

**REPORT TO THE COMMITTEE OF GOVERNORS OF THE
CENTRAL BANKS OF THE MEMBER STATES OF THE
EUROPEAN ECONOMIC COMMUNITY**

on

MINIMUM COMMON FEATURES FOR DOMESTIC PAYMENT SYSTEMS

**Action 2 of the Report on issues of common
concern to EC central banks in the field of
payment systems (September 1992)**

by the

Working Group on EC Payment Systems

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PART A: INTRODUCTION AND SUMMARY

INTRODUCTION

1. During their May 1992 meeting, the Committee of Governors approved a report submitted by the Ad-Hoc Working Group on EC Payment systems on "Issues of common concern to EC Central banks in the field of payment systems" (the Main Report). This report set up four lines of action for the Working Group on EC Payment Systems, which was created as a follow-up to the Main Report. The present document deals with Line of Action 2 of the Main Report: "The establishment and implementation of minimum common features for domestic systems¹."

2. As explained in the Main Report, in the Single Market, banks have acquired more flexibility to organise cross-border payment arrangements and to participate in funds transfer systems based in other EC countries. In this context, EC central banks need to co-operate to ensure that differences between domestic payment systems do not create risks for the integrity and stability of domestic and cross-border payment arrangements. They also need to ensure that these differences do not distort competitive conditions or create opportunities for regulatory arbitrage.

3. On the road to Stage III of EMU, the issues of efficiency, risk and fair competition will become increasingly important. A common approach to these problems by EC central banks will assist the establishment of more unified payment arrangements which will be necessary in order to provide EC economies with the full benefits of monetary union.

4. This document concludes with 10 principles, covering the six areas which were identified in the Main Report as requiring specification in terms of minimum common features: access conditions, risk management policies, legal issues, standards and infrastructures, pricing policies and business hours.

5. These principles will serve as guidelines to each EC central bank in relation to the evolution of the payment system in its country. In this regard, EC central banks consider that it is part of their oversight function to make their best efforts to implement these principles and to convince private operators or public authorities that they need to address the issues raised in this report.

SUMMARY OF ANALYSIS

Scope of the study

6. The implementation of the second line of action of the Main Report primarily concerns the harmonisation of some of the main features of the large-value interbank funds transfer systems (IFTS) which are the core elements of payment systems in modern economies. Securities settlement

¹ The text of Action 2 is in Annex 1 of this report.

systems which entail very specific issues are not covered in this report. As to retail systems, EC central banks feel that, because the level of risks involved is lower, they may not have to follow all the rules which need to be defined for large-value systems. Finally, EC central banks consider that the need for common rules is more important for direct access to interbank funds transfer systems, while local rules may prevail for indirect access, where less systemic risk is involved.

Access conditions to IFTS

7. It is assumed in this report that, in the EC, settlement services to IFTS, as well as netting services which involve credit risk for the netting provider, are always performed by central banks or credit institutions, either directly or through organisations which they fully own. Therefore, the report focuses on access conditions to IFTS in general and, in particular, on the status of direct participation.

8. There are two main reasons for harmonising access conditions in the EC. First, access is an important element of risk control and, second, fair access is an important requirement of the Single Market. To achieve these two objectives, EC central banks are convinced that the status of direct participation in IFTS should be restricted to institutions which are appropriately regulated and supervised (i.e. credit institutions), with only a few, well delimited exceptions (Principle 1). Consequently, EC central banks are of the opinion that funds transfer systems in which non-banks² (other than those mentioned in Principle 1) are direct participants should not be allowed to process third-party payments. Moreover, should a credit institution wish to participate in, or become settlement agent of, a funds transfer system in which non-banks (other than those mentioned in Principle 1) participate, it should assess the risks involved and inform its respective central bank and supervisory authority.

9. In keeping with the Second Banking Co-ordination Directive, remote access should be allowed, provided that the applicant follows the "host country" rules (Principle 2); although the implementation of this principle may be difficult because of the practical problems involved, EC central banks are of the view that the latter can often be dealt with in a pragmatic manner.

10. Access criteria need to be laid down so that the right to participate in large-value IFTS is conferred only on those entities which are best able to bear the risks involved. To facilitate competition within the context of the Single Market, these criteria need to be transparent and should follow some guidelines (Principle 3). The stringency involved in access criteria should be related to the level of protection of the IFTS vis-à-vis systemic risks, although participants in an IFTS in which significant risks remain should not avoid or delay improvements to the safety features of the system in order to keep any competitive advantage resulting from stricter access conditions.

² In this report, "bank" is used for "credit institutions" as defined in the Second Banking Co-ordination Directive.

Risk management policies

11. Since a major objective of central banks is to minimise, and as far as possible eliminate, systemic risks associated with payment systems, EC central banks consider that a more extensive use of real-time gross-settlement (RTGS) systems which settle at the central bank is desirable in the near future in the processing of large-value payments. Such systems minimise settlement risks leaving only residual sources of risks (e.g. technical risks or credit and liquidity risks caused by anticipation of payments queued within the system). EC central banks recommend that, in the next few years, an RTGS system should be established in all EC countries in order to reduce systemic risks and to facilitate delivery-versus-payment arrangements. This would also provide a sound basis for the creation of direct links between EC IFTS in Stage III of EMU (Principle 4). EC central banks also believe that large-value net-settlement systems which may continue to operate in parallel with RTGS systems should meet, as soon as possible, certain criteria, in particular those which are set out in the Lamfalussy Report (Principle 5). As far as other systems are concerned, for example IFTS which process low-value non-urgent payments, the definition of the risk reduction policies is left to individual EC central banks which will, however, have to keep other EC central banks informed of their actions (Principle 6).

Legal issues

12. It is important that the risk reduction measures which central banks endeavour to implement as payment systems overseers are not threatened by inadequate domestic legal provisions. Moreover, in the EC context, there is a need to avoid inconsistencies between the domestic legal systems which could increase payment systems risks. A Working Group has been set up by the EC Commission in this respect, with which the WGPS is collaborating closely. A report is expected by the end of this year. EC central banks will take this report into consideration and submit their own conclusions to the Committee of Governors (or to the EMI Council, if appropriate). However, EC central banks have already identified that the "zero-hour rule", which exists in some countries, has the potential to create systemic disruption (Principle 7).

Technical issues

13. No payment system could work without a minimum set of common standards and some common infrastructures. At the EC level, central banks are following with interest the work undertaken by the private banks within the European Committee for Banking Standards; they are aware of efforts being made by banking communities to improve the infrastructures used to process low-value cross-border payments; and they are themselves undertaking work on possible linkages between large-value RTGS systems (Principle 8).

Central banks' pricing policies for payment services

14. Payment services provided by EC central banks are priced according to a variety of principles. In many instances, EC central banks do not fully recover their costs. This situation is not satisfactory because, in the context of the Single Market, it may be an obstacle to the establishment of

a "level playing field" between market participants. Although there may still be exceptions to this rule in order to encourage some means of payments or some transfer systems, EC central banks' pricing policies will aim at eliminating any competitive distortion within the Single Market. This policy will also represent the groundwork for Stage III of EMU, in which participating EC central banks will be offering payment services in the same currency (Principle 9).

Operating hours

15. A greater overlap of the main EC IFTS operating hours would be desirable to facilitate cross-border payments. Applied to RTGS systems, such extension would also strengthen the soundness of delivery-versus-payment mechanisms. Progress in this field during Stage II of EMU would also smooth the transition to Stage III in which greater (and possibly full) harmonisation will be needed (Principle 10).

Follow-up

16. Progress made in implementing the ten principles below will be evaluated once a year by EC central banks in an annual report to the Governors.

LIST OF PRINCIPLES

Principle 1: Direct access to interbank funds transfer systems

As a rule, only central banks and credit institutions, as defined under the Second Banking Co-ordination Directive, can be admitted as direct participants in funds transfer systems which process third-party payments. As exceptions, certain other bodies authorised to hold accounts for customers may also be, with the approval of the central bank, direct participants in such systems provided that (a) their public nature ensures little risk of failure or (b) they are supervised by a recognised competent authority.

Principle 2: No discrimination in access

No discrimination can be made between home-based credit institutions and credit institutions licensed in other EC countries which ask to participate in local interbank funds transfer systems, either through their local branches or directly from another Member State (remote access). The applicants, however, may be required to establish that they can meet the relevant legal provisions of the host country. They also have to comply with the necessary technical requirements of the system; these requirements, however, should not be discriminatory.

Principle 3: Transparency of access criteria

Access criteria to interbank funds transfer systems should be laid down in a public document. This document should also set out procedures for removing a participant from the system. Additional criteria beyond those embodied in Principles 1 and 2 may apply to direct participants. These criteria may include one or more of the following conditions:

- a. adequate financial strength of the institution;
- b. minimum number of transactions;
- c. the payment of an entry fee;
- d. the approval (on technical or creditworthiness grounds) of either the owner/manager of the system or the direct participants;
- e. the approval of the local central bank (when possible within the legal context of the country).

Principle 4: Real-time gross-settlement systems

As soon as feasible, every member state should have a real-time gross-settlement system into which as many large-value payments as possible should be channelled. Such systems should settle across accounts at the central bank and have sound legal, technical and prudential features, which are compatible across EC Member States.

