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THE EURO:
COUNTERFEITING AND FRAUD

The opinions expressed are those of the authors and do not necessarily reflect the European Parliament's position

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Summary

The European Parliament's Sub-Committee on Monetary Affairs held an open hearing on the issue of "the Euro and Counterfeiting" on Tuesday 19 January, 1999. This briefing was initially prepared, as no. 5 in the Monetary Affairs series, to summarise its conclusions, and has since been updated. It covers the main risks of counterfeiting and fraud; the legal framework for action to combat the counterfeiting of euro notes and coins; the arrangements for the issue and distribution of the new notes and coins; their technical characteristics; and the measures being taken to alert the public.

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Hearing on protecting the euro against counterfeiting
Tuesday 19 January 1999 at 09.15

Experts addressing the hearing

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I. Introduction

The launch of the euro on 1 January 1999 was achieved with complete success, both technical and political. Nevertheless, fears have been expressed that the switch to an entirely new currency creates unusual opportunities for various kinds of fraud.

There is a danger, for example, that swindlers will be able prey on public ignorance — the Spanish press carried reports in early 1999 of pensioners being told that their pesetas were about to become worthless by spurious “bank representatives”, who were offering to replace them with "euros".

Surveys also show that members of the general public, and in particular the elderly, are afraid that the changeover to the euro will lead to hidden price increases; and there are already stories of prices converted into euros being increased “to pay for the changeover”. This is despite a “new currency, stable prices” undertaking given by retailers’ organisations.

The need for the conversion of accounting systems and other computer software has also opened up the possibility of theft through the manipulation of conversion rates, or the "creaming off" of small amounts from each operation, by dishonest consultants or insiders.\(^1\)

The greatest problems are anticipated immediately before and during the period between January and February 2002\(^2\), when national bank-notes and coins are to be replaced by euro-denominated notes and coins. In particular:

- there is the problem of physical security, as enormous volumes of euro notes and coins are produced, stored and transported in the period before their legal issuance;
- there is a need to prevent the introduction of counterfeited euro notes and coins — the authentic designs will inevitably be unfamiliar to traders and members of the general public.

Since euro coins and notes are to be legal tender in every country of the euro zone, no matter where they are issued, the prevention of fraud and counterfeiting is likely to depend, in particular, upon close co-operation between all the authorities involved.

The design of the euro banknotes will be the same throughout the whole euro area. The coins, however, will have a common design on one side only, with different national designs on the other. This could make acceptance in Member States other than the country of issue more difficult and complicate the task of identifying counterfeits.

Euro banknotes, particularly the high-denomination €200 and €500 notes, are also likely to be widely used outside the euro area itself, like the existing high-denomination D-Mark notes. This will give the fight against counterfeiting an additional international dimension. The police have warned that the introduction of the €200 and €500 banknotes may make it easier for criminals to

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1 See “How to stop the silent thieves” (Financial Times, Thursday 26 November, 1998).

2 It was originally intended that this period of “dual circulation” should last for six months, until the beginning of July 2002. The period will now end in all euro area countries by the beginning of March, and even earlier in France, Ireland and the Netherlands. In Germany, there will be no period of dual legal tender at all, though the use of DM notes and coins will be allowed until the end of February.
"launder" the proceeds of their crimes\(^3\).

Recent reports from the Commission have warned that neither the general public nor many small and medium-sized firms are yet prepared for the changeover to the euro.

- Apart from in Luxembourg (22%) and Belgium (5.5%), only 1.5% of businesses have yet started to keep their accounts in euros; only 2.9% have opened euro accounts; and only 5.8% of payments, in volume terms, are made in euros. Most SMEs “intend to switch their operations to the euro at the last minute”.

- On the whole, the Commission has found that

  “members of the public have not come to grips particularly well with the main elements of the changeover to the euro, are unfamiliar with the new scale of values and are making relatively limited use of the new currency.”\(^4\)

Only 15% of people know their exact national currency/euro conversion rate; and, despite widespread dual pricing, only 8% said that they systematically looked at the price in euros. The numbers who did not look at euro prices had actually risen since 1999, the result of a “boredom factor”.

This situation makes the problem of combating counterfeits, and of preventing “petty frauds” like overpricing or giving incorrect change, very much more difficult. The success of the large-scale public information campaign due to take place in the second half of 2001 will clearly be vital.

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\(^3\) See evidence from the UK's National Criminal Intelligence Service (NCIS), reported in the *Financial Times* of 20 January, 1999).

II. The issuing of euro banknotes and coins

The legal basis

The legal basis for the issuing of new euro currency is Article 106 (formerly 105a) of the Treaty on European Union, which stipulates that the European Central Bank has the exclusive right to authorise the issue of banknotes within the Community. Both the ECB and the national central banks, however, may issue notes. Only banknotes issued by the ECB or the national central banks will have the status of legal tender within the Community.

The Member States are responsible for the issuing of coins, subject to approval by the ECB of the volume of the issue.

The starting date of 1 January 2002 for the circulation of the new euro money was established by Council Regulation 974/98.

The division of responsibility between the ECB (banknotes) and the Member States (coins) has resulted in a need for co-ordination between the various EU and national bodies involved. The Commission took the first initiative in 1995 with a Green Paper on the practical arrangements for the introduction of the single currency (COM (95)333). Since then a large number of general and specialist reports have been published by the Commission, the ECB, the European Parliament and other bodies. Many seminars have taken place to inform interested parties and to discuss problems; and legislation has been enacted to give the transition to the euro a legal base. Each participating Member State has published a detailed “Conversion Plan”. Detailed information on these can be found through the Commission and ECB Internet web pages.

