURO AREA

OCTOBER 2002

	Banknotes	Coins
Total circulation		
Total cash in circulation (number)	7,42 billion notes	38,2 billion coins
Total cash in circulation (value)	EUR 320,9 billion	EUR 11,9 billion
Total value as a share of GDP	4,54 %	0,17 %
Per capita figures		
Average number per person	24,7 notes	126,5 coins
Average value per person	EUR 1 062,8	EUR 39,4
Most popular euro banknote/coin		
Total number (% of total)	EUR 50 (28,8 %)	1 cent (17,4 %)
Total value (% of total)	EUR 50 (33,4 %)	EUR 2 (39,8 %)
Collector coins (*)		
Total number of different coins issued		80 (30 gold, 50 silver coins)
Smallest denomination		25 cents
Biggest denomination		EUR 400
(*) Collector coin figures refer to the entire year 2002.		

2. THE CHANGEOVER TO THE EURO: A GREAT SUCCESS

One year after the introduction of euro banknotes and coins, the euro has become part of our daily life. The present communication deals with the various practical aspects of the euro, in particular the euro banknotes and coins. It follows the Commission Communication COM(2002) 124 of 6 March 2002, which reviewed the introduction of euro notes and coins. The economic impact of the euro, as the single currency of the 12 Member States of the euro area, is not covered here but is discussed in Commission Communication 'The euro area in the world economy — developments in the first three years' (COM(2002) 332 of 19 June 2002). Finally, the introduction of the euro should also be seen as an important step towards the completion of the Internal Market. The forthcoming Communication 'The Internal Market — 10 years without frontiers' reports on the occasion of the 10th anniversary of this major achievement.

3. BANKNOTES AND COINS IN CIRCULATION IN THE EURO AREA

3.1. Banknotes

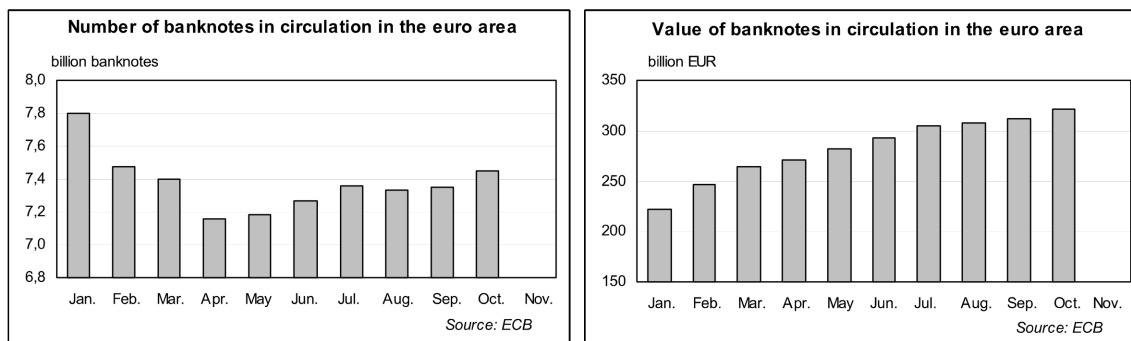
At the beginning of January 2002 the national central banks of the euro area have put into circulation approximately 7,8 billion euro banknotes. In the course of the year, the amount in circulation dropped until spring (7,16 billion) and rose almost steadily afterwards until the end of October to 7,42 billion (see graph 1 below).

This temporary decrease of notes in circulation can firstly be explained by a certain degree of prudence during the front-loading operation in order to ensure a smooth changeover: most banks and retailers ordered significant reserve stocks,

since their needs for euro cash were necessarily based on estimates. Excess stocks flowed back to the central banks afterwards. Secondly, as retailers had committed themselves to giving change exclusively in euro, and as many citizens used retail outlets for exchanging old currency into new

currency (sometimes by buying a small item with a big banknote), retailers needed a lot more notes than usual since incoming national cash could not be recycled and used as change.

Graph 1

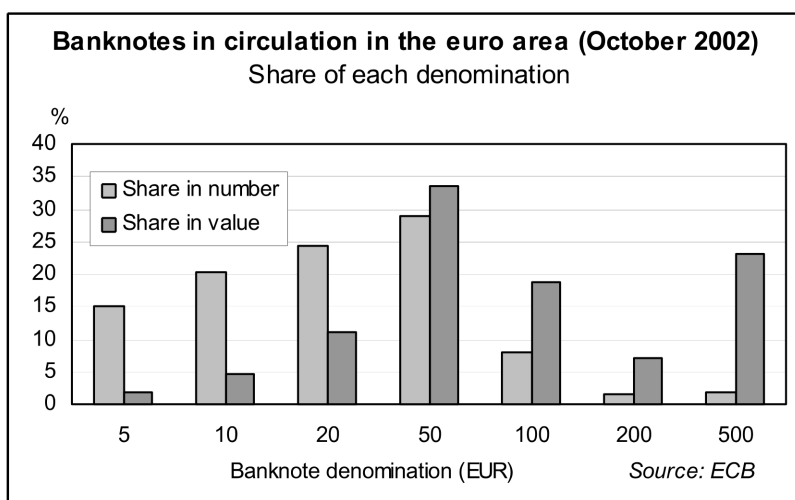


The total value of banknotes in circulation reached EUR 221,5 billion by the end of January 2002 and increased steadily to EUR 320,9 billion in October. This difference of evolution between the total number and total value can notably be explained by the focus that had been put on small denomination banknotes during the frontloading and dual circulation period. Apparently more small denomination banknotes than needed had been issued, and flowed back to the central banks afterwards.

These figures amounted to 24,7 banknotes per capita in circulation by the end of October, and corresponds to an amount of EUR 1 062,8 per capita. The total value of banknotes in circulation amounted to 4,5 % of GDP for the euro area as a whole.

Graph 2 shows the breakdown of banknotes in circulation by denomination in the euro area by the end of October.

Graph 2



The EUR 50 bill is the most common banknote, both in numbers and in total value and it represents one-third of the total value in circulation. In most countries it is the most frequently dispensed banknote by ATMs (automatic teller machines). This certainly reflects the preference of the cash users and the size of typical amounts spent for purchases.

The second most common banknote is the EUR 20 bill, which represents almost one-quarter of all banknotes. However, in value terms the EUR 500 bill holds the second rank. The two high denomination banknotes (EUR 200 and EUR 500) correspond to only 1,5 % and 2 % of all banknotes in circulation.

In some Member States, notably in Italy and Greece, some public discussion arose about the need for EUR 1 and EUR 2 banknotes, in addition or as a replacement for the EUR 1 and EUR 2 coins. However, the latest figures from the Eurobarometer (November) do not at all reflect this need. 83,7 % of the respondents indicated that the number of different denominations of banknotes was just right. Even 78 % of Italians and 68,5 % of Greeks held this view.