Principle 5: Large-value net-settlement systems

Provided they settle at the central bank, large-value net-settlement systems may continue to operate in parallel to real-time gross-settlement systems but, in the near future, they should (a) settle on the same-day as the exchange of the payment instruments; and (b) meet the Lamfalussy standards in full.

Principle 6: Other interbank funds transfer systems

As a part of their oversight function, EC central banks will assess the scale and the nature of the settlement risk in all interbank funds transfer systems operating in their country. While seeking to reduce as far as possible the risks in these systems, EC central banks may adopt, for systems not covered by Principles 4 and 5, a somewhat flexible approach which takes into account the costs and benefits of any envisaged solution. Over time, whenever systems are changed or redesigned, increasingly high standards of risk-reduction should be achieved.

Principle 7: Legal issues

The legal basis of domestic payment systems should be sound and enforceable. Inconsistencies between domestic legal systems in the EC which increase risks in payment systems need to be analysed and, as far as possible, reduced. As a first step, where necessary, EC central banks will press for changes to certain aspects of national bankruptcy laws (e.g. "zero-hour clause").

Principle 8: Technical issues

Compatible banking standards and efficient channels of communication between EC payment systems are desirable and will assist the processing of cross-border payments in the context of the Single Market. They will become increasingly important in view of EMU. EC

central banks will support and participate in the efforts made by banking communities in these fields.

Principle 9: Pricing policies of EC central banks

The pricing policies of EC central banks, in respect of payment systems functions, will aim at the avoidance of any competitive distortion within the context of the Single Market and in preparation for EMU. As a general objective, such policies will aim at the full recovery by the central banks of the costs of these services.

Principle 10: Operating hours

The overlap between operating hours of the major EC interbank funds transfer systems (and in particular the hours of RTGS systems) is necessary and could be increased in order to facilitate cross-border payments and delivery-versus-payment mechanisms. In this respect, and as a preparatory step towards EMU, EC central banks will consider closer co-ordination of the operating hours of their settlement services.

PART B: ANALYSIS OF POLICY OBJECTIVES

CHAPTER 1: THE SCOPE OF THE STUDY

1. In order to clarify the analysis and the principles which are contained in this report, this chapter distinguishes:

- payment systems from funds transfer systems and securities settlement systems;
- interbank funds transfer systems (IFTS) from other kinds of funds transfer systems;
- large-value payments from retail payments and;
- direct participants from indirect participants and customers.

1.1 Payment systems, funds transfer systems and securities settlement systems

Payment systems

2. The Report "Payment Systems in EC Member States" (the Blue Book), published by the Committee of Governors in September 1992, defines a payment system as "a group of institutions, and a set of procedures, which is used to ensure the circulation of money within a geographical area, generally a country". Although central banks are entrusted with the task of overseeing payment systems in general, their attention mostly focuses on the functioning of funds transfer systems (especially large-value ones) which are the key elements of payment systems and the mechanisms which are more likely to create systemic risks. Therefore, in the European context, central banks' attention is primarily drawn to the harmonisation of the main features of funds transfer systems (FTS).

Funds transfer systems

3. According to the Blue Book, a funds transfer system may be defined as "a formal arrangement, based on private contract or statute law, with multiple membership, common rules and standardised arrangements, for the transmission and the settlement of money obligations arising between the members". In contrast with, for example, unilateral arrangements (where funds are moved within a single bank) or bilateral arrangements (such as correspondent banking), there are three relevant characteristics of funds transfer systems:

- they have more than two direct participants;
- they have a common set of rules (particularly about settlement arrangements), and;
- each direct participant deals either with a commonly agreed central body, such as a clearing house, or with each and all of the other direct participants.

Securities settlement systems

4. All EC countries have at least one example of a FTS which processes the cash leg of securities transactions, in general under some form of delivery-versus-payment mechanism. According

to the Parkinson Report³, "central banks are concerned about the strength of securities clearance and settlement arrangements because they perceive that disturbances to settlements in the securities markets have the potential to spread to the payment system and to the financial system generally". Although it is perhaps difficult, in principle, to justify the exclusion of such systems from the scope of this study, the specific nature of securities settlement systems requires specific access and risk-management criteria. Therefore this report will not discuss issues relating to these systems. It recommends instead that further work should be undertaken in this field, drawing on the conclusions of this report and on the work already carried out by the G10 countries in this field.

1.2 Interbank funds transfer systems (IFTS) and other funds transfer systems

5. In modern economies, funds transfer systems are used primarily to process cashless payments which involve the transfer of deposit money from one bank account to another. Therefore, banks have been, so far, in all EC countries, the major participants (and sometimes the exclusive ones) in funds transfer systems. In the rest of the report interbank funds transfer systems (IFTS) refer to FTS in which most (or all) of the participants are credit institutions.

6. In addition, interbank settlements are often made in central bank money, as this is the only way of achieving ultimate settlement. As a result, to a large extent, funds transfer systems have been, up to now, IFTS which settle at the central bank. These systems are at the core of the present report since central banks have several reasons for being interested in their proper functioning: as operators (at least as settlement agents); as payment systems overseers because of the systemic implications that their inappropriate functioning would have; and, in some countries, as supervisors of the participants.

7. However, central banks cannot disregard IFTS which do not settle at the central bank, and other kinds of FTS in general, for the following two reasons: first, because the difficulties which can arise in any system in which banks participate, and in any system in which direct participants process third-party (customer) payments, may create systemic problems similar to those which stem from IFTS which settle at the central bank; second, because central banks are anxious that the risk-reduction measures which they require IFTS to undertake should not be circumvented by customers moving their payment flows to less-protected systems. Therefore all IFTS are covered by the study, whether or not they settle at the central bank, as well as any kind of FTS in which direct participants process third-party (customer) payments.

8. Netting schemes run by non-banks are not covered by the report, provided that they do not process third-party payments. Nevertheless, since the widespread use of such schemes could raise public policy issues, EC central banks believe that they should attempt to keep themselves informed about developments in this field which might threaten the stability of the payment system as a whole,

³ The report "Delivery versus payment in Securities Settlement Systems" prepared by the Committee on Payment and Settlement Systems of the central banks of the Group of Ten countries.

diminish the role of banks in the economy, reduce central banks' awareness of the organisation of the payment flows, and therefore restrain their ability to act as overseers.

1.3 Large-value payments vs. retail payments

9. Although, as explained in the Main Report, central banks cannot disregard any type of payments, they are particularly concerned with certain categories which (1) have an urgent nature (for example because incoming funds are used for outgoing payments on the same day); and/or (2) which need to be irrevocable in order to ensure final settlement. The four types of payments below relate to one or both of these two categories:

- incoming and outgoing payments stemming from the central bank operations in the interbank money market;
- more generally, payments linked to the functioning of the financial markets in which trading involves the use of same-day funds several times a day (and therefore, in some systems where funds may be "re-used" several times before they are finally settled, e.g. the domestic currency side of foreign exchange transactions, eurocurrency markets, interbank lending operations, etc.);
- high-value, or urgent payments made by non-bank customers, mostly corporate, and;
- payments representing settlement operations for netting schemes or "delivery-versus-payment mechanisms", for which the irrevocability and finality of settlement transactions is a prerequisite for risk control.

10. Because most of these payments have a relatively high value, they are often called "large-value payments" although it is their urgency and their need for irrevocability, as well as their magnitude, which creates their specific importance in the smooth functioning of payment systems. This report will follow this terminology. In addition, it will refer to:

- "retail payments" for payments which do not fit into the four types referred to above;
- "large-value FTS" for systems which process, exclusively or not, at least one of the four types of payments detailed above, and;
- "retail systems" for FTS in which only retail payments are processed.

1.4 Direct participants, indirect participants and customers

11. There is no single way to process payments through a FTS. Following the situation most commonly used in EC countries, three layers of participants in FTS may be distinguished: direct participants, indirect participants and customers. The key distinction between direct participants, on the one hand, and indirect participants or customers, on the other hand, is responsibility for settlement: only direct participants are responsible to the settlement institution (or to all other direct participants) for the settlement of their own payments, those of their customers, and those of the indirect participants on whose behalf they are settling. Indirect participants are responsible only to

their direct participant for settling all payments input to the system; they are not responsible to the other participants in the system or to the settlement agent in this respect.

Table 1: Classification of direct participants, indirect participants and customers

		Identified by the IFTS?	Exchange of payment instruments?	Responsibility for intra-system settlement?	Responsibility for fulfilment of standards and laws?	Shares expenses?	Power of decision?
<i>Participants</i>	Direct	YES	YES	YES	YES for its own operations	YES	YES or NO
	Indirect	YES or NO	YES or NO	NO	YES or NO	YES or NO	YES or NO
<i>Customers</i>		NO	NO	NO	NO	NO	NO

12. No FTS could work without direct participants. Indirect participation, on the contrary, is a form of membership which exists in varying degrees in FTS; it gives to institutions some functions and responsibilities of direct participation without going as far as entrusting them with the settlement responsibilities reserved to direct participants (see Table 1). Although the borderline between indirect participants and customers is usually clear in any given FTS, a general distinction is more difficult to draw because the functions and the responsibilities of indirect participants vary according to each FTS rules. In this report, an indirect participant is defined as an institution which fulfils at least one of the two following conditions:

- being identified by the system (e.g. by a national bank identification code or by a SWIFT address) and permitted to send payment orders directly to the system or;
- being bound directly by the rules governing the functioning of the system, or being granted certain privileges by the system.