The Commission\(^5\), the ECB, national authorities and the European Parliament have also co-operated to prepare a communications strategy for informing economic operators and the general public about the introduction of the euro.

Arrangements for printing euro banknotes

The numbers of euro notes and coins to be issued has been determined by two factors:

- the quantity required to replace national notes and coins; and,
- extra stocks to ensure that the changeover process operates smoothly.

It is estimated that about 14.5 billion banknotes and about 56 billion coins will be available by January 2002. About 10 billion of the notes will replace the national currency of the twelve participating Member States, with the remaining 4.5 billion constituting a strategic reserve.

The initial decisions on the printing of euro banknotes were taken by the ECB's predecessor, the European Monetary Institute. All the printing works of those countries participating in the euro zone, and currently involved in the production of national banknotes, were eligible to take part in the production of the initial stock of euro banknotes.

This has made necessary close co-operation to ensure that the notes have the same visual appearance throughout the euro zone, regardless of their source and country of origin. Any

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\(^5\) See, for example, the Communication of 2.2.2000 [COM(2000)57].
slight deviations would clearly make the job of detecting counterfeits more difficult. Similar criteria apply to the characteristics of the paper used.

**Graphic 1: Printing the euro notes**

To identify potential problems at the earliest possible stage, tests of production techniques and procedures were carried out in 1997. According to the EMI’s annual report for 1997, these tests revealed that all the eligible printing works were in a position to produce all euro banknote denominations to an equal standard and with an identical appearance. A zero-production run based on the latest, modified euro banknote designs was conducted in the Autumn of 1998. In 1999 a quality management system was put in place.

It was the conclusion of the ECB that decentralised production would produce no problems. Very slight variations between the notes produced in different locations might occur, but these would be no greater than the variations between production runs in any one printing works over time.
III. Sources of risk

The Commission drew attention in a July 1998 communication to a number of special problems in protecting the euro against counterfeiting:

- The unfamiliarity of the new notes and coins, which will inevitably persist for some time, despite prior awareness-raising campaigns. According to research carried out in a number of countries, uncertainty concerning the genuineness of euro notes and coins may lead to an unwillingness to accept euros of any kind.

- Differing experiences between Member States in handling the counterfeiting problem. Some national currencies have until now very rarely been counterfeited, creating the danger that counterfeiters will operate in countries where the authorities have the least experience in taking counter-measures.

- The fact that euro notes and coins are being printed or minted at a number of different locations (but see Arrangements for printing euro banknotes earlier).

- The fact that coins will have a "national" as well as a uniform side, complicating recognition in Member States other than those in which they are issued.

- The large number, and possible complexity, of exchange operations during the period of dual circulation of national currencies and the euro.

- The circulation of euros outside the participating Member States. "All the Member States of the Union will be affected as will a large number of third countries, especially the applicant countries." Particular attention is drawn to the danger of counterfeiting outside the EU itself - "as an international reserve currency, the dollar most probably offers the best example of the risks faced by the euro".

- Differences between the legal systems of participating countries, and "the maintaining of criminal boundaries", which "would appear to render the equivalent enforcement of the law and protection of the currency more difficult".

- Modern reproduction techniques (e.g. lasers and digital technology), which are easily available to small-scale counterfeiters.

Large-denomination notes

Another possible incentive to counterfeiting – not listed by the Commission – has been seen in the decision to issue large denomination banknotes: that is of €200 and €500. These will be even more unfamiliar to the general public than lower-denomination notes; and experience suggests that such large-denominations are in any case widely used in tax-evasion, money-laundering and other criminal operations. Counterfeiting high-value notes also brings a higher return per

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7 See, for example, the study by Prof. Jacques Birouste, a Paris professor of psychology, reported in the Financial Times of Tuesday, March 27, 2001. Trials with both members of the general public and business men found that people were “ill at ease” with a common money. “It’s a problem of image”, Prof. Birouste commented. “All identities are constructed on symbolic images and a symbolic image of Europe is missing.”
However, it is also possible to argue that large-denomination bank-notes carry a lower risk of counterfeiting than notes of lower denominations, since they are usually subjected to far more rigorous scrutiny by banks, retailers and other users. This would seem to have been the experience in the case of, for example, high denomination D-Mark notes.

The potential scale of the problem can be estimated from statistics on the current use of large-denomination D-Mark notes. The ECB has estimated that between 20 and 30 per cent of the German monetary base is in circulation outside Germany itself, a sum of around €40 billion. This is a reduction since 1999, when the euro was introduced; and it can be predicted that the figure will rise again once euro-denominated notes become available.

**Counterfeiting techniques**

Recent years have seen rapid changes in the technologies available to counterfeiters. In the 1980s, counterfeit banknotes were still mainly produced through traditional, off-set printing techniques. These involved considerable investment in equipment and plates, and resulted in large-volume production. Counterfeiting of this kind was almost exclusively carried out by organised criminals.

By the early 1990s it had already become possible to produce convincing counterfeit notes by using commercially-available colour photocopiers. This technology was available both to small-time criminals and to "amateurs", resulting in scattered, low volume production. Central Banks reacted by incorporating additional features in bank-notes – for example, optically variable devices, such as colour-changes depending on the angle of view – and by agreements with the manufacturers of copiers (see later).