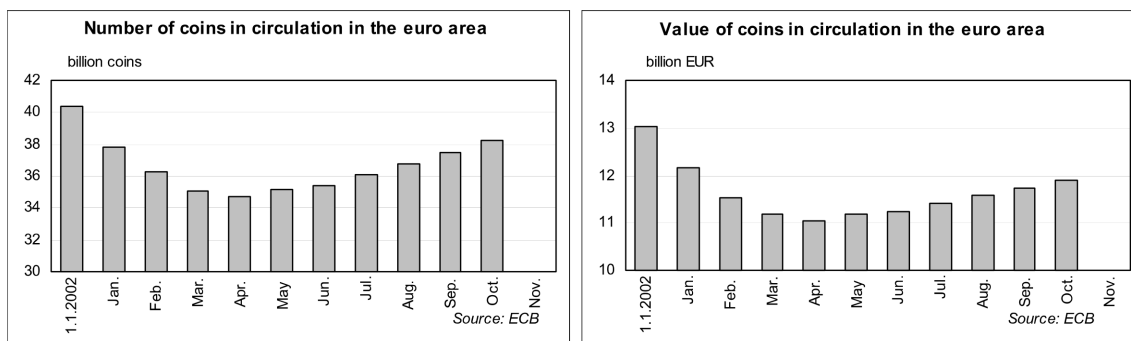
3.2. Coins

At the beginning of the year 2002 the central banks of the euro area put 40,4 billion coins into circulation. Already within the month of January, the quantity of coins in circulation dropped significantly to 37,8 billion (see graph below).

Coins in circulation continued to decline until April. Since then, a steady increase was measured reaching EUR 38,2 billion coins at the end of October 2002. In the case of coins, the evolution in value is similar to the evolution in number (see graph 3). Initially, a total value of EUR 13 billion coins was put into circulation in the euro area. The total reached a low of approximately EUR 11 billion in April before rising to EUR 11,9 billion at the end of October 2002.

The coins issued by Monaco (1/500th of the coins minted by France), San Marino (EUR 1 944 000) and Vatican City (EUR 670 000) also form part of the total volume of circulation coins.

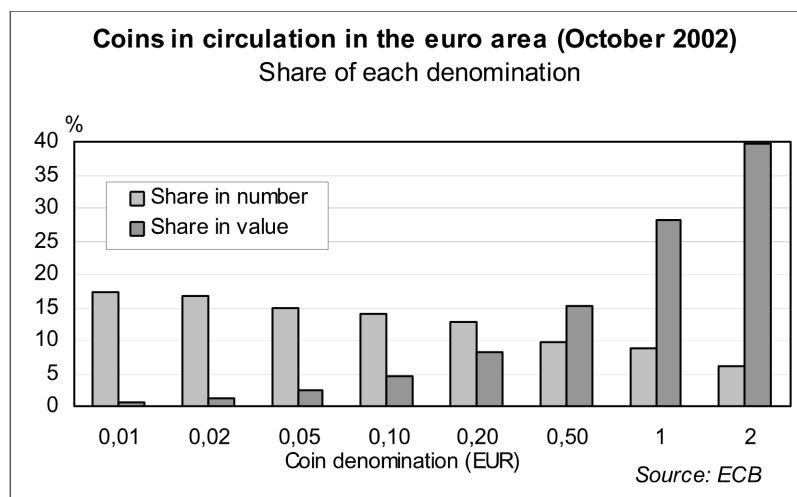
Graph 3



The number of coins put into circulation per capita in the euro area vary widely among euro area Member States, reflecting different national payment habits. On average, 134 euro coins per capita were put into circulation in the euro area at the beginning of the year representing an average value of EUR 43 per person. The total coin value in circulation represents 0,17 % of euro area GDP in October.

The quantity of euro coins in circulation is distributed relatively evenly among the different denominations. The least widespread coin is the EUR 2 coin, which represents 40 % of the total value in circulation. The two bi-metallic coins (EUR 1 and EUR 2) represent 68 % of the value of all coins in circulation. The small denominations (1- and 2-cent coins) have a share of 16,6 % and 17,4 % respectively. In value terms, they only represent 1,1 % and 0,6 % of the total value.

Graph 4



Some discussion on the usefulness of the small cent coins arose in Greece and Italy, in particular on the 1- and 2-cent coins. The number of coins in circulation per country does not however produce any evidence that the population does not use the small coins. For example, the share of the 1-cent coin in euro area countries ranges from 9,1 % to 21,3 % of all coins. For the 2-cent coin, the distribution is more equal and varies between 12,7 % and 18,8 %. In Finland the 1- and 2-cent coins have a limited use, as a Finnish law stipulates the rounding off of euro cash payments to the nearest five cents. Therefore the Finnish Mint produced limited quantities of the two smallest denominations, which are far below the average issue volume in other countries.

According to the latest Eurobarometer, the majority of the euro area population (53,5 %) believes that the number of different denominations is just right. Finally, it should be kept in mind that the small coins played an important role in helping to ensure that price conversions from national currency units could be done correctly, and at cent level.

3.3. Cross-border flows of euro banknotes and coins

Euro banknotes and coins can be used in the entire euro area; they are not confined to the country of origin. As a result, euro banknotes and coins have been 'migrating', and euro area citizens typically possess a mix of euro banknotes and coins from different Member States in their wallets or purses.

Euro banknotes and coins migrate for different reasons. A first reason is that citizens travelling abroad take some money with them, be it for business, vacation or just for cross-border shopping. In addition, banknotes and coins can be transported across borders during the redistribution process between national central banks, commercial banks and retailers. Foreign visitors and tourists from outside the euro area also contribute to the migration of the euro. When they order euro cash from their local bank before starting to travel, it will often have been bought by their bank in a different country than the one in which it is eventually going to be spent.

The mix of euro banknotes and coins from different countries will increase over time and possibly reach an equilibrium level, whereby the coin mix will more or less represent the share of each country in the total issue volume of the euro area. It is unclear though at which pace this will happen. However, some patterns are emerging. It appears that coins of different denominations mix at different rates and that the high-value coins are more prone to migration. The coin mix also depends to a certain extent on location. A higher percentage of foreign coins will typically be found in urban areas, as opposed to rural ones. In addition, people living near the border to another euro area country also have more foreign coins in

their wallets. In this respect, a study by the Austrian Central Bank reveals that on 10 September 2002, 11,8 % of the coins in Austria were of German origin, whereas in areas near the border the share of German coins amounted to 23,4 %.

3.4. Euro collector coins

For many European citizens and foreign tourists, the euro circulation coins have become a collector item because of the many national sides. However, it should be kept in mind that in many Member States a rich and ancient tradition exists of issuing collector coins for the purpose of celebrating special events or symbols of national importance. Like coins destined for circulation, collector coins are officially issued by the Member States, have a nominal (face) value and have legal tender status, although such coins are rarely used for payment purposes since their market value is usually much higher than their nominal value. Most are made out of precious metals like gold or silver.

This tradition is being maintained and developed, and collector coins issued by participating Member States are now all denominated in euro. While euro circulation coins have legal tender status throughout the euro area, it has been decided by Member States that euro collector coins will only enjoy legal tender status in the country of issue. Moreover, in order to avoid confusion, Member States had agreed not to produce euro collector coins during the transitional period (1999 to 2001), as the euro circulation coins had not yet been issued at that time. Since 2002, most euro area countries started to issue collector coins denominated in euro. As agreed among Member States, their technical specifications differ from the characteristics of 'normal' circulation coins in several respects, in order to avoid any kind of confusion for the public. Out of the colour, diameter and weight, at least two out of these three technical parameters, need to be different from those of the euro circulation coins. In addition, the face value of collector coins is always different from circulation coins, and the design of collector coins always differs from the design of euro circulation coins.

By the end of 2002, the total number of euro-denominated collector coins will amount to around 80, about 30 of them being gold coins. Most coins have been issued by France, Austria, Germany and Spain. The face value of these coins ranges from a 'quarter' (25 cents) to EUR 400, while the most common denominations are EUR 5, EUR 10 and EUR 20. This face value normally neither corresponds to the metal value nor to the selling price. The market value of these collector items of course hinges on the issuing volume, which is usually indicated at purchase and which can vary from very small volumes (e.g. 99 pieces) to unlimited editions.