CHAPTER 2: ACCESS CONDITIONS TO IFTS

2.1 The elements of a funds transfer system

13. Market deregulation and developments in information technology have permitted the "unbundling" of the functioning of a funds transfer system into four major elements:

- provision and receipt of payment orders;
- communication of payment information;
- netting operations (for net-settlement systems only), and;
- settlement operations.

14. As a result, a wider range of service providers has appeared, not all of whom are credit institutions. EC central banks are concerned that each of these functions should be performed by institutions which are subject to adequate prudential rules, as specified below.

Provision and receipt of payment orders

15. This function is called "participation" in the rest of the report. Sections 2.2 to 2.4 hereafter focus on access conditions to this function.

Communication of payment information

16. EC central banks are of the opinion that the communications function, which involves technical risks, needs to be performed by institutions whose technical reliability is of the highest standard. As overseers of payment systems, central banks need to satisfy themselves that communications providers, whether or not they are of a banking nature, are managing adequately their technical risks to avoid technical disruption to the functioning of transfer systems which could have systemic consequences.

Netting operations

17. Netting operations in FTS should be carried out by a central bank or a banking organisation⁴ if the netting agent bears any kind of financial responsibility. This will depend on the nature of netting: for example, a netting provider whose role is limited to calculation, can be a non-bank organisation; a clearing house which is the intermediary between participants should be a banking organisation.

Settlement operations

18. The settlement function which, by definition, implies financial risks for the participants, must always be carried out by a central bank or a credit institution.

⁴ In this report, banking organisation means either a credit institution or an organisation collectively owned by credit institutions.

19. It is assumed in this report that the principles concerning communication, netting and settlement are met and from here onwards, the report focuses on participation.

2.2 Banks and non-banks

20. Principle 1: Direct access to interbank funds transfer systems

As a rule, only central banks and credit institutions, as defined under the Second Banking Co-ordination Directive, can be admitted as direct participants in funds transfer systems which process third-party payments. As exceptions, certain other bodies authorised to hold accounts for customers may also be, with the approval of the central bank, direct participants in such systems provided that (a) their public nature ensures little risk of failure or (b) they are supervised by a recognised competent authority.

21. No FTS is without risks (see para. 46 to 49). To minimise such risks, appropriate standards need to be set for the financial strength, the management skills and the risks taken by direct participants. Moreover, compliance with such standards needs to be regularly supervised. In practice these conditions are only met by credit institutions for which supervision regimes have been established.

22. Another argument in favour of credit institutions lies in their ability to raise liquidity within a very short period of time - a key factor in facilitating the funding of unexpected debit positions in FTS which process third-party payments - either through the interbank money market (to which non-banks are often excluded in order to limit the risks involved), or through end-of-day standby facilities offered by central banks which, as a rule, are only available to credit institutions.

23. It is assumed that all EC credit institutions meet these conditions and it is the task of the host central bank to ensure that any direct participant incorporated in a country outside the EC is adequately supervised. Non-banks, however, typically do not meet such standards, nor do arrangements exist to enable them to do so. Therefore, any institution wishing to become a direct participant in a FTS which processes third-party payments would need to have a banking licence.

Exceptions

24. As exceptions to the general principle, subject to the agreement of the overseer, two categories of non-banks may apply for participation in IFTS, in recognition of the present situation in many countries and of the limited risks added to the systems by these institutions:

- public bodies, which are allowed to hold accounts for customers (e.g. post offices), and;
- some regulated financial institutions. (e.g. certain intermediaries in the securities markets).

25. In both cases, the authorisation could be either general, for any category of payments and any system, or subject to restrictions (e.g. only the settlement of the cash legs of the securities transactions). In any case, non-banks are not covered by the provisions of the Second Banking Co-ordination Directive and cannot use a domestic authorisation to gain access to FTS established in other EC countries.

26. In the light of principle 1, every EC central bank will review the list of participants in all IFTS under its oversight.

FTS run by non-banks

27. According to Principle 1, FTS run by non-banks should not be allowed to process third-party (customer) payments. Therefore, in the rest of the report, reference will no longer be made to FTS (funds transfer systems) but to IFTS (interbank funds transfer systems).

28. It is important to limit the extent to which interbank systems can be contaminated by settlement problems which might occur in systems run by non-banks. Therefore, before they participate in (or before they become settlement agents for) funds transfer systems in which non-banks participate, or systems which may not be under the control of EC central banks, credit institutions should assess the risks involved. If they still wish to proceed, they should inform, and seek the views of, their respective central bank and supervisory authority.

Accounts at the central bank

29. Some EC central banks maintain accounts for non-bank customers. In a real-time gross-settlement system, the distinction between direct participants and customers may become blurred. EC central banks agree that, as far as possible, the scope given to non-banks, other than those referred to in Principle 1, to open an account at the central bank should not extend to direct access to gross-settlement systems run by the central bank. Payments to and from these entities should be considered as customer payments and presented as such by the central bank. Central banks will be careful to avoid unfair competition with the private banking sector and, of course, they will make sure that the facilities offered to some non-banks to have access to gross-settlement systems are not used to process third-party payments.

Indirect participants

30. As far as indirect participation is concerned, EC central banks concluded that it would be difficult, and probably unnecessary, to harmonise access criteria. Indeed, as explained in para. 11 and 12, indirect participants have different functions and responsibilities in each system. Consequently, it would be very difficult to harmonise access conditions for indirect participants without trying to harmonise the status of indirect participants, a matter which would necessitate the modification of the functioning rules of many IFTS. Such a degree of harmonisation is not necessary, at least from the risk point of view since, as explained in para. 11, indirect participants create limited financial risks for the systems. In this respect, subsidiarity is important and it is left to each IFTS, under the control of the local central bank, to decide whether or not only banks should be indirect participants. It is assumed, however, that if non-banks (other than those mentioned in principle 1) have access to an IFTS through indirect participant status, they should not be allowed to process third-party payments.

2.3 The Single Market context

31. Principle 2: No discrimination in access

No discrimination can be made between home-based credit institutions and credit institutions licensed in other EC countries which ask to participate in local interbank funds transfer systems, either through their local branches or directly from another Member State (remote access). The applicants, however, may be required to establish that they can meet the relevant legal provisions of the host country. They also have to comply with the necessary technical requirements of the system; these requirements, however, should not be discriminatory.

32. Traditionally, banks authorised in an EC country have been able to gain access to IFTS located in other countries either indirectly through a correspondent institution, or directly through a local branch. In the latter case, the local branch, under the supervision of the local authorities, could usually become a participant in the local IFTS under the same conditions as other banks licensed in the country.

33. The Second Banking Co-ordination Directive (2BCD) allows any credit institution authorised in any EC country to open branches anywhere in the EC without having to seek further authorisation from the relevant authorities in host Member States; supervision of the local branches by the host authorities is of a residual or limited nature. Moreover, the 2BCD also allows any EC credit institution to provide services, including "money transmission services" anywhere in the EC. Although "money transmission services" are not defined in the 2BCD (or elsewhere), it is clear that, in order for EC banks to operate outside their country of incorporation with competitive equality, it is necessary that they be allowed access to the host country IFTS on an equal footing with domestic institutions.

34. However, according to Article 21(5) of the 2BCD, host Member States "keep the power of preventing or punishing irregularities which are contrary to the legal rules they have adopted in the interest of the general good". Therefore, should an EC bank gain remote access to an IFTS based in another country, it may be required, by the system or the host central bank, to prove that it meets the relevant aspects of the legal requirements of the host country (e.g. those relating to the finality of payments). It would also have to accept contractual commitments with the institution managing the IFTS or with the other participants. Legal and technical provisions however, should be proportionate to their aim and should not unnecessarily introduce requirements which, in fact, would be disadvantageous for foreign participants.

35. EC central banks have already made efforts to co-ordinate their oversight functions in order to facilitate remote access to IFTS. However, at the moment remote access remains difficult to obtain for technical reasons (e.g. the lack of harmonisation of banks identification numbers, on which IFTS rely to establish automatic links between their participants), as well as for legal reasons (important differences between participation rules, such as those relating to the respective

responsibility of the sending and receiving institution). Work presently undertaken on legal issues under the aegis of an EC Commission working group (see Chapter 4), and by the European Committee for Banking Standards (see Chapter 5) is likely to facilitate remote access in the future. However, since this work will take some time to be completed and put into effect, EC central banks should strive to find solutions, on a case by case basis, adopting a pragmatic approach, in order to make it possible for banks to get remote access to IFTS.

2.4 Access criteria

36. Principle 3: Transparency of access criteria

Access criteria to interbank funds transfer systems should be laid down in a public document. This document should also set out procedures for removing a participant from the system. Additional criteria beyond those embodied in Principles 1 and 2 may apply to direct participants. These criteria may include one or more of the following conditions:

- a. adequate financial strength of the institution;**
- b. minimum number of transactions;**
- c. the payment of an entry fee;**
- d. the approval (on technical or creditworthiness grounds) of either the owner/manager of the system or the direct participants;**
- e. the approval of the local central bank (when possible within the legal context of the country).**

37. Access and removal rules should be documented to ensure transparency of access conditions to IFTS. This is a prerequisite for achieving free competition in payment services throughout the EC. EC central banks feel that although access criteria should normally be restricted to those set out in Principle 3, in some circumstances other criteria may be justified in some EC systems. A description of the access criteria which apply to the main EC IFTS is given in table 2, (page 17).