Today there is a new problem: the production of counterfeits using desk-top computers, combined with scanners, graphics programmes and colour printers. As in the case of "hacking", counterfeiting by this means is often carried out in the home by "kids on PCs", sometimes merely because of the challenge involved. Evidence from France and elsewhere is that counterfeiting of this kind is on the increase.

Despite the growing incidence of such scattered, low-volume counterfeiting, however, it is the opinion of the Central Banks and police bodies that the main threat remains large-volume counterfeiting by organised crime, which is also able to make use of technological advances.

**“Front-loading”**

The need to familiarise both economic operators – banks, shops, etc. – and members of the general public with the new banknotes and coins has led to strong pressure for a limited distribution of both before 1 January 2002. Such “front-loading” can be seen as equivalent to the purchase of foreign exchange by tourists before they leave their own country.

In the case of coins, “front-loading” to the public has been agreed in most participating countries from the middle of December 2001. In the case of banknotes, however, the ECB has maintained that the risks inherent in premature circulation are too great. In particular, the general release of banknotes before 1 January 2002 could give counterfeiters a greater chance to analyse the notes.
and prepare forgeries in advance.

The “front-loading” of, especially, banks with both coins and banknotes is nevertheless inevitable, given that large numbers of both must be available for general use as soon as the New Year begins. A widespread distribution of euro notes and coins will therefore be taking place in most countries during the closing months of 2001, with the risk of some “leakage”.

**Transport and Storage**

The need to “front-load” and to effect the changeover to euro notes and coins will mean that unprecedentedly large volumes of cash will be in transit and in storage during late 2001/early 2002. The Commission has observed that

> “the scale of the operation is spectacular: the weight of euro coins alone will be more than 239,000 tonnes, the equivalent of twenty-four Eiffel Towers. Piled one on top of the other they would reach a height of 78,870 km, or 1.4 million times the height of the Leaning Tower of Pisa. Some 478,000 lorries would be needed to transport them all at once. Placed end to end, the banknotes would cover a distance of 1.9 million km, or five times the distance between the Earth and the Moon. And these figures need to be doubled if the withdrawal of the existing national notes and coins is included.”

There are clearly risks, not only that genuine euro notes and coins will be stolen, but also that counterfeits will be introduced into the distribution system.

For this reason, national governments and police forces, in cooperation with the banks and other bodies involved, have drawn up plans for extraordinary security measures.

**Counterfeit national currency**

One final, paradoxical problem may arise if criminal elements attempt to pass off large quantities of counterfeit *national* banknotes during the transitional period, with the aim of exchanging them as soon as possible for genuine euro notes. The calculation may be made that these national counterfeits will not be subjected to as rigorous a scrutiny as usual, since they will be immediately withdrawn from circulation and destroyed.

This problem is likely to exist for as long as banks are authorised to exchange former national banknotes for euros – i.e. for up to 20 years in some cases; and may in particular affect the exchange of notes held outside the euro area itself.

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The Euro and Counterfeiting
IV. The EU framework for action against counterfeiting

The prevention of counterfeiting embraces action of several kinds.

- **Technical.** The design and production of notes and coins must incorporate both “open” and “covert” security features, making the production of plausible counterfeits expensive and risky.

- **Legal.** Uniform definitions of counterfeiting, and provision for uniform penalties, must be established.

- **Institutional and Procedural.** Measures to ensure the rapid identification and withdrawal of counterfeits are required, and also for rapid police and legal action against counterfeiters and illegal coiners.

- **Information and Training.** Banks, retailers, etc., and the public as a whole, must be in a position to distinguish between genuine euro notes and coins on the one hand, and counterfeits and forgeries on the other.

**Legislation**

Within the context of its consultative committee on the fight against fraud, the Commission established in 1997 an expert group on "counterfeiting of the euro", bringing together police from the 15 EU Member States, and representatives from the ECB, EUROPOL and INTERPOL. Its first report was published in April 1998 [SEC(1998)624].

On 7 July 1998, the Board of Governors of the ECB adopted a number of guidelines to protect the euro notes; and issued a Recommendation9. This advocated, among other measures:

- adapting national legislation on the exclusive right of central banks to issue banknotes;
- legal copyright protection for banknote designs;
- strengthened police and judicial cooperation;
- procedures for the handling of counterfeits; and
- the installation of technical devices in colour copiers, etc. to prevent counterfeiting.

Such measures would be in addition to those already agreed for

- a common definition of counterfeiting;
- harmonised charges and penalties; and
- the automatic incorporation into all EU commercial or other agreements with third countries of an obligation to cooperate in combatting counterfeiting.

At the same time, a **Counterfeiting Analysis Centre** (CAC) was established within the ECB.

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9 “Recommendation of the European Central Bank regarding the adoption of certain measures to enhance the legal protection of euro banknotes and coins” [ECB/1998/7].

In May 2000 a **Decision on criminal penalties and other sanctions** against counterfeiting was adopted by Council (OJL 140 of 14.6.2000). In July 2000 the Commission proposed a further **Regulation on the protection of the euro against counterfeiting** [COM(2000)208] which was adopted by Council in February 2001.