Apart from these official coins, many public and private mints also produce and sell medals, which do not enjoy the status of legal tender. In order to avoid any kind of confusion with such medals, the Commission has issued a Recommendation to Member States on the protection of the euro coins. If similar in size to euro coins, these medals must not be denominated in euro, nor should they bear the euro symbol, or any design similar to the euro coins.

3.5. Euro commemorative coins

Commemorative coins represent another category of coins, which are also officially issued by the Member States. Such coins enjoy legal tender status in the entire euro area and are intended for circulation, although it should be noted that no euro commemorative coins have been issued so far. Their technical properties, dimensions and face value exactly correspond to those of euro circulation coins. The only difference is that the design on the national side is replaced by a special design, which commemorates a special event or depicts national landmarks. Usually the issue volumes of commemorative coins are limited, but sufficiently important to allow their circulation alongside the 'normal' coins. In order to allow the European citizens to familiarise themselves with the different national sides, and to avoid any possible confusion, it has been agreed among Member States that no commemorative coins will be issued during the early years following the introduction of euro banknotes and coins.

3.6. Nickel in euro coins

It is well known that a small fraction of the population is sensitive to the exposure of their skin to nickel; prolonged contact can even give rise to certain allergies. Although a few euro coins still contain some nickel, 85 % of all circulation coins are now nickel-free. Prior to the euro changeover, 75 % of the different national coins contained nickel, for instance, four out of eight coins in Germany, four out of five coins in Belgium, nine out of 10 coins in France and seven out of nine coins in Spain contained nickel and many of these coins were pure nickel coins. The number of coins containing nickel therefore dramatically decreased. Mainly for security reasons, the EUR 1 and EUR 2 coins contain a limited amount of nickel, located mostly in the central part of the coin and not on the surface of it. The use of nickel makes the euro coins less prone to counterfeiting and assures the reliable identification of the coins in vending machines.

While some confusion arose at the beginning of the year in relation to the nickel content of the euro coins and its possible effects upon sensitive users, it has now been firmly established that euro coins are extremely safe to use, even more so than most national coins. A recent study presented by Prof. Pierre-Gilles de Gennes, Nobel Prize winner for physics, confirms the

reduction of nickel ⁽¹⁾ This study, which was conducted under conditions that reflect the normal handling of coins, proves that the EUR 1 and EUR 2 coins release only about half as much nickel as some national coins.

3.7. Euro counterfeiting

In the course of 2002, many banks and foreign currency exchange offices started training their staff with regard to the security features of the new banknotes and coins in order to improve the detection of counterfeits and the fight against fraud. The Commission and the Member States have set up a network of institutions for the fight against counterfeiting. In collaboration with the ECB and Europol, this network assures the classification of all relevant information on counterfeit banknotes and coins.

Due to the state-of-the-art security features of the euro banknotes and coins, euro counterfeiting in 2002 remained at levels considerably lower than the legacy currencies in previous years. Indeed, the number of counterfeit euro banknotes and coins which have been discovered so far is extremely small, and, with very few exceptions, stem from 'amateur' operations. As far as banknotes are concerned, the figures released by the ECB for the first half of the year point to less than 22 000 false euro banknotes, 65 % of them being EUR 50 banknotes. This figure roughly corresponds to 7 % of the total number of counterfeited legacy currency recorded by the euro area national central banks during the same period in 2001; this figure moreover implies that less than one counterfeit per day has been recorded for every 59 million banknotes. The number of counterfeit coins is also extremely low. In the first semester of 2002 only 68 counterfeit coins were detected, an infinitesimal number compared to the more than 38 billion coins in circulation.

4. THE CITIZEN AND THE EURO ⁽²⁾

4.1. Public perception of the euro

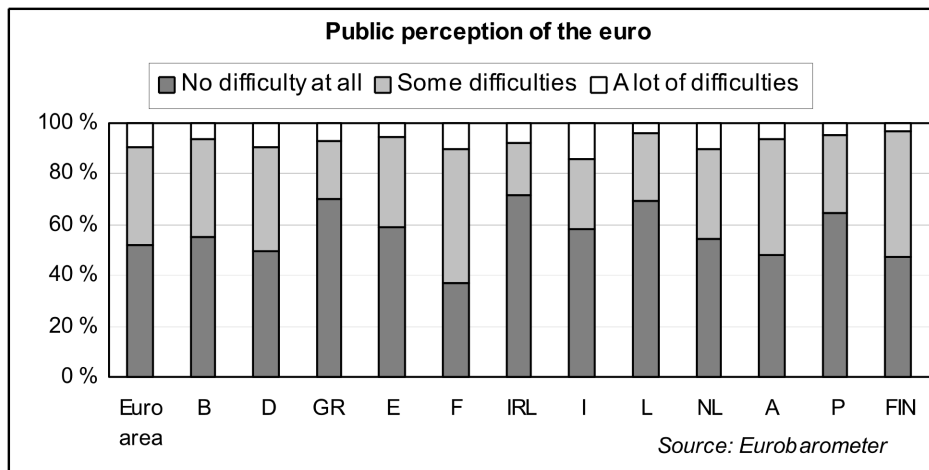
According to data collected through the Eurobarometer poll organised in November 2002, which is based on interviews with EUR 1 200 persons, the majority of people (51,5 %) in the euro area indicated having no difficulties at all with the use of the euro. This result ranges from 71,7 % in Ireland to 36,5 % in France. Only 9,5 % of the interviewees experience having a lot of difficulties (for country details see the graph below). The share of those who have no difficulties at all is higher among men (57 %) than among women (46,4 %). Inversely, the share of those who indicated having a lot of problems is higher among women (11,8 %) than among men (7,0 %).

⁽¹⁾ See Fournier, P-G., Govers, T.R., Fournier, J. and Abani, M.: Contamination by nickel and other metals resulting from the manipulation of coins — Comparison between French francs and euro, published in: *Comptes rendus de l'Académie des sciences: Physique*, Vol. 3 (2002), No 6, pp. 749-758.

⁽²⁾ The data used in sections 4(1) to 4(5) originates from the latest Eurobarometer (Flash EB 139, vol. AB, November 2002).

Question: Nowadays would you say that the euro still causes you a lot of problems, some problems or no difficulties at all?

Graph 5

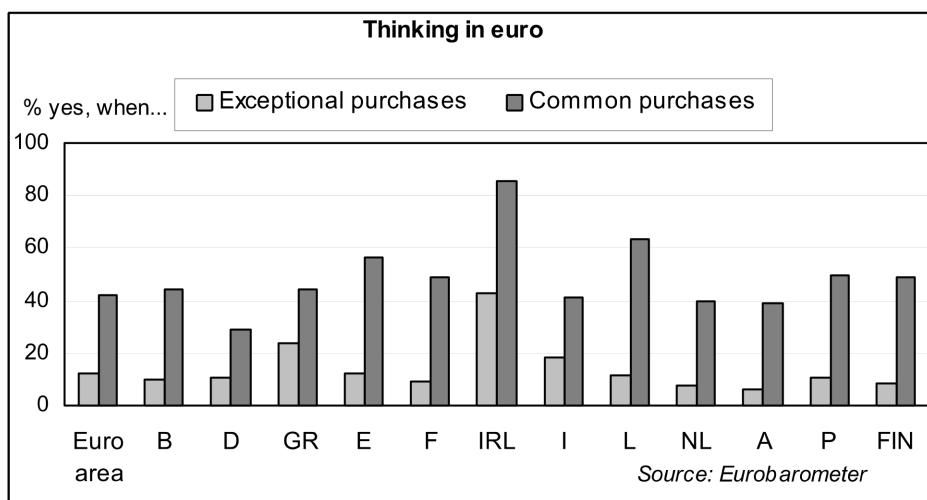


4.2. Thinking in euro

In November 2002 42,2 % of respondents calculate most often in euro when they purchase everyday goods. Conversely, 32,4 % still think more often in national currency when they do day-to-day shopping. The most adapted seem to be the Irish as 85,5 % of them base their decisions most often on euro calculations. Rates are much lower as far as major purchases are concerned. For purchases representing an important amount, e.g. a house or a car, only 12,5 % calculate most often in euro. Here again the Irish figure (43,1 %) is the furthest above average.