38. The first three criteria above are of an objective nature. It is clear that the levels at which they are set should not be used to discriminate against any credit institution. Credit limits (including a zero credit limit) may be put on the exposures of the clearing vis-à-vis individual participants on the basis of financial data or ratios. Minimum traffic conditions should be set at less stringent levels during a trial period which should be granted to any new participant. If the payment of an entry fee is a condition for access, it should be determined according to objective criteria, including non-recurring costs already borne by the existing participants and/or additional costs for existing participants created by the admission of a new one. If a membership fee is charged periodically for participation in the system, it should not discriminate between new entrants and other participants.

39. EC central banks agree that some discretion should be given to the owners/managers of IFTS in relation both to technical risks and to credit risks. In order to limit technical risks, it is necessary for the managers of IFTS to satisfy themselves that, as far as possible, any new applicant, or existing participant, is technically capable of avoiding any operational problems. In the event that the

applicant (or participant) is an institution whose technical infrastructures are located in another EC country, the review of these infrastructures will be made in conjunction with the central bank of the country in which the infrastructures are located.

40. Credit risks are another reason that may lead the managing body of the system to refuse participation status to a given applicant. For example, in net-settlement systems where settlement is guaranteed by a loss-sharing agreement, all participants are collectively liable for the failure of one of them. Therefore, they need to be able to assess and control the risks they are taking vis-à-vis each of their counterparts. Credit risks need also to be assessed and controlled in gross-settlement systems where overdraft facilities (collateralised or uncollateralised) are provided.

41. As overseers of payment systems in their countries, EC central banks usually have ultimate responsibility, in some form, for the consequences of difficulties in these systems. These oversight functions are supported by powers and procedures whose nature varies from one country to another, according to the local legal provisions and to the strategy chosen by individual EC central banks. In this context, when legally possible, and considered appropriate, EC central banks should be entitled to have final discretion on membership in any IFTS, even in those of a private nature, in order to discourage weaker banks from participating⁵. For systems which settle at the central bank, such power could be exercised through the opening of a settlement account on a discretionary basis.

42. Discretion in giving access to IFTS should not lead to any form of discrimination and in particular should not be a way to circumvent Principle 2. In fact, it is expected that when a foreign bank applies to participate in a local IFTS, the host central bank will consult with the home central bank before taking its decision. When the managing body of the IFTS is not the central bank itself, it is expected to consult with the local central bank. Moreover, if it wishes to turn down an application for participation it is expected that the local central bank will be provided with all the information on the basis of which the decision is to be taken.

43. EC central banks agree that access criteria may differ according to the nature of the IFTS, and in particular in relation to the riskiness of these systems: the less protected against systemic risk an IFTS is, the more restrictive its access conditions need to be. Therefore, for example, until adequate risk-control measures have been applied, it should be a requirement for any non-protected net-settlement system - which entails significant risks for the participants, major systemic risks and moral hazard for the central bank - that only institutions of the highest standing should be admitted. But, in real-time gross-settlement systems - which minimise the risks for the participants - central

⁵ In accordance with principle 1, the explicit approval of the central bank is required if the applicant is not a credit institution.

Table 2: Participation in the main EC large-value IFTS

	B		DK	D		GR	E	F		IRL
	Clearing House	CEC	DN System	EAF	EIL-ZV	ACO	STMD	Sagittaire	TBF	DIS
1. Existing participants										
<u>Direct participants</u>	71	76	109	39	5703	48	317	63	?	24
- incl. branches of other EC banks	5	5	2	8	x	11	29	6	?	5
- incl. branches of non-EC banks	3	3	4	13	x	8	20	5	?	3
- incl. remote participants	0	0	0	0	0	0	0	0	?	0
<u>Direct participants: non-banks</u>										
- Public authorities	-	-	-	-	-	-	-	+	+	-
- Supervised financial institutions	+	+	+	-	-	-	+	+	+	-
- Corporations	-	-	-	-	-	-	-	-	-	-
<u>Indirect participants</u>	+	+	-	+	-	-	+	-	-	-
2. Access criteria										
- Written rules	+	+	+	+	+	+	+	+	+	+
- Removal rules	+	+	+	+	-	+	+	+	?	+
- Minimum level of data or ratios representative of financial strength	-	-	-	-	-	-	-	-	-	-
- Minimum number of transactions	-	-	-	-	-	-	-	+	-	-
- Payment of an entry fee	-	-	+	-	-	+	-	+	?	-
- Approval from the owner/manager or the direct participants	+	+	+	+	+	+	+	+	?	+
- Approval from the local central bank	+	+	(1)	(1)	(1)	- (2)	(1)	+	+	(1)

	I			L	NL		P	UK	EUR
	SIPS	ME	BISS	Clearing House	CBS	8007 System	Trad. Clearing	CHAPS	ECU Clearing
1. Existing participants									
<u>Direct participants</u>	111	293	397	14	99	59	38	14	44
- incl. branches of other EC banks	11	12	7	2	9	8	0	0	n.a
- incl. branches of non-EC banks	6	6	5	0	12	9	0	1	7
- incl. remote participants	0	0	0	0	0	0	0	0	0
<u>Direct participants: non-banks</u>									
- Public authorities	-	-	+	+	+	-	+	-	-
- Supervised financial institutions	-	-	-	-	+	-	+	-	-
- Corporations	-	-	-	-	+	-	-	-	-
<u>Indirect participants</u>	+	+	-	+	-	-	+	+	-
2. Access criteria									
- Written rules	+	+	+	+	-	-	+	+	+
- Removal rules	+	+	-	+	+	+	+	+	+
- Minimum level of data or ratios representative of financial strength	-	-	-	-	-	-	-	-	+
- Minimum number of transactions	-	-	-	-	-	-	-	+	+
- Payment of an entry fee	-	-	-	-	-	-	-	+	+
- Approval from the owner/manager or the direct participants	+	+	+	+	+	+	-	+	+
- Approval from the local central bank	(1)	(1)	(1)	-	(1)	(1)	-	+	-

+ = yes

- = no

n.a = not applicable

? = not yet decided

x = no figure available

(1) = the owner/manager is the central bank

(2) = The explicit approval of the Bank of Greece is not required although, in fact, the central bank plays an important role as operator of the system and chairman of its managing body

banks should be able to grant access to a wider range of institutions. However, central banks need to be careful not to encourage the existing participants in a more risky IFTS to avoid or delay improvements to the safety features of the system in order to keep any competitive advantage derived from restrictive access conditions. The improvement of the safety features of IFTS should allow some systems which currently have a limited membership to be more open in the future.

44. Different criteria may be set for indirect participants. They would have to be consistent with the nature of the responsibilities of indirect participants in the system.

CHAPTER 3: RISK MANAGEMENT POLICIES

3.1 Minimisation of systemic risk

45. One of the major objectives of EC central banks is to minimise systemic risks in payment systems and, as far as possible, to eliminate them. Systemic risk is defined in the Blue Book as "the risk that the failure of one participant in an IFTS or securities settlement system, as in financial markets generally, to meet his required obligations will cause other participants or financial firms to be unable to meet their obligations when due". There are at least two kinds of problems which may stem from the improper functioning of IFTS: technical risks and settlement risks.

Technical risks

46. Technical risks arise because of the possibility that a major failure in the technical infrastructure of one or several participants, or of the IFTS itself, may interrupt the flow of payments, thereby creating uncertainties and concerns about the finality of the payments. The computer breakdown at the Bank of New York, one of the major clearers of US government securities, in 1985, has become a traditional example of how this risk could materialise. It is part of the oversight duty of EC central banks to ensure that the participants and the IFTS themselves pay enough attention to these problems, for example through appropriate back-up equipment and adequate technical audits. However, EC central banks recognise that it would be over-ambitious to believe that they could aim at the elimination of technical risks.

Settlement risks

47. Settlement risk is defined in the Blue Book as "a general term used to designate both credit and liquidity risks in a transfer system, i.e. the risk that a party will fail to meet one or more obligations to its counterparties or to a settlement agent or settlement institution".

48. Settlement risks are particularly important in net-settlement systems (NSS) since, until the time of settlement, (generally at the end of the day), all participants with net credit positions have a credit exposure vis-à-vis the participants with net debit positions. In the event of a failure of a participant with a net debit position, the traditional unwinding clause, if applied, is likely to create enormous difficulties for the remaining banks which would have to face losses and/or to close out, at a

very late hour of the day, unexpected new treasury positions, which could lead to further failures. These risks are very difficult to control although efforts have already been made in several countries, within and outside the EC, to reduce the extent of the consequences of settlement failures, for example, by introducing net debit caps or loss sharing agreements in multilateral NSS.

49. Moreover, the systemic effects of a settlement failure in NSS have increased in line with progress in information and communication technology, which has allowed banks, for their own account and for the account of their customers, to process a growing number of payments during the day. At the same time, competition has forced them to make out-payments in anticipation of incoming funds before the latter are irrevocably settled. A requirement which would force the major customers of the banks to wait for the irrevocable settlement of incoming funds at the end of the day would reduce the efficiency of the financial markets and the economy as a whole, and is therefore not acceptable. As a result central banks' efforts to minimise the systemic risks involved in the functioning of IFTS, and as far as possible to eliminate them, should focus on the reduction (and, if possible, the elimination) of credit risks outstanding during the day between participants in IFTS.

