REPORT TO THE COUNCIL OF THE EUROPEAN MONETARY INSTITUTE

ON

THE TARGET SYSTEM

(Trans-European Automated Real-Time Gross Settlement Express Transfer System, a payment system arrangement for Stage III of EMU)

by the

Working Group on EU Payment Systems

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SUMMARY AND PROPOSALS

1. On 15th November 1994, the EMI released a note on "The EMI's intentions with regard to cross-border payments in Stage III" which described why EU central banks have the intention to link the real-time gross-settlement system (RTGS) which operate (or will operate soon), in their country. The aim of the present report is: 1) to provide further information to interested parties on how this new payment arrangement is intended to work; and 2) to further the process of consultation with banking communities. The report, which was prepared by the Working Group on EU Payment Systems, was adopted by the EMI Council in March 1995.

2. The payment mechanism which will include the national RTGS systems and their linkages will be called the TARGET system, an acronym for Trans-European Automated Real-Time Gross Settlement Express Transfer system. Within TARGET, the infrastructures and procedures which are used within each RTGS system, or in addition to the RTGS systems, to process cross-border payments will be called the Interlinking System.

3. The main objective of the TARGET system will be to serve the needs of the single monetary policy in Stage III. Because of the long lead time inherent in payment systems projects, work on the specifications of TARGET, and in particular those of its core part, the Interlinking, needs to start now, although the conditions under which the monetary policy will be implemented are not yet fully defined.

4. The other objective of the TARGET system will be to improve the soundness of EU payment systems in Stage III. This implies a wider use of RTGS procedures which are the safest payment mechanism to process large-value payments. However, in accordance with the market principle enshrined in the EU Treaty, the use of TARGET will not be compulsory, except for payments directly related to the implementation of monetary policy. TARGET will also improve the efficiency of cross-border payments in Stage III, as required by Article 109f (3) of the Treaty on European Union.

5. In keeping with the Treaty, TARGET will be a decentralised system with only some common functions undertaken by the European Central Bank (ECB). Except for the very limited number of payments which will stem from the ECB's own activities, TARGET payments will be processed by the domestic RTGS systems and exchanged, after settlement, between national central banks (NCBs).

6. Because TARGET will be composed of RTGS systems which have been established in the past, or are being established today, under local conditions which are not identical, it will not offer entirely

identical services to the end-users. Some harmonisation of the functioning features of the RTGS systems may, therefore, have to be considered. However, because a wide-ranging harmonisation would be difficult to achieve within the tight timetable for Monetary Union, and because of the many uncertainties which still exist as regards how Monetary Union is to be accomplished, the implementation of TARGET will follow a "minimum approach". This would aim at harmonisation only when it is required to avoid: i) impediments to the efficient conduct of the single monetary policy; and ii) distortions in competition between banks. It needs to be recognised, however, that decisions already taken in some national RTGS systems may limit the availability of some options at the start of Stage III, and for some time thereafter.

7. At the start of Stage III of Economic and Monetary Union, the single currency will come into existence, but it is possible that for some time thereafter payments could continue to be denominated in the former national currencies. In such a case, the national RTGS systems would continue to handle the national currency and a money conversion mechanism would be introduced to allow transfers between participating countries. If payments could be denominated in either the ECU or the former national currencies, the central banks of those EU member states whose national RTGS systems participate in TARGET may choose to adapt their national systems so that they are capable of processing transactions in both the ECU denomination and the relevant national currency denomination. Once the changeover to the single currency is completed, these systems would only need to operate in the ECU denomination. In any case, for simplicity, the Interlinking system would operate from the outset of Stage III in the ECU denomination only. The above-mentioned mechanism will convert national currency denominated payments, at the fixed conversion rates, to the ECU denomination, and vice versa, for as long as the national currency denominations continue to exist.

8. In addition, the central banks of those EU member states which do not adopt the single currency from the start of Stage III may choose nevertheless to be linked to the TARGET system in order to process the ECU as a foreign currency. In this event, the national RTGS systems in such countries will need to be capable of handling the ECU and their national currency as separate currencies with no fixed relationship. It will be for those countries to decide how the necessary adaptations are incorporated in their national systems.

9. The following proposals have been approved by the EMI Council:

- Linkages will be established between national real-time gross settlement (RTGS) systems. These linkages (the Interlinking System), together with the national RTGS systems, will form the TARGET system. The technical features of the system will essentially be those illustrated in Chapter 2 of this report, though some points of detail may have to be modified slightly before the specification is finalised.