The Commission's July 1998 communication was also the subject of a resolution by the **European Parliament**, based on the report from its **Committee on Civil Liberties and Internal Affairs** (rapporteur Mr. Gerhard SCHMID). This drew attention, in particular, to the need for "**equivalent protection against counterfeiting of the euro to have been established throughout the territory of the European Union at the time of its introduction as cash.**". In the context of enlargement, it also noted that future members of the EU should "**be associated as early and as completely as possible with the measures to be adopted**". Action was called for on:

- comparative national criminal law;
- vocational training and the exchange of experience between officials;
- a "catalogue of relevant practices" in relation to counterfeiting;
- data exchange; and
- possible EU accession to the 1929 International Convention on counterfeit currency.

**The role of EUROPOL**

Meanwhile, a meeting of the Council on 3 December 1998 had also drawn attention to the important role of EUROPOL.

The EUROPOL Convention came into force in October 1998, giving the new body the primary initial task of managing an information system based on voluntary inputs from Member States. This mainly contains data concerning offences, charges, dates and places, means used, services in charge, suspicion of membership of a criminal organisation, etc. On the basis of a COREPER paper\(^{10}\), the Council called on EUROPOL to carry out a feasibility study into extending its existing mandate into the field of counterfeiting, building on work already carried out by the Commission's expert group. Following the completion of the study, the EUROPOL mandate was extended by a Council decision of 29 April 1999.

**The Inter-institutional steering group**

At the beginning of March 2001, the Commission, the ECB and EUROPOL jointly announced the creation of an inter-institutional steering group to coordinate their activities on protecting the euro against counterfeiting. The group defined an **action plan** providing for the preparation of a common approach in the fields of

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\(^{10}\) Council/EUROPOL 80. Rev. 4 of 1 December 1998.
cooperation between the large number of concerned bodies and authorities — an overview of the work carried out by the different parties will be produced;
- coordination with non-euro zone member countries;
- training;
- communications strategy; and
- legislation.

The steering group is to develop a common strategy on these issues, and will then propose a series of concrete priority measures.

**Relations with third countries**

The possibility that the production and circulation of counterfeit euros will take place in third countries, without any direct connection with an EU Member State, presents particular problems. The precedent of the Dollar indicates a strong possibility that such a development will occur.

The report of the expert group observed that a system of co-operation and information exchange with third countries would have to be elaborated, based on INTERPOL links, and the 1929 Geneva Convention on the fight against counterfeiting.

In the case of INTERPOL, the report recommended that:

- information-exchange systems should be compatible with those operated by INTERPOL;
- specimens of counterfeit euros seized in third countries must be sent to the ECB; and specimens of counterfeits seized within the EU must likewise be sent to INTERPOL;
- the division of responsibilities within the EU itself, in relation to INTERPOL and third countries, will have to be made clear;
- the procedures which currently exist in regard to banknotes should be extended to coins.

The 1929 Geneva Convention provides, even within countries with a federal structure, for a single police contact point for matters concerning counterfeiting.

The expert group report also recognised that especial action was necessary in relation to the candidate countries, within which a sizeable volume of notes and coins can be expected to circulate. Among the recommendations of the report were:

- that anti-counterfeiting should form an integral part of the pre-accession strategy;
- the development of information-exchange and cooperation links;
- public information in the candidate countries;
- technical assistance in the detection of counterfeit euros, information systems, etc.; and
- legislation in the candidate countries on the obligation to provide information, the definition of counterfeiting, penalties, etc.
International organised crime

Special problems exist in connection with counterfeiting by organised criminals, generally based outside the jurisdiction of EU countries. Although INTERPOL and the Geneva Convention (see above) provide a framework for action, the effectiveness of national authorities in different parts of the world varies.

In this context, the experience of the United States is relevant. The US Secret Service plays an important role in combating counterfeiting, similar to its role in the fight against drug-trafficking. It is likely to be necessary for the EU to draw on this experience, as well as that of Member States like France in the same field.

Penalties

One of the problems involved in the protection of the euro against counterfeiting is the fact that there are no uniform criminal law provisions on counterfeiting, but rather 15 different national laws. This means, for example, that producing counterfeit euros does not necessarily constitute an offence of counterfeiting (though it may constitute an offence of forgery of documents or fraud). Measures have therefore been necessary to introduce a degree of harmonisation so that conduct intended or serving to counterfeit or alter euros is a punishable offence in all Member States.

A draft Council framework decision on increasing protection by penal sanctions against counterfeiting in connection with the introduction of the euro and other measures were approved by the European Parliament on 3 May 2001\(^\text{11}\). This does not involve full harmonisation of criminal law, but only the establishment of minimum standards; and Parliament introduced a number of amendments to tighten up the provisions.

V. Technical measures

The security characteristics of the banknotes

The “state-of-the-art” security features to be incorporated in euro banknotes are of several kinds:

- visual or tactile features which can be recognised immediately by the user (e.g. a multi-tone watermark);
- visual or tactile features which can be recognised using appropriate equipment (e.g. micro-graphics);
- "covert" features which can be detected both by the authorities and by vending and note-handling machines; and
- specific "anti-copying" features.

Among the immediately recognisable features are:

- the special tactile properties of the paper and the intaglio (relief) print;
- the watermarks;
- the security threads;
- the see-through registers;
- the foil holograms; and
- the ink colours.

Among the more covert features are the characteristics of the paper (e.g. the incorporation of fluorescent fibres) and of the inks; and micro-features not discernible to the naked eye.

The European Parliament has on a number of occasions drawn particular attention to problems which may be faced by disadvantaged groups in recognising the new notes and coins. In the case of the blind a number of features of € notes should make identification easier.