Question: Nowadays when doing your shopping, do you mentally count more often in euro, more often in national currency or as often in euro as in national currency, (count most often in euro in %)

Graph 6



4.3. Attitude towards the dual display of prices

The dual display of prices, both in euro and in national currency, considerably facilitated the changeover to the euro by allowing consumers to compare and judge prices. In November, a slight majority of the interviewees (50,6 %) no longer wanted shopkeepers to continue with the dual display of prices. On the other hand, 47,2 % took the opposite view and preferred a continued dual display of prices. Women expressed a stronger preference for keeping dual pricing (50,9 %) than men (43,1 %). A continued dual display of prices is a mixed blessing. On the one hand, it helps certain citizens to adapt to the new currency, but on the other hand it delays the mental conversion of the population to the euro. In some countries, it could even create some price confusion, particularly if the level of the conversion rate could induce the consumer into erroneous interpretations. This could be

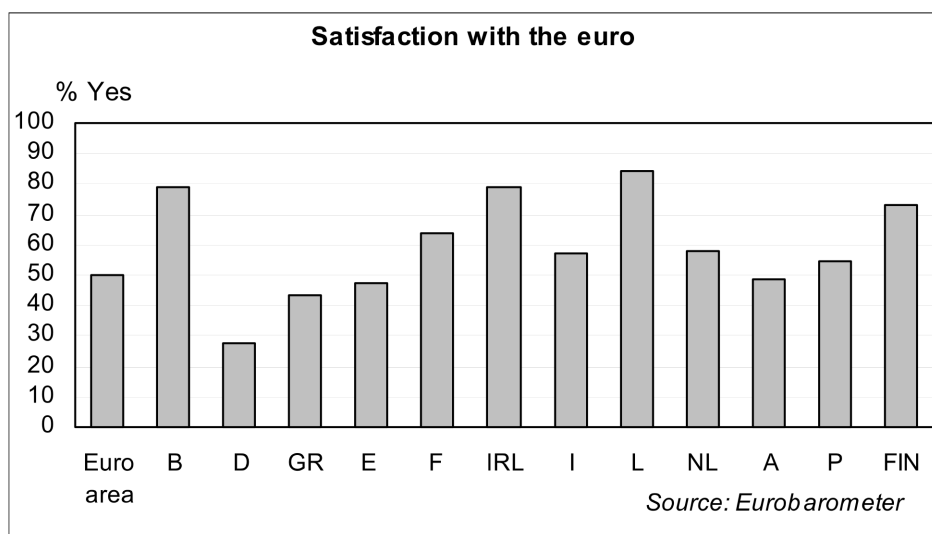
the case in some countries and could imply in some cases an increase in over indebtedness. In agreement with Euro-commerce, the Commission therefore recommends gradually discontinuing dual pricing with a view to making an end to this practice by 30 June 2003 at the latest. This recommendation also applies to the dual display of amounts on invoices and account statements produced by banks.

4.4. Satisfaction with the euro

49,7 % of the euro area citizens consider themselves to be 'very' or 'rather' happy that the euro has become their currency. 11,1 % are neither happy nor unhappy, while 38,7 % indicate being quite unhappy or very unhappy. Among the euro area countries, the approval rate is the highest in Luxembourg (84,2 %) and the lowest in Germany (27,8 %). See chart below for details.

Question: Are you personally very happy or quite happy that the euro has become our currency?

Graph 7



Questions related to the use of banknotes and coins show a more favourable attitude towards the euro. According to the latest Eurobarometer (November 2002), the vast majority of Europeans find it rather easy or very easy to distinguish and handle the euro banknotes and coins. More than two thirds (68,8 %) easily handle the euro coins. For the banknotes this share is even higher (92,8 %). This picture is complemented by the citizens' positive judgement on the number of different coin denominations. The majority of Europeans (53,5 %) believe that the number of different denominations is just right. The rate of approval is significantly higher for the banknotes. Here 83,7 % of the respondents think that the right number of different denominations have been put into circulation.

The arrival of the euro coins also introduced a large variety of circulation coins because of the different national faces on the reverse. In total, 120 different euro coins were put into circu-

lation. This variety became an issue of great interest for collectors. 92,6 % of interviewees say that they have no difficulties with the different national faces. The overwhelming majority of the coin users appear therefore to consider the different national faces a welcome source of diversity.

4.5. Introduction of euro cash favours cross-border trade and price transparency

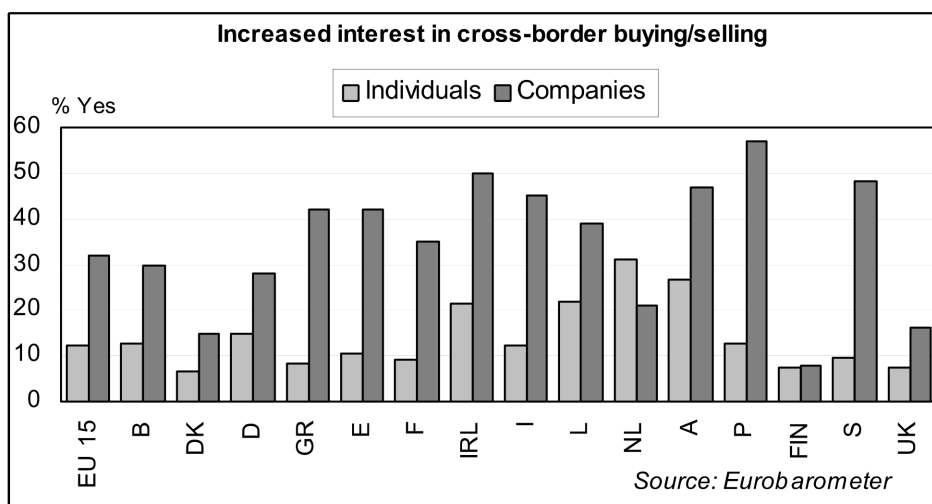
The introduction of the euro banknotes and coins strengthens the integration of markets in the EU. The creation of a single currency has not only eliminated exchange rate risk and transaction cost, it also abolished a psychological barrier to cross-border trade, since price transparency facilitates comparisons.

Since the introduction of the euro banknotes and coins, 12 % of the European consumers are more interested in buying goods in another EU country. The share of people who feel encouraged to buy abroad ranges from 31 % in the Netherlands to 6 % in Denmark. The figures seem to be higher in the smaller countries, i.e. Austria (27 %), Luxembourg (22 %) and

Ireland (22 %), where many people are very favourable to cross-border shopping. On the contrary, the attitude of the Finns (7 %) changed only very little. The relatively low interest of the British (7 %) and the Danes (6 %) is not surprising, as the euro has not been introduced in these countries.