The advantage of real-time gross-settlements at the central bank

50. In theory, the only way to eliminate settlement risks is to ensure that payments are immediately and irrevocably settled (real-time gross-settlement - RTGS) in the books of institutions which run no risk of failure, i.e. central banks. However, to control their credit risks, central banks which are settlement agents of RTGS systems need to be entitled to reject or put in a queue payments which exceed available funds on the account of the sending institution⁶. Consequently, two kinds of residual risks remain: first, a credit risk, if the receiving bank is aware of payments which are rejected or put in a queue by the central bank, but still makes use of the anticipated funds or allows its customers to make use of them; and second, a liquidity risk if the number of unsettled payments is such that the flow of payments through the IFTS is blocked up.

51. However, there is a major difference between systemic risks linked to NSS and the residual risks linked to RTGS systems because, in the latter, risks are more easily manageable. They could even be eliminated provided that, over time, the participants modify their behaviour so that:

- even when they are aware of payment instructions due to be sent to them, receiving banks do not use the funds before the corresponding amounts are irrevocably credited to their accounts at the central bank;

⁶ Therefore, in the rest of this report, a real-time gross-settlement system (RTGS) can be defined as: (1) a funds transfer system (see para. 3); (2) in which payment orders are processed one by one in real-time; and (3) which provides for the immediate settlement of all payments, provided that there are sufficient funds or overdraft facilities available on the sending institution's account with the settlement agent.

- participants manage their payment flows efficiently during the day in order to send payment orders only when they have sufficient liquidity available.⁷

52. EC central banks recognise that risk minimisation is an objective which will be the result of an evolutionary process in which the functioning rules of IFTS will be redesigned and in which banks will learn how to better manage their payment flows, so that the running costs of the systems can be kept at a reasonable level. In any case, additional costs should ultimately be borne by the users of the payment services, i.e. the banks' customers.

53. EC central banks are also conscious that efficient risk management policies necessitate close consultation with the banking communities, in order to convince them of the importance of their action, so that it is not circumvented by the development of informal net-settlement systems.

54. For these reasons, EC central banks believe that it is the responsibility of each of them to design, in consultation with the banks in its country the risk reduction measures which are the most appropriate, and although they all agree that systemic risks should be minimised, they consider that progress towards this objective may be made at a different pace in each individual country. In the short run, they consider that Principles 4, 5 and 6 below should be implemented as soon as possible to ensure a minimum level of harmonisation. This would help to limit systemic risks in all EC countries individually, and in the Single Market area more generally, where it is essential that improvements made by individual countries are not threatened, through cross-border participation in IFTS, by high levels of systemic risks in other EC countries. These efforts are consistent with those being made by the major non-EC central banks at the moment.

3.2 The need for RTGS systems in all EC countries

55. Principle 4: Real-time gross-settlement systems

As soon as feasible, every member state should have a real-time gross-settlement system into which as many large-value payments as possible should be channelled. Such systems should settle across accounts at the central bank and have sound legal, technical and prudential features which are compatible across EC Member States.

56. As a means of handling large-value and urgent payments, RTGS systems which settle at the central bank have a number of very important advantages. In particular, as explained in para. 50, they enable the risks arising from the delay between payment and settlement to be eliminated. In addition, RTGS systems provide an important foundation stone, not only for the ultimate settlement of other IFTS (such as net-settlement systems) but also for a variety of different forms of delivery-versus-payment arrangements in securities markets and in foreign exchange markets. Last, and by no means least, preliminary studies conducted by the Working Group on EC Payment Systems have already suggested that an EC-wide large-value IFTS, needed for stage III of EMU, should be

⁷ In both respects, it might be useful for the RTGS systems to give information on incoming funds to the beneficiary bank only after they are irrevocably settled.

constructed by linking domestic systems which would have to be based on RTGS in order to avoid complex problems of risk control.

57. Some member states may decide to have more than one RTGS system if, for example, different systems are used for different types of payments or by different types of institutions. EC central banks also recognise that settlement across central bank accounts inevitably involves the central bank in the day-to-day operation of the system. However, such an involvement could be limited to the provision of settlement facilities and need not imply central bank ownership of the system.

Payments to be included in the system

58. In order to minimise risks it would be desirable for as many large-value payments as possible to be routed through RTGS systems. Each central bank may decide what action to take to achieve this; there is no need for a co-ordinated approach involving, for example, a common rule that all payments of a certain type or size should be routed through RTGS systems. However, EC central banks agree that if large-value payments are routed through alternative systems in which significant risks are present, then appropriate risk control measures (including the possibility of conversion to RTGS) will need to be applied to those systems also. In other words, any freedom given to credit institutions to choose between IFTS should not lead to an unacceptable level of systemic risk.

The provision of liquidity

59. A move from net-settlement systems (NSS) to RTGS systems eliminates the provision of credit between participants which is granted automatically, when netting is involved, by the participants with a net credit position to those with a net debit position. Therefore, with RTGS, new ways to provide liquidity to IFTS and their participants may be required to prevent payments from being blocked.

60. RTGS systems exist, at the moment, in five EC countries and the way liquidity is provided to them varies from one system to another: in Italy and in Germany liquidity is provided mainly by the use of the required reserves during the day; in Germany, the Netherlands, Denmark and France, intra-day debit facilities can be granted by the central banks (in the first two countries, they must be fully collateralised, while in Denmark and in France - when the system is fully operational - they may be partially uncollateralised).

61. In the near future, it would be difficult to harmonise the main characteristics of RTGS systems in the EC and, in particular, the way liquidity is provided to them, for the three following reasons: first, EC countries will continue to have various levels of reserve requirements (if any); second, in countries which intend to phase out large-value NSS, banks will no longer be able to get automatic intra-day inter-participant credit facilities⁸, and finally, in some EC countries, the law

⁸ The percentage of large-value payments which are processed through the RTGS systems is very different: a large majority of them in Denmark, in France (when TBF is fully implemented) and in the UK (when CHAPS is

forbids the central bank to grant uncollateralised daylight overdrafts, while in other countries, uncollateralised overdrafts have been granted to banks to facilitate the switching of all large-value payments from NSS to RTGS systems.⁹

62. Under the present circumstances, this lack of harmonisation is not likely to provoke an undesirable diversion of payment flows because the existence of different currencies in the EC, will deter banks and other economic agents from switching their operations into the currency in which payments can be made at the lowest cost. Only if payments in one currency could be made using IFTS established in other countries could regulatory arbitrage occur. EC central banks would need to co-operate if that were to start happening.

63. Because the domestic RTGS systems which currently exist in some countries, or which will be created as a follow-up of Principle 4, are likely to be linked under stage III of the EMU, some further harmonisation of legal, technical and prudential standards will be needed in due course. First, it will be necessary to ensure that the links which are to be established will not diminish the safety level of EC payment systems throughout EMU, as well as in any participating country¹⁰. Second, harmonisation should also limit competitive distortions among the countries which will participate in monetary union, so that there is no traffic diversion from RTGS systems run by some central banks to other systems in other countries which apply lower standards.

converted to RTGS) but a clear minority in the Netherlands, in Italy and in Germany. Large-value net settlement systems are scheduled to disappear in France in the near future. Belgium, Ireland, the Netherlands and Italy (in the long run) have similar plans. In other countries where large-value NSS exist, there is no plan to eliminate them so far.

⁹ Central banks which grant uncollateralised daylight overdrafts may charge interest for the use of these facilities in order to create an incentive for the banks not to rely on them. As soon as the banks have been given time to improve the management of their payment flows (for example, perhaps by creating an intra-day money market), uncollateralised overdrafts could be reduced and, possibly eliminated.

¹⁰ In this respect, EC central banks might have to see how some of the standards set out in the Lamfalussy Report might be transposed to RTGS systems.

Table 3: Main features of real-time gross-settlement systems settling with EC central banks

	B	DK	D	GR	E	F	IRL	I	L	NL	P	UK
Existing or planned (year)	1995	1985	1988	1996	-	1995	95-96	1989	(2)	1985 (1)	1994	1995
Liquidity provision												
- Reserve requirements which can be used for payment during the day	-	-	+	?	n.a	neg	?	+	?	-	+	-
- Intraday credit facilities												
- collateralised	+	-	+	?	n.a	+	+	?	?		+	+
- uncollateralised	-	+	-	?	n.a	+	-	-	?	+	-	-
										-		
Other Risk management features												
- Queue management facilities	+	-	+	?	n.a	+	?	?	?		+	?
- Pricing of intraday overdrafts	-	-	-	?	n.a	?	?	?	?	-	-	?
										-		

(1) = in the Netherlands, the central bank system is a gross settlement system in which some payments are settled in real time, while others are settled at the end of day.

(2) = no date for implementation yet available ? = not yet decided

+ = yes or high neg. = negligible

- = no n.a = not applicable

3.3 Large-value net-settlement systems

64. Principle 5: Large-value net-settlement systems

Provided they settle at the central bank, large-value net-settlement systems may continue to operate in parallel to real-time gross-settlement systems but, in the near future, they should (a) settle on the same-day as the exchange of the payment instruments; and (b) meet the Lamfalussy standards in full.