- Only payments related to the implementation of the single monetary policy in Stage III of EMU (to and from the European System of Central Banks (ESCB)) will have to be processed through TARGET. For other payments alternative routes (correspondent banking, netting systems) will continue to be available, although it is likely that over time, for cross-border payments, TARGET will gradually take over the equivalent role now envisaged for RTGS systems for domestic payments.

- Domestic RTGS systems will retain their specific features to the maximum extent compatible with the singleness of the ESCB monetary policy and a level playing-field for credit institutions. A certain level of harmonisation will be necessary in three areas: the provision of intraday liquidity, operating hours, and pricing policies.

10. In Chapter 1, the report details the objectives and guiding principles which stem from the Treaty on European Union. Chapter 2 provides explanations on the design of the system; Chapter 3 deals with operational practice in domestic RTGS systems and Chapter 4 with the relations with other transfer systems. Finally, Chapter 5 examines the consequences of variations in the assumptions underlying the previous chapters of the report.

CHAPTER 1: OBJECTIVES AND GUIDING PRINCIPLES

1.1 The objectives of the establishment of TARGET

11. The objectives of the establishment of the TARGET system are twofold: i) to ensure a smooth implementation of the single monetary policy in Stage III; and ii) to provide sound and efficient mechanisms to settle same-day payments under any circumstances.

1.1.1 The needs of the single monetary policy

12. In all EU countries, the impact of monetary policy operations is currently transmitted to the money markets through interbank funds transfer systems (IFTS) which settle in the books of the central bank. Once Stage III is implemented, there will be only one currency in those member states which adopt the single currency (although it could, for some time, take the form of several national denominations), one central bank system (the ESCB) and one monetary policy. As in any country, there will be a need for a payment arrangement via which the operations between the central bank and the banking system can be effected quickly and safely. Moreover, as in any monetary area, there will be in Stage III an integrated money market, on which interest rate arbitrages will occur so that the single monetary stance applies in identical terms throughout the Union. Therefore, payment arrangements will need to exist which can support these mechanisms at low cost, and with high security and very short processing times. The TARGET system will aim at meeting these objectives.

13. The conditions under which the single monetary policy will be implemented have not yet been fully defined. The implementation of TARGET will require such long lead times that development decisions cannot be postponed until the specifications of the monetary and exchange rate policies for Stage III have been decided in detail. In view of this, TARGET has been designed in such a way as to leave open the choice of instruments and operating procedures of monetary policy. The implementation of the single monetary policy will also involve securities settlement systems, and, therefore, a further report will consider the relationships between TARGET and securities settlement systems.

1.1.2 Sound and efficient payment mechanisms

14. The establishment of the TARGET system is also required for the development of sound and efficient payment mechanisms in Europe. In November 1993, the Committee of Governors endorsed the report on "Minimum Common Features for Domestic Payment Systems", prepared by the Working Group on EC Payment Systems, which stated in its Principle 4 that *"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". It follows that Principle 4 needs to be extended on a cross-border basis to the EMU area in Stage III.

15. In every "domestic" payment system, large-value payments are settled according to three major methods: i) correspondent banking; ii) net settlement (or end-of-day gross settlement); and iii) real-time gross settlement. Within the new EMU payment system, this configuration will still exist and TARGET will perform the third method. Correspondent banking relationships will continue to exist. Netting systems will also continue to process large-value payments provided that they comply with Principle 5 of the Report on "Minimum Common Features for Domestic Payment Systems"[1]. In particular, the ECU Clearing and Settlement System may continue to operate as a private netting system, processing the new single currency instead of the present "basket ECU" provided that it has, by then, been adequately reformed; it may compete with some domestic interbank funds transfer systems which may broaden their membership base to banks incorporated in other EU countries.

1.2 Guiding principles

1.2.1 The market principle

16. The market principle is enshrined in the Treaty on European Union which states in its article 102a that "*the Member States and the Community shall act in accordance with the principle of an open market economy with free competition, favouring an efficient allocation of resources"*. This principle applies to the ESCB, as provided by Article 2 (3) of its Statute.

17. As a consequence of this principle, central banks' involvement in payment systems concentrates on functions which cannot be performed, or are not adequately performed, by the private sector. As explained in the report on "Minimum Common Features for Domestic Payment Systems", the need to contain systemic risks within manageable limits requires that large-value IFTS settle in central bank money. This means that the final settlement function of RTGS systems needs to be performed by central banks and that, as a result, the settlement function for the TARGET system will be performed by the ESCB in Stage III.