Question: Now that the euro has been introduced, are you more interested in buying goods abroad/ encouraging the sale of your products abroad? (YES in %)

Graph 8



The attitude of companies changed even more significantly. On average 32 % of businesses in the EU-15 indicate that after the introduction of euro banknotes and coins they are more interested in selling their goods abroad. Portuguese entrepreneurs occupy the first position in this respect; 57 % of them are now more interested in promoting cross-border sales of their products, followed by the Irish (50 %), the Swedish (48 %) and the Austrian companies (47 %). At the lower end, we find companies from the United Kingdom (16 %), Denmark (15 %) and Finland (8 %).

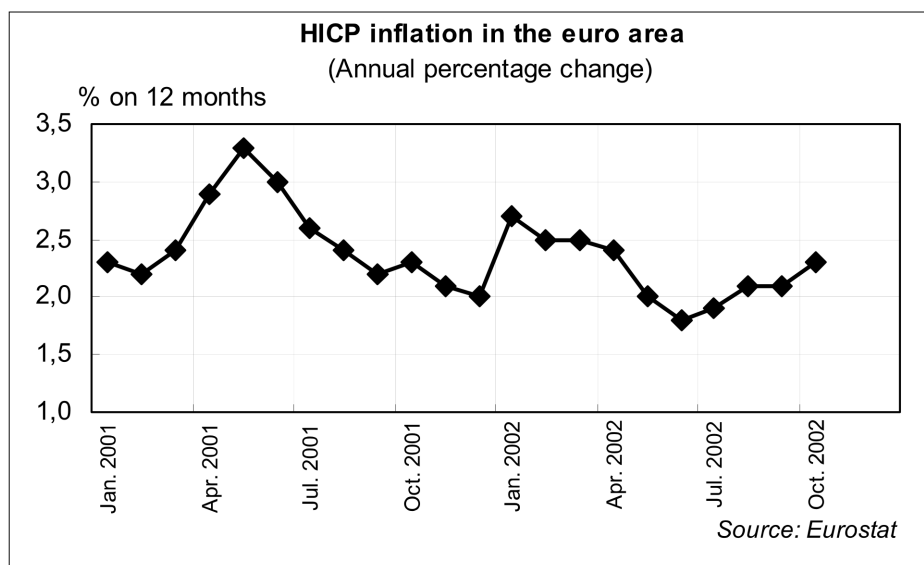
5. THE IMPACT OF THE EURO CHANGEOVER ON INFLATION

In most countries, public concern has arisen about the alleged impact of the cash changeover on prices. This section looks at the evidence on this issue and concludes that on the basis of the available official data, price increases have indeed occurred in some sectors. However, the effect of the euro cash changeover on overall consumer price inflation is rather limited.

At the same time, it should be kept in mind that the fundamental medium to long-term effect of the introduction of the euro on prices will be beneficial. The euro will indeed lead to a much easier comparison of prices across the euro area. This enhanced price transparency leads to a better functioning of the single market and a more competitive environment, which in itself fosters economic efficiency and exerts a downward impact on consumer prices.

5.1. Development of consumer prices in the euro area

After a peak at an annual rate of 3,3 % in May 2001, consumer prices in the euro area, as measured by the harmonised indices of consumer prices (HICP), were on a declining trend during the remaining months of 2001 (graph 9). In January 2002, when euro notes and coins were introduced in the euro area, overall HICP inflation registered a noticeable upward jump, rising from 2,0 % in December 2001 to 2,7 % in January 2002. Subsequently, inflation gradually resumed its downward trend and by June it was 1,8 %, the lowest rate in over two-and-a-half years.

Graph 9

5.2. Possible impact of the euro changeover on inflation

Eurostat has published estimates of the inflationary impact of the euro cash changeover on three occasions this year ⁽¹⁾. The first two studies showed that most of the observed increase in inflation could be explained by normal inflation patterns in most item groups and by some special factors not linked to the euro, like bad weather affecting fruit and vegetable prices, increased energy prices, increases in administered prices and some significant tax increases on tobacco. This left a range of 0 to 0,16 percentage points (pp) that could be attributed to the changeover to euro notes and coins.

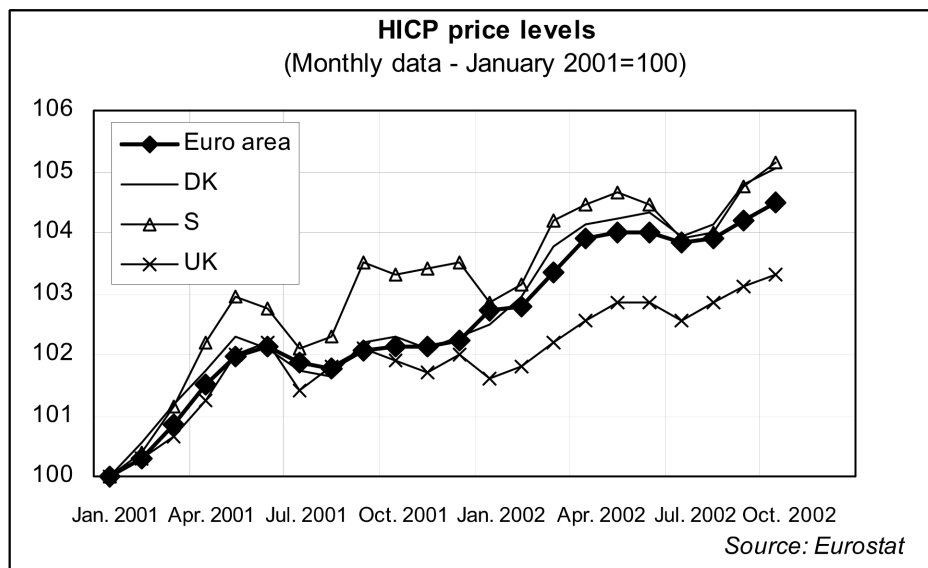
However, most studies also point to more significant price jumps in the services sector, particularly in the services related to tourism (hotels, accommodation services) and in small services to households (repairs, haircuts, etc.), as well as in certain low-price goods bought frequently (newspapers and magazines). For example price increases in the sector of cafes and restaurants correspond to 4,3 % (on a year-to-year basis), i.e. almost double the general inflation rate (measured by HICP).

The latest analysis by Eurostat slightly revised the range of the likely inflationary effect from the changeover in the euro area to 0 to 0,20 pp. While sometimes using different methodologies and samples, many studies conducted at the Member State level by the national statistical institutes and/or national central banks tend to support the results presented by Eurostat.

A further indication results from the comparison of the evolution of the euro area price index with that of the Member States outside the euro area ⁽²⁾. The evolutions are broadly similar (graph 10), confirming a limited euro cash changeover effect.

⁽¹⁾ See the annexes to Eurostat News Releases No 23/2002 (28 February 2002), No 58/2002 (16 May 2002) and No 84/2002 (17 July 2002).

⁽²⁾ This comparison can only provide a rough approximation as it has drawbacks from a statistical point of view. For example, a host of different elements entirely unrelated to the euro changeover could give rise to a given path across countries.