65. EC central banks recognise that at the moment many large-value systems are not based on real-time gross settlement across central bank accounts. Such systems might continue to exist in parallel with the RTGS systems that member states should introduce. However they feel that when existing systems are based on netting, a programme should be devised and implemented as soon as possible, although it is recognised that implementation may take a period of years in some cases. They incline to the view that no special concessions should be given to systems which may exist in parallel with RTGS systems in order to encourage their continued existence; indeed, it is important that parallel systems should not be allowed to operate with significantly lower risk standards than RTGS systems.

Table 4. Risk control measures in large-value net-settlement systems

	B Clearing House	B CEC	D EAF	GR ACO	E STMD	F Sagittaire	I ME	I SIPS	L EDS ¹	NL 8007 System	UK CHAPS	EUR ECU Clearing
1. Settlement in central banks' accounts	+	+	+	+	+	+	+	+	+	+	+	-
2. Same-day settlement	+	+	+	+	+	+	+	+	+	+	+	+
3. Provisional assessment vs Lamfalussy standards												
1. Legal framework												
- contractual (+) or advisory (-) netting	+	+	+	-	+	-	-	+	+	?	+	-
- if contractual, legally enforceable (+) or not (-)	+	+	+	n.a	+	n.a.	n.a	+	?	?	+	n.a.
2. Participants' awareness	+	+	+	+	+	+	+	+	+	+	+	+
3. Risk management	-	-	-	-	-	-	-	-	+	-	+	+
4. Settlement completion	-	-	-	-	-	-	-	-	+	-	-	-
5. Fair and open access	+	+	+	+	+	+	+	+	+	+	+	+
6. Technical reliability	+	+	+	+	+	+	+	+	+	+	+	+/-

+ = yes

- = no

n.a = not applicable

¹ = from 1st January 1994

? = under investigation

66. Same-day settlement is a requirement for a large-value NSS in order to limit settlement risks. Settlement at a central bank is a necessity to prevent the participants from taking risks on the settlement agent.

67. In accordance with the objective of EC central banks to minimise systemic risks linked to payment systems and, as far as possible, to eliminate them, EC central banks believe that the prompt and full implementation of the principles set out in the Lamfalussy Report would be a first and major step in their risk reduction programme. In the long run they will also consider the option of requiring all participants in large-value net-settlement systems to collateralise fully their debit positions. These major steps will have to be taken in consultation with banking communities. However, EC central banks feel that even fully-collateralised NSS would still be more risky than RTGS systems - in particular because of the uncertainties about the legal basis of netting, especially where banks from more than one country are involved¹¹.

¹¹ This remark does not necessarily apply to systems which exist to facilitate the netting of contracts (e.g. foreign exchange contracts). Indeed, as mentioned in the Lamfalussy Report, such schemes are likely to reduce risks, provided that they are properly designed.

3.4 Other IFTS

68. Principle 6: Other interbank funds transfer systems

As a part of their oversight function, EC central banks will assess the scale and the nature of the settlement risk in all interbank funds transfer systems operating in their country. While seeking to reduce as far as possible the risks in these systems, EC central banks may adopt, for systems not covered by Principles 4 and 5, a somewhat flexible approach which takes into account the costs and benefits of any envisaged solution. Over time, whenever systems are changed or redesigned, increasingly high standards of risk-reduction should be achieved.

69. Large-value systems which are covered by Principles 4 and 5 are those which handle, amongst others, the payments associated with wholesale financial markets where the payments are typically time critical and for large amounts. Since the potential for significant settlement risk in such systems is large, Principles 4 and 5 emphasise the need for rigorous risk-reduction policies. However, Member States also have other IFTS whose nature varies widely. They can be divided into two groups:

- retail systems which, by definition (see para. 10), handle large volumes of small-value payments, for which same-day settlement is not a critical factor;
- gross-settlement systems which do not fit into Principle 4 either because they provide for end-of day settlement, or because the settlement agent is not the central bank¹².

70. The scale of the risks in these various systems differs considerably: in some the aggregate risks may be small, whereas in others they may be almost as significant as those of the major large-value NSS systems covered by Principle 5. Therefore, EC central banks agree that they need to adopt a flexible approach towards risk-reduction policies in such systems. In devising such an approach, two main considerations need to be borne in mind. On the one hand, central banks need to recognise that the cost of risk-reduction measures can be significant and therefore the solution adopted in each case needs to be in proportion to the scale of the problem. On the other hand, central banks need also to be alert to the possibility that, where risk reduction measures in other systems are less rigorous than those in systems covered by Principles 4 and 5, there is a danger that, to save money, banks or their customers may increasingly route large-value payments through the other systems.

71. A key element of the flexible approach should therefore be an assessment by the central bank, in conjunction with the operators and members of the system, as appropriate, of the nature and scale of the risks involved in each system. Such a survey should be repeated from time to time. On the basis of the assessment of the seriousness of the problem, suitable risk-reduction policies should then be drawn up. In some cases it may be decided that the risks are sufficiently small that no action is necessary. In other cases one or more of a variety of risk reduction measures may be appropriate. For example, a limit could be put on the maximum size of individual payments handled by the system; or

¹² Such systems exist for historical reasons. Large-value gross-settlement systems which may be created in the future should provide for real-time settlement at the central bank.

banks could be required to keep their positions within agreed limits (perhaps monitored ex-post); or some element of collateralisation could be introduced. In some cases, RTGS or full implementation of the Lamfalussy standards, including the operation of ex-ante limits and loss-sharing agreements, may be a necessary policy or, alternatively, in cases where speed is less important, the batching of payment instructions, to be settled gross before being passed on to the recipient bank, may be adequate.

72. The nature of the system and the assessment of the scale of the risks involved should determine the minimum risk standards that need to be adopted in order to ensure that a particular system is secure and efficient. However, depending on the costs of doing so, central banks, system operators and participants may decide to go beyond this minimum level. In some systems it may be relatively easy to introduce ex-ante limits or batched gross settlement, thereby making these attractive options even where the scale of the risk is relatively small. But in other cases an expensive redesign of the system might be required, making it harder to justify such options, particularly in the short-term. In the longer-term, as systems come to be redesigned anyway, it should be possible to achieve even higher risk-reduction or even risk-elimination standards.

73. As Principle 6 leaves a great deal of flexibility to individual central banks, each of them should be in a position to elucidate its policies to other EC central banks, in particular when cross-border participation is involved.

CHAPTER 4: LEGAL ISSUES

74. Principle 7: Legal issues

The legal basis of domestic payment systems should be sound and enforceable. Inconsistencies between domestic legal systems in the EC which increase risks in payment systems need to be analysed and, as far as possible, reduced. As a first step, where necessary, EC central banks will press for changes to certain aspects of national bankruptcy laws (e.g. "zero-hour clause").

75. As stated in the Main Report, "present uncertainties within, and inconsistencies between, domestic legal systems increase the risks in payment systems". To analyse those issues and to propose solutions, the Working Group on EC Payment Systems decided to create a Task Force of Legal Experts which has co-ordinated its efforts with the Working Group of Government Experts on EC Payment Systems, set up by the EC Commission.

76. Although the remit of the latter also extends to issues relating to consumer protection, it covers the main legal points which were already mentioned in the Main Report:

- enforceability of netting arrangements;
- harmonisation of bankruptcy laws, as far as they affect cross-border payments;
- legal aspects of realising collateral in EC payment systems;
- revocability of payment instructions, and;
- finality of interbank payments.

77. The EC Commission appointed a private law firm to undertake a comparative study of these issues across Member States; it should reveal whether there are impediments to the development of EC payment systems which require solutions either through contractual arrangements or through statutory provisions at a national or Community level. The Task Force of Legal Experts assisted the Commission in formulating the terms of reference for the law firm and the Secretariat gave assistance in analysing typical central bank issues such as the enforceability of netting and the realisation of collateral. The comparative study is expected to be available this autumn. The EC Commission will subsequently prepare a report which EC central banks will have to consider.

78. There is one issue however which is both crucial and yet relatively straightforward from a payment system point of view: the so-called "zero-hour clause" which in some countries (Italy, the Netherlands and, maybe, France) allows the liquidator of a failed institution to revoke all payments made on the day the latter is declared bankrupt. This clause, if applied, could create important systemic disruptions, and hamper the efforts made by central banks to minimise them (see Chapter 3). Moreover, the effects of an application of the zero-hour clause may spread to other EC countries, including those in which it is not provided for in law, through cross-border participation in IFTS. Therefore, it is in the interests of all EC countries that such provisions are eliminated, as far as payments processed through IFTS are concerned, from the legal system of each Member State.

CHAPTER 5: TECHNICAL ISSUES

79. Principle 8: Technical issues

Compatible banking standards and efficient channels of communication between EC payment systems are desirable and will assist the processing of cross-border payments in the context of the Single Market. They will become increasingly important in view of EMU. EC central banks will support and participate in the efforts made by banking communities in these fields.

5.1 Infrastructures

80. Para. 6.1 of part B of the Lamfalussy Report¹³ stressed the importance of reliable technical infrastructures for the smooth functioning of payment systems. Part 2.5.4 of the Main Report emphasised the importance of compatible infrastructures to facilitate cross-border payments. Work on these issues is in progress: at the retail level, EC central banks are aware of new payment channels being studied by the banking communities, such as improved correspondent banking relationships or linkages between automated clearing houses¹⁴; as far as large-value payments are concerned, EC

¹³ "The providers of netting services and, in particular, of multilateral netting systems should ensure that all hardware, software, and communications facilities which support daily operations have a high degree of reliability and integrity. In particular, contingency plans should be established for the failure of each of these facilities which should include the availability of back-up facilities capable of completing the settlement process within the normal parameters of the relevant money markets as well as the completion of any necessary accounting and processing work prior to the start of the next business day."