- Some elements of the banknote design are printed in relief, through the use of a special printing technique (intaglio). The large numerals (i.e. the values of the banknotes) on the front are printed in relief and can be perceived by touch.

- Each note is of a different length: €5 (120mm), €10 (127mm), €20 (133mm), €50 (140mm), €100 (147mm), €200 (153mm), €500 (160mm).

- The €5 (62mm), €10 (67mm), €20 (72mm) and €50 (77mm) also vary in width.

- The €100, €200 and €500 notes are all 82 mm. wide. However, each has distinguishing tactile features in the form of strips.

- All notes have foil features perceptible by touch. Those on the €5, €10 and €20 notes differ in shape and position from those on the €50, €100, €200 and €500 notes.
The security characteristics of the coins

A number of security features – notably in relation to the metallic contents and their electrical properties – have also been introduced in the case of coins. These features are intended both to make counterfeiting more difficult, and to facilitate the use of euro coins in machines, i.e. to ensure that the machines can recognise the new coins and distinguish the different denominations.

Particular care has been taken with the higher-value €1 and €2 coins. These have been produced using sophisticated bi-metal technology.

For disadvantaged groups like the blind, the optimum design for the eight € coins would have been for each to differ in shape. Though this was not possible, certain features will assist recognition.

- Each value coin has a unique size and weight.
- The coins do not consistently increase in size according to value; but they do in terms of weight, with one exception: the 50 cent coin is slightly heavier than the €1 coin.
- The edges of the coins vary:
  - 1 cent: smooth.
  - 2 cents: shallow groove scores around circumference.
  - 5 cents: smooth.
  - 10 cents: scalloped edge.
  - 20 cents: (the “Spanish Flower” design) 7 notches on the edge divide the petals.
  - 50 cents: scalloped edge.
  - €1: edge divided into 6 alternating smooth and serrated sections.
  - €2: edge entirely serrated or milled, with lettering or stars.
The position of the number indicating value varies:

- On the 1, 2 and 5 cent coins, in the top left quarter.
- On the 10, 20 and 50 cent coins, filling the right half of the coin.
- On the €1 and €2 coins, filling the left half of the coin.

The differing national faces of each coin also have distinguishing features.

**Graphic 3: The Euro coins (common side)**

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**Action against photo-copying and electronic copying**

Measures to prevent the counterfeiting of bank-notes through the use of sophisticated colour photocopiers have already been in place for some time. By voluntary arrangement with the – above all Japanese – manufacturers of such equipment:

- certain security features in banknotes can be recognised, and the equipment will not operate;
- the equipment incorporates in all copies a "yellow dot" code which makes it possible to identify the precise machine on which a counterfeit bank-note was produced.

The more recent use of digital technology has raised the question of whether similar arrangements may now be needed with the manufacturers of desk-top computers and with software developers. Discussions have already taken place with the manufacturers of scanners.

**Data exchange**

In its report of 14 December 1998\(^\text{12}\), the expert group on counterfeiting the euro observed that

"the protection of a currency against illegal activities rests largely, in the first place, on the use of information". Many of its findings therefore concerned the detailed procedures for the dissemination and access to data on counterfeiting. Its recommendations, for example, included:

- ensuring that information systems on counterfeiting were compatible with existing systems within and between Member States;
- an agreement on common formats for information: for example, case files based on a "hard kernel" of six items: identification of the case; identification of the counterfeit; the circumstances of the discovery of the counterfeit; the context of seizure; the persons implicated; and links to other cases;
- an interactive "rapid alert" system, functioning round the clock, seven days a week; guaranteeing confidentiality; capable of handling graphics and photographs; and able to work in all the official languages; and
- the introduction at European level of a legal obligation to notify cases at an early stage.

In establishing a data-exchange system on counterfeiting, the Community has been able to draw on experience with existing systems. These include the customs network, SCENT, which has been in operation for over twelve years; the financial irregularities data-base, IRENE; and the customs information system, CIS.

The detection of counterfeits

Some 40% of all counterfeiting within the EU takes place within French jurisdiction. The experience of the French authorities has therefore been of particular relevance in combating the counterfeiting of the euro.

In 1989 the French authorities established a programme of action which included the central integration of both police and judicial action against counterfeiting (in conformity with the provisions of the 1929 Geneva Convention), and a three-year training programme for police officers, officials, etc.

Action by the French authorities also included the development of "simple and user-friendly" electronic equipment to detect counterfeit banknotes. This operates on two parameters: the numbers on a note, which identify when and where the note (or the original which has been copied in the case of counterfeits) was produced; and flaws in the note itself. So far, according to the French authorities, there has never been an error of interpretation.

The handling and analysis of counterfeits

The expert group's 14 December 1998 report examines the issue of how counterfeits, once detected and seized, are to be handled. The ECB had, in its own earlier analysis, distinguished between two types of counterfeit note:

1. Colour photocopies. These, the ECB had considered, could generally be dealt with at a purely national level.

2. Printed counterfeits. These would need to be analysed and classified centrally.
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The expert group, however, considered that this division of responsibility would be difficult to apply in practice. It was vital that the ECB should receive a specimen of every counterfeit, so that a complete picture of the situation could be maintained.

Problems may also exist in determining what happens to seized counterfeits. The expert group considered that the normal practice of rapid destruction might need to be modified in the light of the need for central analysis and the possibility of investigations in more than one Member State. The group also observed that further work was also needed in the fields of the detection and analysis of counterfeits.