Graph 10

5.3. The discrepancy between perceived and actual inflation

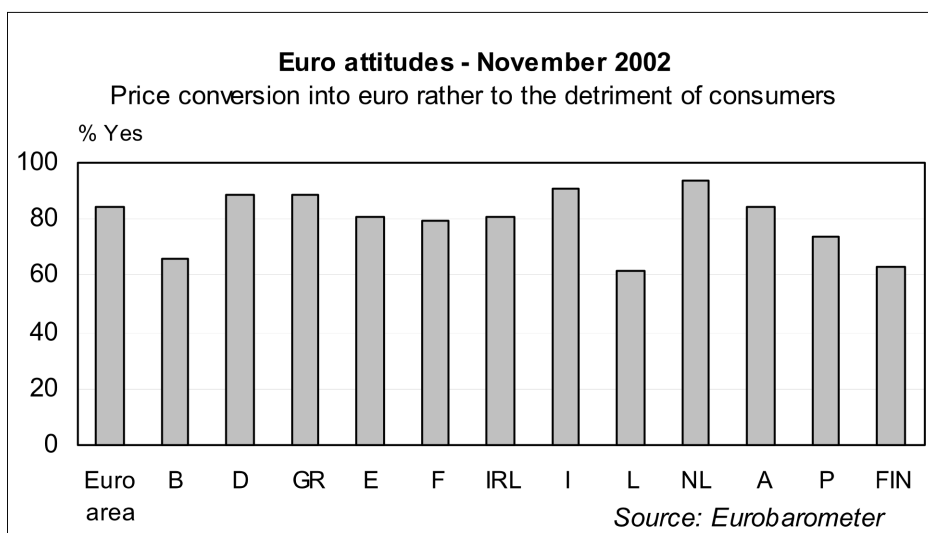
Many consumers associate the changeover with price increases. The media have abundantly reported individual cases qualified as 'euro profiteering', thereby contributing to a feeling of significant upward effects on prices due to the euro cash changeover.

The German government convened a meeting with retailers and consumer associations to address the matter (popularly referred to in this country as the 'teuro' debate, a term linking the German word *teuer* (expensive) to euro. In Greece and Italy national 'euro-strikes' were organised by consumer

associations while severe criticism was voiced in relation to official price indices in France and the Netherlands.

The latest state of public opinion across the euro area was reflected in the November 2002 Eurobarometer survey ⁽¹⁾ 84,4 % of the respondents in the euro area thought that prices had been converted rather to the detriment of consumers and 10,9 % thought that price rises and decreases were balanced. Only 2,7 % held the opposite view that prices were rounded down to the benefit of the consumer.

⁽¹⁾ Eurobarometer Flash EB 139, November 2002.

Graph 11

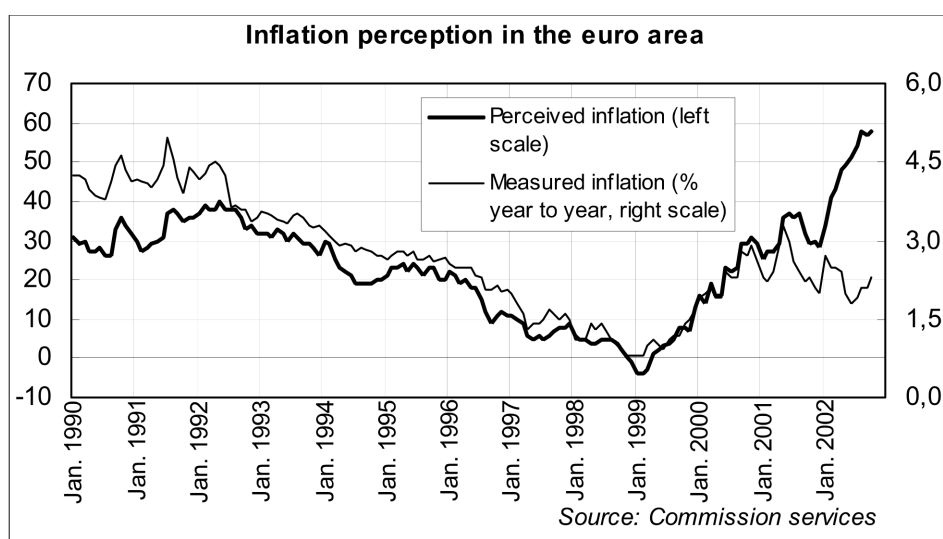
Respondents believed that prices had been always rounded up in small food shops (80 %), in services (80 %), cafés and restaurants (85 %), public transport (55 %), in leisure activities (movie cinemas, swimming pools, etc.) vending machines (62 %) and bank charges 53 %.

The EU Consumer surveys' question on past price trends in the euro area clearly illustrates the discrepancy that arose since the

cash changeover between perceived and actual inflation ⁽¹⁾. As can be observed in graph 12, this indicator has tracked actual inflation fairly well in the past, but since the beginning of 2002 it has been rising to unprecedented levels even though actual inflation has been falling.

⁽¹⁾ Commission services' 'Quarterly Report on the Euro Area' July and September 2002 issues. ECB 'Monthly Bulletin', July and October 2002 issues.

Graph 12



Several explanations exist for the discrepancy between actual and perceived inflation. The first one is that consumers tend to form their perception about general inflation on the basis of price developments of frequently bought goods and services ⁽¹⁾. It appears that precisely those goods and services have registered unusually large price increases following the changeover (e.g. cafés and restaurants, repairs, haircuts, newspapers and periodicals, etc.). However, the prices of other goods and services consumed less frequently have registered more subdued increases or, in the case of computers or photographic and audio recording equipment, have actually been falling. In a comprehensive measure such as the HICP even unusually large price increases in some product categories can be offset by more subdued price increases or falls in other categories that have a higher weight, but which are bought less frequently by consumers.

A second reason behind the perception of an inflationary impact stemming from the changeover might be due to the so-called 'menu costs' considerations. The existence of fixed costs for changing prices could have led to an unusually

high proportion of firms changing prices at the turn of the year. A higher proportion than usual of relative price changes adds some confusion to the perception by consumers of the inflationary impact of the changeover. There is evidence that lends support to this explanation. For example, in Germany price comparison collectors noted substantially more price adjustments than usual for the standard basket of goods and services consumed by households during the first month of the changeover ⁽²⁾. If such price adjustments involved upward rounding and concerned the items used by consumers to form their perception, then the discrepancy between actual and perceived inflation does not come as a surprise.

6. OVERVIEW BY SECTOR

6.1. The Banking industry

In the banking sector, certain small shifts in the behaviour of the bank clients and consumers have been observed, more particularly regarding the use of cash and the choice of means of payment.

⁽¹⁾ See for example J. Walschots (2002) 'Why does inflation feel so high?', CBS Webmagazine, 10 June 2002. <http://www.cbs.nl>

⁽²⁾ Deutsche Bundesbank, Monthly Report, March 2002.

6.1.1. *The choice of the means of payment*

The introduction of the euro seems to have slightly changed the behaviour of the average customer with regard to the choice of the means of payment. All available information points to an increase in 2002 of non-cash means of payment. Figures from Italy for instance show a rise in debit card payments by 30 % and for credit cards by 15 %. Similarly, figures from Finland indicate an increase in the range between 15 to 20 % for credit and debit card payments. Figures for Belgium also clearly show a rise in non-cash payments of up to 17 % for debit cards ⁽¹⁾. Credit card payments at the same time increased by 2 %, while charging of electronic purses soared by 120 % ⁽²⁾. Similarly, information from Austria indicates an increase of non-cash payments by 15 %.

The figures mentioned here refer to recent developments in 2002. However, it is not possible to clearly isolate the effect that is directly related to the euro. It has to be kept in mind that many other factors influence the choice of the means of payment, such as campaigns in favour of non-cash payments or the introduction of modern vending machines accepting credit cards, debit cards or electronic purses. In addition, as at the end of 2001 the guarantee mechanism associated to the eurocheque system was withdrawn, and as banks in some Member States have stopped issuing cheques to clients entirely, this has led to a vast decrease in the use of cheques across the Community. This could also have boosted other means of payment. Additionally, the trend to make more use of non-cash means of payment was already observable before the introduction of the euro.