¹⁴ EC central banks intend to become involved in the discussions concerning the settlement aspects of these schemes.

central banks have begun to study the possibility of improving the links between existing or future RTGS systems in preparation for Stage III of EMU.

5.2. Standards

81. EC central banks are also interested in improvements in the banking standards without which modern IFTS would not be able to function. Such improvements should facilitate cross border-payments, by reducing their cost and increasing their speed. Standards used by national IFTS at the moment are not compatible at the EC level. EC banks have begun to investigate the possibility of harmonising banking standards within the EC. In particular, they have set up a European Committee for Banking Standards (ECBS) which is currently focusing, among other subjects, on cross-border payments. EC central banks are kept informed of the activities of this Committee due to the participation as an observer of the Rapporteur of the Working Group on EC Payment Systems in the Technical Steering Committee of the ECBS. Of course, this work has a long lead time, but EC central banks will need to ensure that the standards are not likely to reduce the soundness of the EC payment system as a whole. Such harmonised standards may subsequently be used by EC central banks in establishing links between domestic large-value systems.

CHAPTER 6: CENTRAL BANKS' PRICING POLICIES FOR PAYMENT SERVICES

82. Principle 9: Pricing policies of EC central banks

The pricing policies of EC central banks, in respect of payment systems functions, will aim at the avoidance of any competitive distortion within the context of the Single Market and in preparation for EMU. As a general objective, such policies will aim at the full recovery by the central banks of the costs of these services.

6.1. The requirements of the Single Market

83. For historical reasons, the basis of EC central banks pricing policies differs: some provide free payment services, some just charge a token amount, others endeavour to cover their variable costs or their full costs. Except in the latter case, these services are in fact subsidised, sometimes without any economic justification. Moreover, some central banks rely on explicit charging arrangements while others use implicit charging through (for example) unremunerated balances. Finally, central banks' cost bases differ widely. Within the context of the Single Market, these different pricing policies, structures and costs might create competitive distortions which would hamper the development of a "level playing field" within the EC because, first, they could make it harder for the private sector to compete with central banks for services which do not need to be a public monopoly and, second, because they may enable banks to cross-subsidise to different degrees other products they offer to their customers. Therefore, EC central banks feel that a certain harmonisation of their pricing policies should be reached in a way which is compatible with economic efficiency, i.e. by making strong efforts to recover costs, or at least operating costs in the short run.

84. The "full cost objective" is to be seen as a medium-term target and there might be some exceptions to this general rule in certain circumstances. One of them could be founded on the need to encourage the use of more efficient payment means or systems (e.g. in the case of a new system where the number of payments processed is still low). Another exception might be motivated by the need to

ensure a fair degree of competition between systems which are not equally secure; this could be the case, for instance, if real-time gross settlement systems compete with net settlement systems which have not yet implemented an adequate risk reduction programme.

6.2. The consequences of Monetary Union

85. In the immediate future there is no compelling reason to go further than the harmonisation of the underlying Principles on which pricing policies are based since the continued existence of different currencies, between which foreign exchange risk remains, will make it highly unlikely that banks will switch their payment flows from one country to another in order to benefit from the lowest prices. However, particularly in Stage III of EMU, the risk of undesired shifts of payment flows from one country to another, or from one system to another, will entail a further need for price harmonisation in the EMU area.

CHAPTER 7: OPERATING HOURS FOR IFTS

86. Principle 10: Operating hours

The overlap between operating hours of the major EC interbank funds transfer systems (and in particular the hours of RTGS systems) is necessary and could be increased in order to facilitate cross-border payments and delivery versus payment mechanisms. In this respect, and as a preparatory step towards EMU, EC central banks will consider closer co-ordination of the operating hours of their settlement services.

7.1. The requirements of the Single Market

87. Closer harmonisation of the operating hours of the main EC IFTS would facilitate cross-border payments, and would be a step forward in the development of delivery-versus-payment (DVP) mechanisms as RTGS systems are introduced. This point could be of particular importance as far as foreign exchange transactions are concerned, as a means of reducing cross-currency settlement risk (Herstatt risk). Although this preoccupation is not specific to Europe (see the report prepared by the G10 central banks on "Central banks payment and settlement services, with respect to cross-border and multi-currency transactions"), harmonisation is probably easier to reach in EC countries, because they work in only three time zones. As shown in Table 5, a limited overlap exists at present, at the end of the morning, between the operating hours of the main EC IFTS. An objective for the future should be to extend this overlap somewhat.

88. Since all IFTS reach ultimate settlement at the central bank, their operating hours depend on the periods of time during which central banks are offering settlement services; no IFTS could continue to work for same-day value once the central bank is closed for settlement. Therefore, to a large extent, the extension of the overlap of the operating hours of EC IFTS is linked to the harmonisation of the settlement times of EC central banks. However, since secure DVP needs irrevocable payments, the efforts of EC central banks should not focus too much on the harmonisation of end-of-day settlement, but on the harmonisation of the period of time during which they offer continuous settlement. In other words, all EC central banks should aim at the establishment of RTGS systems in their countries (see Principle 4) and have sufficient overlap between their operating hours.

Table 5: Operating Hours of the major EC large-value IFTS
(Central European Time, for interbank payments, for same day value)

System	Time	0	7	8	9	10	11	12	13	14	15	16	17	18	19	20
B: Clearing House																
B: C.E.C		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
DK: D.N. System		*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
D: E.A.F.																
D: Eil-ZV		*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
E: STMD																
GR: ACO		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
F: Sagittaire																
F: TBF		*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
IRL: D.I.S. ¹																
I: SIPS																
I: B.I.S.S.		*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
I: El. Memoranda																
NL: C. Bank System ²		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
NL: 8007 system																
P: Traditional Clearing																
GB: CHAPS																
EUR: ECU Clearing		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

1 = DIS is an end-of-day gross-settlement system

2 = not all payments in the central bank system are settled real-time

* = time of finality (under normal circumstances)

***** = real-time gross-settlement systems

●●● = net-settlement systems

7.2 The consequences of EMU

89. In EMU, greater harmonisation of central banks' operating hours is likely to be necessary for the establishment of a single integrated EC-wide payment system. In the immediate future, there is no need for a full harmonisation of the operating hours of central banks settlement services because, as explained in para. 85, no major undesired shift of payments is likely to occur as long as EC currencies do not have fixed exchange-rates. However, past experience has shown that it is often not easy to modify the times when central banks offer settlement services because this modification involves changes in the operating behaviour of the central bank itself, the IFTS which settle at the central bank and the financial markets (for which the closing time of the settlement services of the central bank is also the closing time for same-day transactions in the currency issued

by the central bank). As a result, it would be helpful if any necessary convergence of closing times could be reached before Stage III of EMU begins, preferably in a progressive way.

PART C: FOLLOW-UP TO THIS REPORT

1. The ten principles proposed in this report give substance to Action 2 of the Main Report published in September 1992. These principles are consistent with the evolution underway in domestic payment systems and should guide the action of national central banks in this field.
2. The aim of the ten principles is to ensure that the growth of cross-border real and financial transactions resulting from the Single Market and the increase in cross-border participation in IFTS allowed by the 2BCD are supported by an efficient and secure processing of payments and by the successful efforts of national central banks to reduce systemic risks associated with payment systems.
3. The implementation of the principles will be the result of a continuous process conducted primarily at the national level and by national central banks in co-operation with their countries' banking communities. As regards Principles 1 to 6, the Working Group feels that their specification is sufficiently advanced to permit direct implementation. Concerning Principles 7 to 10, further specification will follow from the result of other studies underway, in particular that which the EC Commission is conducting on legal issues, that of the banking community on banking standards and infrastructures for retail cross-border payments, and that of EC central banks on payment systems in Stage III of EMU.
4. Co-operative work among EC central banks should continue to monitor developments in the areas covered by this report, to deal with the problems that will arise in the implementation of the ten principles, and to improve their specifications and interpretation where necessary. In this respect, it is proposed that the group in charge of this work reports annually to the Governors.

**Action 2 of the report on "Issues of common concern to EC central banks
in the field of payment systems"**

Differences between domestic interbank payment systems can affect the smoothness of cross-border payments in the EC and distort competitive conditions. They may also create risks for the integrity and stability of domestic and cross-border payment arrangements, since the latter can only be as strong as their weakest links. Finally, these differences may create opportunities for regulatory arbitrage, especially with irrevocably fixed exchange rates, inducing participants to effect their payments through less costly but possibly inadequately protected systems. To avert those risks, EC central banks will, in the context of their oversight of domestic payment systems, make sure that, as far as necessary and in accordance with the subsidiary principle, all interbank funds transfer systems share certain minimum common features on which the integrity and security of the systems as a whole depend; these will include, wherever appropriate, use of gross settlement systems. Action to this end will have to be consistent with, and indeed will be an integral part of, possible work on an EC-wide system which will be needed in Stage Three of EMU (see Action line 3). Six areas are particularly important for this common work on domestic systems.