The protection of euro coins

The production of euro coins, unlike that of bank-notes, is the responsibility of national authorities. All euro coins of a given value will be of identical weight and composition; but each will have a "national" side, the design of which will vary according to the country in which they have been minted.

Under the rules of the competition through which the design of the coins, including the common face, was selected, the copyright was assigned to the Commission. Protection of this right within participating EU Member States is the responsibility of the appropriate national authorities. In other Member States, and in third countries, the Commission itself remains directly responsible.

In 1999 the Commission issued a Communication\(^\text{13}\) proposing that:

- there should be a general prohibition on the production of metallic objects that might be confused with euro coins;
- reproductions of the euro coins' common face – e.g. in advertisements – should be permitted only if they were faithful to the original; did not damage the image of the euro; and were in a medium and of a size that could not be confused with the originals. Otherwise specific authorisation should be necessary from Member States or the Commission.

A Recommendation then requested Member States not to authorise – at least during the transitional period – the issuing of "collector coins", medals or other similar products carrying the name "euro" or "euro" cent, or with a design similar to that of the euro coins themselves.

Detailed procedures for suspected counterfeits


- Initial examination should take place in designated National Analysis Centres (NACs) or National Coin Analysis Centres (NCACs).
- The results of analysis should be communicated to EUROPOL.

\(^{13}\) "Communication from the Commission on Copyright Protection on the Common Face Design of the Euro Coins", SEC/99/24.

\(^{14}\) See the Official Journal C75 of 7 March 2001.
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- All information on a particular dossier, including information obtained from third countries, should also be communicated to EUROPOL.

- All the information necessary to ensure effective legal action against counterfeiters is also to be exchanged through the Provisional Judicial Cooperation Unit (and with Eurojust, once this body has been established).

- Every Member State should recognise previous convictions, irrespective of the currency counterfeited, for the purposes of establishing final sentences.

Where new types of counterfeits are discovered, they will be sent to the Central Analysis Centre (CAC) or to the European Technical and Scientific Centre (ETSC) for detailed analysis and classification. All technical and statistical data will then be stored in a Counterfeit Monitoring System (CMS) to be established at the European Central Bank.
VI. Other Fraud

“Petty cash” fraud

The introduction of a new currency will provide widespread opportunities for various small-scale frauds by dishonest traders and others issuing invoices or handling cash, especially during the transitional period. The fear of such practices is indeed behind much of the distrust of the euro expressed by members of the general public in some countries.\(^\text{15}\)

Although “dual pricing” has in some cases been in operation for over two years – for example, in most hotels and restaurants – transactions within the euro area still predominantly take place in national currency units, with the euro equivalents not shown. Moreover, where dual pricing has been operating, the sum in national currency has been the "lead" price, with the euro price only an indicative conversion.

Retail organisations\(^\text{16}\) have now agreed to begin switching to euro-denominated lead prices in September 2001. This will enable members of the public to begin “thinking in euros”, at least by reference to a number of key purchases. Retailers have also undertaken not to use the change-over to the euro to apply hidden price rises. A slogan “new currency, stable prices” is to be used “in all appropriate contexts”.

However, it is by no means certain that all retailers will follow this commitment. Many members of the general public may only find themselves needing to calculate national currency prices in euros after 1 January 2002. Although all "lead" prices should then be in euros, with the national currency price shown as an indicative conversion, it may often be difficult to tell whether the new euro price is really the equivalent of the old national currency price. Among the possible sources of sharp practice are:

- **Not using the statutory rates when converting.** The mathematics involved in precise conversions is complex (see Table 1). Most practical conversions are likely to take place at rough-and-ready approximate rates: e.g. €1 = DM2 or €1 = BEF/LUF 40, or €1 = FF 6.5, etc. This gives wide scope for price changes, the "skimming" of small amounts from each conversion, etc.

- **Incorrect application of the “rounding” rules.** Since cash transactions can only take place using the notes and coins available, conversions into euros can only be practically effected to the nearest cent. This means that conversions to more than two decimal places must be rounded up or down. Very precise rules for such rounding were established at an early stage of EMU (see *The Introduction of the Euro and the Rounding of Currency Amounts*, published by the Commission in 1998 (II/717/97)). However, even these give scope for manipulation. For example, a shopping bill may contain a large number of separate items. Should the price in national currency of each item be converted separately, rounding the individual sums up or

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15 See, for example, the already quoted paper by Professor Birouste, which reports elderly people as being “panic-stricken” at the prospect of having to calculate in euros and cents, and of being robbed by dishonest shopkeepers. According to the Eurobarometer opinion survey, some 46% of consumers are “worried” or “very worried” about the possibility of price rises. In Germany a poll carried out by the German Federation of Building Societies has found nearly 60% of people “suspicious” of the Euro.

16 See the Joint Statement by representatives of consumers and representatives of traders and SMEs annexed to the Commission Communication of 3 April 2001 [COM(2001)190].
down? Or should the total be calculated in national currency first, and then converted into euros? If the individual prices are converted and predominantly rounded up, the euro total will be larger than if the final national currency total had been converted; and vice versa. Although the differences are likely to be small, they could amount to large sums on total turnover and over time.