6.1.2. *Cash withdrawals at ATMs (automatic teller machines)*

Information with regard to the average amount of cash withdrawn each time indicates an increase at least in several countries. In Germany for instance the amount withdrawn each time with credit cards and debit cards belonging to the Maestro system increased on average by 12,4 %. Similarly, figures from Italian banks indicate that the average amount increased by 10 to 20 %. One major Belgian bank reports an increase by 9 %. Figures from France, Austria and the Netherlands also indicate a slight increase. A possible explanation for this change that might not be uniform throughout the euro area, are rounding effects, notably linked to the fact that the new euro banknote denominations being dispensed through ATMs differ significantly from the previous national denominations. If for instance the typical amount withdrawn in Austria was ATS 1 000 (EUR 72,67) in the past, the typical amount withdrawn nowadays could be either EUR 50 (ATS 688,02)

or EUR 100 (ATS 1 376,03). In this example just the rounding to even euro amounts could either yield a decrease by 31,2 % or an increase by 37,6 %.

With regard to the cross-border withdrawals of cash at ATMs, the picture is diverse. A slight increase is reported from Germany as well as from Belgium. On the other hand figures from Mastercard Europe ⁽³⁾ show a decrease of cross-border withdrawals at ATMs. The Austrian public sector banks report a decrease of withdrawals of 30 % by foreigners in Austria. The behaviour of Austrians abroad remained unchanged. This unclear picture is not surprising since monetary union allows the citizens to travel abroad with cash and therefore whether there is an incentive to increase withdrawals at home or abroad depends on the fees that apply. Consequently there are incentives for both a decrease and an increase of cross-border withdrawals at ATMs. Both effects could even out each other. Moreover, on 1 July 2002, the EU-Regulation on cross-border payments entered into force, leading to the same level of charges for cross-border and for national withdrawals, which stood at EUR 4 on average in the euro area prior to 1 July. For customers who do not pay fees for domestic withdrawals, there is now an additional incentive to withdraw abroad. For customers being charged, e.g. for domestic withdrawals at ATMs not belonging to their bank, the same charges will also apply for cross-border withdrawals. They might still prefer not to increase their withdrawals abroad. At this stage it is not yet possible to judge whether this particular measure led to an increase of cross-border withdrawals.

6.1.3. *Dual display of amounts*

In order to facilitate the transition to the euro, the banking sector availed itself of the dual display of amounts, notably on account statements. For the convenience of their customers, many banks have continued to use dual displays during 2002 and some are even considering extending it into 2003. In some cases, banks have not yet decided on the date for ending the dual display of prices.

6.2. **The retail sector**

Because European consumers were eager to use their new euro banknotes and coins, and moreover wanted to spend their national currencies, an increase in cash payments during the beginning of the year was anticipated and was confirmed in practice. Afterwards, the situation changed and retailers are now reporting an increase of the share of non-cash payments.

⁽¹⁾ Figure refers to Bancontact/MisterCash transactions.

⁽²⁾ Figure refers to Proton.

⁽³⁾ Covering Mastercard as well as Maestro debit cards

The dual display of prices has greatly contributed to facilitating the changeover for consumers, both during the dual circulation period and afterwards. It had usually been foreseen to keep the dual pricing of goods until the second quarter of 2002, but it turned out that many consumers appreciate this extra service. Many retailers have therefore decided to continue dual display of prices in 2002, which is considered by some as a competitive instrument in the retail sector. Some retailers indicate having not yet decided on the date of termination of dual display of prices and intend to keep it in 2003, at least for total amounts on bills (see also point 4(3)).

6.3. The cash in transit sector

The CIT sector played an important role in the smooth introduction of euro banknotes and coins. The cash centres, which ensure the counting and sorting of cash, were under heavy pressure for several months, notably due to the quick backflow of legacy currency. Now that all euro area countries share the same currency, the difficulty of carrying out cross-border transport of cash becomes more apparent than before. As the relevant rules relating to the transport of funds vary widely among the euro area countries, since they have not yet been harmonised, such transports are virtually impossible to organise.

6.4. The Vending industry

The vending industry tried to adapt its vending machines as soon as possible in order to avoid loss of turnover. Nevertheless, some vending machine operators indicated temporary turnover losses, sometimes up to 20 %, at the beginning of the year ⁽¹⁾.

Cash-based machines, representing the vast majority of all vending machines (85 to 95 % in some countries) presented the biggest challenge, compared to machines operated with cards or tokens which only needed reprogramming and a new display of prices. Many vending machine operators used the opportunity of the euro cash introduction to replace the validation mechanisms in their machines. For instance in France and Germany, 90 % and 70 % of the validation mechanisms were renewed. Only the remaining old validators had to be converted. In Ireland the rate of replacement is 50 % and in Italy 25 %. The replacement of old validators can be regarded as an investment for the future, since it increases the reliability of the machines in properly identifying banknotes and coins (in particular the new security features) thereby preventing fraud. On the other hand, the investment in new validation mechanisms represents a substantial cost, amounting to EUR 375 to 600 per machine. The cost for the implementation of a non-cash system is lower and comes to EUR 400 on average.

⁽¹⁾ All figures used in this section are based on a survey of five euro area countries (France, Germany, Italy, Ireland and the Netherlands), which cover 80 % of the market for vending machines.

In those Member States (Belgium, Luxembourg, the Netherlands) in which an electronic purse system is commonly used, many vending machines formerly accepting coins have been adapted to an electronic purse system. The quick conversion of parking meters caused some problems to citizens and to tourists, who usually do not have the respective local card at their disposal.

The vending industry emphasises that there is no lack of a particular denomination of coins, and that the quality of the euro coins is very satisfactory. This confirms that the euro coins are able to meet the demanding requirements of modern vending machine validators, including coins from different euro area countries. Typically, vending machines accept all the coin denominations except the 1- and 2-cent coins. The pricing is usually done in 5-cent steps. With regard to price changes due to the euro introduction, the picture is diverse. In order to be able to stick to round prices, prices were adjusted in both directions.

7. THE ROLE OF THE EURO CASH OUTSIDE THE EURO AREA

This section takes a look at the extent to which euro banknotes and coins have started to circulate and to be used outside the euro area. It appears that the use of the euro has been increasing, particularly in non euro-area European countries. In other continents, its use is mostly confined to tourist areas.

The behaviour of European travellers also plays an essential role in this respect. For example, according to the latest Euro-barometer, 53 % of travellers from the euro area who travelled outside the euro area took euro cash with them, compared to 16 % who took US dollars.

7.1. The three Member States outside the euro area

The introduction of euro banknotes and coins has been followed closely by the pre-ins. According to a survey in September 2002, in all three pre-in countries, a majority of the citizens indicates being well or very well informed about the euro (68 % in Denmark, 56 % in Sweden and 53 % in the United Kingdom). A majority of the population have already held euro banknotes or coins in their hands (55 % in Denmark, 56 % in Sweden and 55 % in the United Kingdom), while many people have noticed products in their country which were labelled in euro (47 % of respondents had noticed this in Denmark, compared to 37 % in Sweden and 38 % in the United Kingdom). A large majority of people in each country are aware of the fact that the euro makes price comparisons among countries much easier.

In Denmark, a high preparedness to accept euro cash is observable⁽¹⁾. In September 2002, 83 % of Danish businesses were prepared to accept euro cash from tourists, while 72 % of those also accept euro payments from Danes. 15 % of those who accept euro indicated this to their customers by signs and even 35 % display the total amount in euro next to the amount in Danish Kronor. The dual display of prices on at least a part of the assortment is used by 13 % of all euro-accepting businesses, while 12 % even give change in euro.