Access conditions: A limited number of common principles will be laid down for access to domestic funds transfer systems to ensure the financial soundness and technical reliability of participants, and to reduce systemic risk. EC central banks will also seek to ensure that the involvement of non-banks in payment operations creates no additional risks, or competitive distortions, in the interbank payment systems.

Risk management policies: A core group of risk reduction measures will be agreed upon and applied to domestic interbank payment systems. These measures will need to be consistent with those identified by the Committee on Interbank Netting Schemes. Measures will be studied to contain interbank positions in net settlement schemes (such as caps and /or legal agreements to limit exposures), thereby reducing liquidity and credit risks; other measures (such as collateral and loss-sharing formulae) could be applied to avoid systemic risk in netting schemes. Central banks will consider the establishment, wherever appropriate, of gross settlement systems in place of, or in addition to, net settlement systems. Where central bank overdrafts in gross settlement systems are not fully collateralised, caps might need to be applied in these systems as well.

Legal issues: Present uncertainties within, and inconsistencies between, domestic legal systems increase the risks in payment systems. EC central banks will address legal issues that are of particular importance for the integrity and stability of domestic and cross-border payment systems, including the finality of payments (bankruptcy laws, "zero-hour" clauses), and the revocability of payment instructions. They will also endeavour to formulate recommendations on legal aspects of net

settlement schemes with a view to their adoption in the law. Central banks should participate in any work on these issues, whether in the EC or elsewhere such as UNCITRAL.

Standards and infrastructures: The technical structures of payment systems as well as harmonised working methods need to guarantee operational reliability and compatibility. It is particularly important for central banks to work with the private sector in specifying the technical standards that would facilitate linkages between funds transfer systems.

Pricing policies : EC central banks will endeavour to adapt common principles in respect of the prices at which they supply payment services. These principles need to favour the efficient allocation of resources, by the central banks and the commercial banks.

Business hours: EC central banks will consider whether there is scope for reducing the differences in business hours for their domestic large-value payment systems, to reduce settlement difficulties and temporal exposures in the foreign exchange and other financial markets.

Automated Clearing House (ACH): an electronic clearing system, in which data on payment orders are exchanged by magnetic media, or via a telecommunication network, and handled by a data processing centre.

Bilateral net settlement system: a netting system in which participants' bilateral or net settlement positions are settled between every bilateral combination of participants.

Banking organisation: a credit institution or an organisation collectively owned by credit institutions. (see para. 17)

Caps: a risk management arrangement whereby limits are placed on the positions that participants in an interbank funds transfer system can incur during the business day; they may be set by each individual participant or by the body governing the transfer system; they can be set in multilateral net, bilateral net or (less commonly) in gross terms and can be either a credit cap or a debit cap; for example, bilateral net credit caps, set by an individual participant, will constitute a limit on the credit exposure that that participant will accept vis-à-vis each other participant; in contrast, sender net debit caps may be set (by the governing body of the clearing system based on a particular formula), which limit the aggregate value of transfers that an individual participant may send to all other participants over and above its incoming transfers.

Clearing: a set of procedures whereby financial institutions present and exchange data and/or documents relating to funds or securities transfers to other financial institutions at a single location (**clearing house**). The procedures often also contain a mechanism for the calculation of participants' bilateral and/or multilateral net positions with a view to facilitating the settlement of their obligations on a net or net net basis.

Correspondent banking: an arrangement under which one bank provides payment and other services to another bank. Payments through correspondents are often executed through reciprocal accounts (so-called nostro and vostro accounts), to which standing credit lines may be attached. Correspondent banking services are primarily provided across international boundaries but are also known as agency relationships in some domestic contexts.

¹ All definitions hereafter are taken from the Glossary of the Blue Book unless a reference to a paragraph of this report is mentioned, or unless otherwise specified.

Credit risk (or exposure): the risk that a counter party will not settle an obligation for full value, either when due, or at any time thereafter.

Cross currency settlement risk (or Herstatt risk): risk relating to the settlement of foreign exchange contracts which arises when one of the counterparties to a contract pays out one currency prior to receiving payment of the other.

Daylight credit (daylight overdraft or intra-day credit): credit extended for a period of less than one business day; in a credit transfer system with end-of-day final settlement, daylight credit is tacitly extended by a receiving institution if it accepts and acts on a payment order even though it will not receive final funds until the end of the business day.

Delivery-versus-payment (DVP): phrase used to summarise the conditions that must hold if the counterparties to a transaction in an exchange-of-value system are not to be exposed to principal risk (the risk that one counterparty loses the full value of the transaction); DVP in its most rigorous form implies that both the asset transfer and the related funds transfer are simultaneously irrevocable and unconditional for the parties involved.

Direct participants (access) in IFTS: participants in an IFTS who are responsible to the settlement institution (or to all other direct participants) for the settlement of their own payments, those of their customers, and those of the indirect participants on whose behalf they are settling . (see para. 11)

Final settlement: settlement of the obligations between two parties by irrevocable transfer of credit across their accounts at a defined settlement institution. Where such transfers are made by irrevocable credit to accounts on the books of a central bank, the transfer could be described as an "ultimate settlement" in the economic sense that it is effected in central bank liabilities.

Funds transfer system (FTS): a formal arrangement, based on private contract or statute law, with multiple membership, common rules and standardised arrangements, for the transmission and the settlement of money obligations arising between the members. (see para. 3)

Indirect access (participants) to IFTS: a form a membership which exists to varying degrees in FTS; it gives to institutions some functions and responsibilities of direct participation without going as far as entrusting them with the settlement responsibilities reserved to direct participants. (see para. 12)

Interbank funds transfer system (IFTS): funds transfer systems in which most of (or all) participants are used primarily to process cashless payments which involve the credit institutions. (see para. 5)

Irrevocable transfer: a transfer which cannot be revoked by the transferor.

Large-value payments, large-value IFTS: payments which related to one of the four categories mentioned in para. 9 of this report.

Liquidity risk: the risk from a participants failure to settle a debit position at the time due because it does not have enough liquid assets; liquidity risk does not imply that a participant is insolvent since he might be able to settle the required obligation at some unspecified time thereafter.

Loss-sharing rule (or loss-sharing agreement): an agreement between participants in a clearing system regarding the allocation of any loss arising when one or more participants fail to fulfil their obligations; the arrangement stipulates how the loss will be shared among the parties concerned in the event the agreement is activated.

Multilateral net settlement system (multilateral NSS): a netting system in which direct participants settle only their net net positions resulting from the clearing process.

Net settlement system (NSS): see bilateral net settlement system and multilateral net settlement system.

Netting (or netting scheme): an agreed offsetting of positions or obligations by trading partners or participants in a system. The netting reduces a large number of individual positions or obligations to a smaller number of positions. Netting may take several forms which have varying degrees of legal enforceability in the event of default of one of the parties.

Oversight (new definition): Central bank duty, principally intended to promote systemic stability.

Payment: the satisfaction and discharge of an obligation by the debtor's irrevocable provision of an unconditional claim on a third party acceptable to the creditor (for example bank notes, deposit balance held at a financial institution or at the central bank).

Payment order (or payment instruction): an order or message requesting the transfer of funds (in the form of a claim on a third party) to the order of the creditor. The order may relate either to a credit transfer or a debit transfer.

Payment system: it consists of a defined group of institutions, and of a set of instruments and procedures, used to ensure the circulation of money within a geographical area, usually a country.

Queuing: a risk management arrangement whereby transfer orders are held pending by the originator/deliverer or by the system until sufficient cover is available in the originator's/deliverer's clearing account or under the net limits set against the payer; in some cases, cover may include unused credit lines or available collateral.

Real-time transmission or processing: the transmission or processing of funds and/or securities transfer instructions on an individual basis at the time they are initiated.

Real-time gross-settlement systems (RTGS): (1) a funds transfer system (see para. 3); (2) in which payment orders are processed one by one in real-time; and (3) which provides for the immediate settlement of all payments provided that there are enough funds or overdraft facilities on the issuer account with the settlement agent. (see para. 50)

Remote access to IFTS: (new definition). A credit institution has remote access to an IFTS if its main office or one of its branches has direct access to an IFTS located in another country.

Retail payments, retail IFTS: all kinds of payments which are not defined as large-ones. (see para.10)

Settlement: completion of a payment or the discharge of an obligation between two or more parties. Frequently used to refer to the payment or discharge of interbank transactions or a series of prior existing transactions.

Settlement risk: a general term used to designate both credit and liquidity risks in a transfer system, i.e. the risk that a party will fail to meet one or more obligations to its counterparties or to a settlement agent or settlement institution. (see para. 47)

Settlement agent: the institution initiating the final settlement of a clearing, on behalf of all the participants.

Systemic risk: the risk that the failure of one participant in an interbank funds transfer system or securities settlement system, as in financial markets generally, to meet his required obligations will cause other participants or financial firms to be unable to meet their obligations when due.

Zero-hour clause: (page 21 of the Main Report). Provision in the bankruptcy laws which retroactively renders transactions of a closed institution ineffective after 0.00 a.m. on the date it is ordered to be closed.

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* The underlying analysis of this report and the proposals which are attached to it have been prepared by a sub-group, called the Co-ordination Group, which held six meetings between November 1992 and June 1993, under the Chairmanship of Mr. Perdrix, of the Banque de France.