Table: €1 at the official conversion rates

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<tr>
<th>Currency</th>
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<tr>
<td>BEF</td>
<td>40.3399</td>
</tr>
<tr>
<td>DEM</td>
<td>1.95583</td>
</tr>
<tr>
<td>ESP</td>
<td>166.386</td>
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<tr>
<td>FRF</td>
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<td>GRD</td>
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<td>IEP</td>
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<td>ITL</td>
<td>1936.27</td>
</tr>
<tr>
<td>LUF</td>
<td>40.3399</td>
</tr>
<tr>
<td>NLG</td>
<td>2.20371</td>
</tr>
<tr>
<td>ATS</td>
<td>13.7603</td>
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<tr>
<td>PTE</td>
<td>200.482</td>
</tr>
<tr>
<td>FIM</td>
<td>5.94573</td>
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</table>

Incorrect change. Incorrect conversion of prices, moreover, is not the only possible source of abuse. The most obvious “petty cash” fraud, particularly in the first two months of 2002 when both national and euro-denominated notes and coins will be in circulation, will be the giving of incorrect change. Both the unfamiliarity of the euro notes and coins themselves, and the mathematical complexity involved will play a part. The latter will be especially significant when, for example, change in euro coins is given for nationally-denominated notes. It should also be noted that incorrect change can easily be the result, not of fraud, but of genuine error – which makes it much easier for the dishonest to evade the charge of sharp practice if exposed.

Electronic money

Notes and coins are not the only – or even the most important – means of payment in a modern economy. Alternative means of transferring large sums through banks have existed for a long time: cheques, bankers’ drafts, postal orders, direct debits, etc.

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It might be objected that, in converting a long list of national-currency prices, those to be rounded up and those to be rounded down will more or less cancel each other out, making the final total in euros much the same as if only the national-currency total had been converted. This is to assume, however, that the original national-currency prices have not been manipulated in the first place to eliminate rounding down! The euro rounding rules, in any case, contain an in-built bias to rounding up. Where the digit to be rounded is .5, so-called “shopkeepers’ rounding” is adopted: that is, the figure is always rounded up. This is to be distinguished from the “scientific rounding” adopted by the International Standards Organisation (ISO standard 31/0), whereby all .5 numbers are rounded to the nearest even rounding boundary: e.g. both 15 and 25 are rounded to 20, both 35 and 45 to 40, etc.
More recently, advances in information technology have made possible various ways of transferring money electronically. Very large sums have for some time been moved in this way between banks and other financial institutions. At the same time, cash and cheques have in recent decades been in part replaced as a means of ordinary payment by credit or direct debit cards, based on the magnetic strip.

Now "electronic purses" or prepaid cards based on chip technology, are appearing. Finally, the growth of electronic commerce on the Internet and of electronic banking is leading to the creation of "network" or "software" money, transferable via personal computer.

These developments have made possible the widespread use of the euro, even for every-day transactions, well before the appearance of euro notes and coins. The principle of "no compulsion, no prohibition" has allowed willing buyers and sellers to account and settle in euros as from 1 January 1999.

Electronic money therefore has already created an opportunity for members of the general public to familiarise themselves with the euro during the three years before January 2002.

At the same time, it has also created new opportunities for criminals. Electronic transfers can be used to launder money. Stolen or forged credit cards have for some time been a widespread means of theft. Now the manipulation of software – including the breaking of encryption systems – can be a means of "counterfeiting" or stealing "network" money.

Moreover, while crime against non-cash payments is becoming increasingly international, measures to combat them are mainly taken domestically. There are substantial differences in legislation between countries.

In 1998 the Commission launched a major initiative against fraud and counterfeiting in the area of credit and payment cards, home banking and other non-cash means of payment. The strategy has had two components.

- A Joint Action Programme to ensure that fraud in the field of non-cash payments is recognised as a punishable criminal offence in all Member States.
- A broad strategy to ensure that non-cash transactions are secure.

The Commission has, in addition, made proposals for a clear regulatory framework governing the institutions which issue electronic money.

A report on electronic money was also published in 1998 by the ECB. The protection of traders and consumers made necessary a number of minimum requirements:

- all issuers of electronic money should be subject to prudential supervision;
- issuance should be governed by firm and clear legal arrangements concerning technical

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security, protection against abuse and the reporting of monetary statistics;

- issuers of electronic money should be legally obliged to redeem that money against central bank money at par at the request of the holder;
- the ECB must have the ability to impose minimum reserve requirements on all issuers of electronic money.
VII. Public Information and Training

In its July 1998 paper, the Commission had already noted the importance of professional training in the fight against counterfeiting. In February 2000 it published a Communication outlining a "communications strategy" for the last phase of completing EMU. This began by noting three particular problems:

- Small businesses were not taking the changeover to the euro seriously enough.
- The use of the euro for accounting, invoicing, etc. on a "no compulsion, no prohibition" basis after 1999 had been "significantly less than anticipated".
- Though most people had received some information on the single currency, they "may be forgetting it". There had been little incentive for the general population to prepare for an event which, when the euro formally came into existence in 1999, was actually still three years away.

In April 2001 the Commission published a fuller Communication on “preparations for the introduction of euro notes and coins”. It found that many of the same problems still existed. Though large firms had already switched many operations into euros – for example, 81% were adapting IT systems, and 22% already paid salaries in euros – this was not the case with SMEs. The “minimal readiness” of SMEs was “particularly worrying in the case of shopkeepers, who will be required to play an active role in the introduction of notes and coins”.

The ECB, Commission and Parliament campaigns

The ECB, in conjunction with the 12 national central banks, has already been conducting an information campaign designed to inform banks, businesses, traders, etc. of the characteristics of euro banknotes and coins.