In Sweden, a large number of shops, hotels and restaurants, not only in major cities and particular tourist areas, accept euro cash payments, although formerly the national European currencies were not accepted. However, most business only accept euro banknotes and give change in Swedish Kronor. More extensive use of the euro is made along the border with Finland. The remote town of Haparanda, located in the far north of the country close to the Finnish town of Tornio, but very far from Swedish settlements, takes a special position. It has practically switched to the euro. The euro is being commonly used as a means of payment, and all prices are displayed in euro. Even the city's budget for 2002 was already presented in euro, next to Swedish Kronor. The Swedish Trade Federation strongly promotes the acceptance of the euro in shops by distributing a 'We accept the euro' sticker. A referendum on the introduction of the euro in Sweden will take place on 14 September 2003.

Also in the United Kingdom, the euro is sometimes accepted for payments especially in London and in tourist areas. Change is usually given in British pounds. Occasionally prices are also displayed in euro. 74 % of the Brits realised that price comparisons among countries are rendered easier by a common currency. In the United Kingdom, 83 % of the population feels that the adoption of the euro by 12 EU-countries was an historic event.

7.2. The Accession countries

The introduction of the euro cash has had a certain impact on the accession countries as well. Being adjacent to the euro area, a lot of attention has been paid to the euro in the media. Public opinion is usually very receptive, notably because these countries are planning to join the euro area at a certain stage following EU-membership.

It is easy to obtain and exchange euro into national currency at banks in all accession countries and in most of them it is possible to pay with euro in shops, hotels and restaurants. An extra cost is not necessarily charged. In tourist areas one can also find prices being displayed in euro, next to the

domestic currency. In Bulgaria and Turkey the use of the euro is more widespread, sometimes to the extent that it can almost be considered as a parallel currency, together with the US dollar.

7.3. The euro worldwide⁽²⁾

7.3.1. Other parts of Europe

The Community has concluded monetary agreements in the past with Monaco, San Marino and the Vatican City, specifying that the euro is the national currency in these three countries and has legal tender status. Under the terms of these agreements, the countries concerned are also allowed to issue certain quantities of euro coins, which have legal tender status throughout the euro area. They are not however allowed to issue euro (or other) banknotes. In Andorra, the euro replaced the French franc and the Spanish peseta, which formerly circulated in parallel, as this country does not have a national currency.

The euro is also used de facto in Kosovo and Montenegro, both of which form part of the Republic of Yugoslavia. In UN-administered Kosovo, the use and possession of foreign currency was legalised in September 1999. This region was a largely cash-based economy which relied mainly on the German mark before 2002. At the beginning of 2002 the Banking and Payments Authority of Kosovo (BPK) imported EUR 413,3 million in banknotes and EUR 5,5 million in coins in order to facilitate the changeover, while private banks imported another EUR 142 million to Kosovo. The BPK also made special efforts to smooth the changeover in the Serbian enclaves in Kosovo, where the Yugoslav dinar continues to be used as a means of payment. A positive side effect of the euro changeover was the strengthening of the banking system, as many citizens deposited their money in bank accounts during the changeover. In Montenegro, the euro also replaced the German mark, which had been adopted as a means of payment in 1999. Unlike in Kosovo, the euro there has legal tender status.

In the rest of Europe, the euro has acquired an even stronger role than the original German mark, which it has now replaced as a means of payment. Euro cash can be easily obtained and exchanged into local currency. In general, shops, hotels, restaurants etc. accept euro as a means of payment, not necessarily at any significant extra cost. In many countries, especially in the Balkans and eastern Europe, the euro as well as the US dollar are commonly used for transactions and can be regarded as parallel currencies. Consequently, prices displayed in euro can be found, especially in tourist areas.

⁽¹⁾ Figures given in this paragraph refer to a survey conducted by 'Danish Commerce and Services'.

⁽²⁾ The information in this section was gathered by a questionnaire on the role and acceptance of the new currency in countries outside the euro area, which was answered by the European Union Delegations abroad.

7.3.2. Africa

Due to close historical links with certain European countries, the market share of the euro for international transactions is significant in some parts of Africa, particularly in those countries where the domestic currency is linked to the euro by a fixed exchange rate regime. This is the case in all countries belonging to the CFA-zone, i.e. the Central African economic and monetary union (CEMAC) and the West African economic and monetary union (WAEMU) as well as in Cape Verde. In these countries the public interest in euro-related matters is much higher than in the other countries.

The impact of the euro changeover on Africa in general is limited. Euro cash cannot be easily obtained or exchanged into local currency in Africa, especially since some countries apply exchange restrictions. Usually, euro banknotes and coins can only be found at major banks and airports, although less easily than US dollars. It is however possible to pay with euro in most countries. Dual display of prices is only used in some tourist areas in a few African countries such as Cameroon and Egypt.

The island of Reunion located in the Indian Ocean is an overseas department of France and has therefore officially introduced the euro. Mayotte, a French island in the Indian Ocean has the status of a 'collectivité territoriale' and also introduced the euro officially as it was formerly using the French franc.

7.3.3. America

The entire American continent is strongly US dollar oriented. This did not change after the introduction of the euro cash. In most countries it is not even easy to exchange euro into local currency or to receive euro at banks. Consequently, the euro is rarely accepted as a means of payment in hotels or restaurants. The exceptions are the Dominican Republic, Cuba and Surinam, the latter being a former Dutch colony, where euro payments are normally accepted at some extra cost and where prices are also being displayed in euro in tourist areas. The adjacent territory of French Guyana, which is part of France and hence fully operating in euro, may also explain the special situation of Surinam. The euro is furthermore being used in all French overseas departments which geographically belong to the Caribbean, i.e. Guadeloupe and Martinique. St. Pierre-et-Miquelon, an archipelago located in the North Atlantic off

the Canadian coast, which has the status of a French 'collectivité territoriale', has also adopted the euro.

7.3.4. Asia and Oceania

In the Middle East the euro introduction had a very limited impact. Euro cash can be obtained more or less easily and exchanged into local currency. It is possible to use the currency as a means of payment in shops, hotels and restaurants in certain countries. In Israel the use of the euro is somewhat more common. Although not permitted officially, it is accepted in the major tourism-related areas at no significant extra cost.

In the rest of Asia, the euro changeover partly had a more significant impact. In the vast majority of Asian countries, euro cash can be obtained and exchanged into local currency, unless restricted by foreign exchange legislation. In some countries, for instance in Thailand, South Korea and Laos, the euro is widely accepted as payment in shops, restaurants and hotels usually at no significant extra cost. Albeit rare, the dual display of prices can be found in certain Asian countries, such as Thailand and the Philippines, especially in the tourist areas. In those cases where a second means of payment is more widely used next to the domestic currency, it is mostly the US dollar or the currency of a neighbouring country. As Asia is mainly US dollar oriented, the euro does not play a significant role as a means for international transactions. Nevertheless the euro raises the attention of the media to a certain extent. Especially in Japan the attention paid to the exchange rate of the euro is high.

Euro cash can be easily exchanged into local currency everywhere in Oceania. In general, no foreign currency circulates in parallel to the domestic currency as a means of payment. As a general rule, it is not possible to pay with euro in shops, hotels and restaurants. The situation is somewhat different in the French overseas territories such as New Caledonia and French Polynesia. As these territories use the CFP franc, which has a fixed parity vis-à-vis the euro, there is a natural interest in the euro and euro payments are often accepted in hotels, restaurants and shops. Australians and New Zealanders, in general, see the euro favourably, as an alternative to the American dollar on international markets, thereby reducing the countries' dependence on the American currency.