In the second phase, which is scheduled to start in the Autumn of 2001, the general public will be provided with information by means of a mass media campaign: “the EURO, OUR money”. This is being organised in detail by the PUBLICIS advertising agency, with which the ECB signed a contract in 1999. The main communication tools will be television broadcasts and mass-distributed printed matter, supported by radio broadcasts and both billboard and press advertisements. Special measures will be taken to ensure that the campaign meets the specific needs of various groups of more vulnerable citizens, in particular the blind and partially sighted.

This ECB campaign has taken place within the framework of a more general information initiative, “The Euro, a currency for Europe” which began in 1996. This was organised in the context of the Commission’s Information Programme for European Citizens (PRINCE). Originally, PRINCE covered three separate programmes. “Citizens first” ended in 1998, and “Building Europe Together” in 1999. “The Euro, a currency for Europe” has a budget of €117 million, two thirds of which has been allocated to partnership agreements with the participating countries, and also to a programme in Switzerland. The campaign has been chiefly targeted at

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SMEs, local and regional authorities, schools and vulnerable groups.

**Members of the European Parliament**, both individually and as an institution, have been major participants in the PRINCE and other programmes. Parliament’s Economic and Monetary Affairs Committee prepared a detailed report on the communications strategy for the changeover in mid-2000 (Document A5-0170/2000, *rapporteur* Othmar Karas).

**The national campaigns**

In each of the euro area countries the authorities have published detailed switchover strategies, including substantial information campaigns for the general public. At the level of national and local public bodies most of the measures necessary to convert taxation and social security systems, etc. are already in place. The legal frameworks are also in place for “front loading”, the period of dual circulation, the withdrawal from circulation of national notes and coins, and arrangements for exchanging national notes and coins for euros after they have ceased to be legal tender.

It is possible, however, that problems may arise because the timing of certain key events – on present plans – will differ from country to country. For example:

- **Front loading for retailers** with coins and notes will begin on 1 September 2001 in Austria, Germany, Spain (large retailers only) and Luxembourg, but only on 1 December in Belgium, Greece, Spain (small retailers), France and Portugal. In the Netherlands small quantities will be available for training purposes only in October. In Ireland the date will be 15 November for notes but “earlier” for coins. In the Netherlands and Italy full front loading for retailers will only take place in late December, and in Finland not until 2 January 2002.

- The end-date for the **legal tender status of national notes and coins** will be 31 December 2001 in Germany, 28 January 2002 in the Netherlands, 9 February in Ireland, 17 February in France and the end of February in other cases.

- **The time limit for the exchange of national notes and coins by commercial banks** will be the end of February in Germany; the end of June 2002 in Spain, France and Portugal; the end of 2002 in Belgium, Luxembourg and the Netherlands; and an as yet undecided date in other countries.

- **The period during which central banks will change national coins and notes** similarly varies between 2 and 20 years.

These differences might well create confusion during the changeover period itself, particularly in border areas and among travellers. In later years it may also cause disputes – for example, when foreign holders of former national banknotes wish to exchange them for euros.

For this reason the Belgian Finance Minister, President-in-Office of the Euro Group during the first half of 2001, told Parliament’s Economic and Monetary Affairs Committee at the beginning of April that an effort must be made “to get the Member States to act simultaneously if possible”.

In any case, the Minister drew attention to certain key dates in the campaign.

**1 May 2001 (Europe Day):** An “information day” on the euro would, in particular, target schools.

**September 2001:** for the first time, “real” euro notes and coins would be presented.
**Mid-December 2001:** in all participating countries (with the possible exception of Greece) “starter kits” of coins would become available to the general public.

**Twenty good ideas**

The Commission’s April 2001 Communication concludes with a list of “twenty good practices to facilitate the final changeover to the euro”.

**Before 1 January 2002**

- Distributing tools for calculating change to small traders.
- Devising and distributing simple tools for estimating cash requirements (e.g. “Eurocalculus” in Austria and “Eurofloat” in Ireland.
- Handing out kits of euro coins along with change during late December 2001.
- Employers to distribute kits of euro coins as free gifts to staff (e.g. Belgium).
- Loading cash dispensers only with small-denomination national banknotes in final days of 2001, so reducing the need for change (e.g. Germany and the Netherlands).
- Loading special units of cash dispensers with euro notes in advance, to be activated on January 1 (e.g. Belgium).
- Sending specialists to explain changeover arrangements to traders (e.g. Lille chamber of commerce).
- Writing to all VAT-registered businesses outlining changeover procedures (e.g. France, Belgium, Luxembourg).
- Simulation exercises with dummy euro notes and coins.
- Local groups to monitor and coordinate the changeover (e.g. Barcelona).

**After 1 January 2002**

- Postponing the start of winter sales (e.g. Belgium).
- Invalidating national notes by perforating them during 2002 (e.g. Belgium).
- Standard packages for returning national coins (e.g. France).
- Separate tills for national notes/coins and euro notes/coins.
- Stores to appoint special members of staff to handle customers’ questions.
- Converters for the use of customers.
- Opening banks on 1 January 2002 (e.g. Germany and the Netherlands).
- Early adaptation of cash dispensers (from 1 January 2002 in Belgium, Germany, Luxembourg, the Netherlands and Austria).
- Extended opening hours for banks in early weeks.
- “Household amounts” in small-denomination notes available to customers in first days of January 2002 (e.g. Belgium, Spain and Germany).
The Euro and Counterfeiting

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