18. In order to meet the objectives set out in 1.1 above, the design of the TARGET system and the definition of its functioning rules will be the responsibility of the ESCB. However, credit institutions will only have to use TARGET for payments directly affecting the implementation of the monetary policy, in which the ESCB is involved either on the recipient or the sender side. The ESCB rules will

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1 Principle 5 states *"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.* The report also mentions the possibility of requiring, at a later stage, full collateralisation of intraday net debit positions.

not impose the use of TARGET for other specific categories of payments or, conversely, prevent its use for some other categories.

19. The banks and their customers may decide to use, from time to time, the TARGET system to process retail payments. Although no minimum amount will be prescribed, it is expected that the costs and the fees associated with high speed and immediate finality in the TARGET system will in practice deter the processing of low-value payments through the TARGET system except in exceptional circumstances. Since retail payments involve a very low level of systemic risk, EU central banks do not intend to propose any kind of payment arrangement specifically designed to process retail payments in Stage III, although TARGET will support the settlement of these systems. They feel that it is up to the banks to develop the mechanisms which will meet their customers' needs.

1.2.2 The decentralisation principle

20. The decentralisation principle is established by Article 12.1 (3) of the Statute of the ESCB, which states that: *"to the extent deemed possible and appropriate, ... the ECB shall have recourse to the national central banks to carry out operations which form part of the tasks of the ESCB"*. This principle is one of the reasons which led EU central banks to prefer decentralised payment arrangements for Stage III, instead of the creation of a new funds transfer system centralised at the ECB. Accordingly, the TARGET system will make use of the infrastructures in place in EU Member States and settlement accounts will be held at the NCBs.

21. The decentralisation principle implies that the most important infrastructures of TARGET will be established in the Member States and not under the direct management of the ECB. There are at least four strong arguments for basing the TARGET system on local infrastructures.

22. First, EU central banks which do not yet have an RTGS system are now discussing with their banking communities the establishment of such a system. The decentralised approach, based on linkages between domestic RTGS systems, takes cognisance of the fact that EU central banks and EU credit institutions have already invested in creating new RTGS systems, in transforming existing ones, or in turning net settlement systems into RTGS systems. The design of a completely new system which might make existing or planned systems obsolete within a few years would undoubtedly be a waste of resources.

23. Second, the TARGET system, based on linkages between national systems, would cope better with the current uncertainties concerning the date of the move to Stage III of EMU, and the identity of the countries which will adopt the single currency from the start, because; i) the costs directly related to Stage III would be much smaller than if a new centralised system had to be created; ii) it will also be better able to accommodate the needs of countries joining at a later stage.

24. Third, from a technical and prudential viewpoint, it would be safer to integrate systems which have been well tested at the national level than to create a new system for which technical difficulties, inherent in the implementation, might have systemic implications during the commencement phase of Stage III of EMU. The TARGET solution has the advantage of minimising these implementation problems.

25. Finally, the transition from independent national systems to the TARGET system would be easier if the latter were decentralised, since the standards and the procedures used domestically would not have to be modified, provided that domestic systems already use, or are able to convert to, internationally standardised formats for the domestic transmission of cross-border payments, and where desired, are able to operate in both the ECU and relevant national currency denominations of the single currency. The necessary changes would then only involve the establishment of links between NCBs (or other operators), which in turn would ensure these links to the national systems (see also Chapter 2).

26. In principle, settlement accounts could be maintained either at the NCBs exclusively, or on a centralised basis at the ECB, perhaps in connection with additional accounts maintained at the NCBs. Article 17 of the ESCB Statute leaves full flexibility in this field since it states that ..... *"the ECB and the national central banks may open accounts for credit institutions, public entities and other market participants....."*.

27. In keeping with the Treaty, and in particular with the principle of decentralisation, decentralisation should be preferred when there are no strong advantages to centralisation. In a decentralised system, the banks would only have to maintain accounts at the NCBs. A linkage system would permit the EMU-wide transmission of payment orders which would be settled in the books of the NCBs maintaining the accounts of the sending and receiving participating credit institutions. Accounts with the NCBs could be used to settle domestic payments as well as cross-border ones. There would be no need for banks to maintain settlement accounts with the ECB. Instead, the ECB would maintain accounts only: i) for a limited range of customers or correspondents; ii) to facilitate settlement for other Interbank Funds Transfer Systems (see Chapter 4); iii) for settlement between the NCBs.

28. Moreover, the decentralised maintaining of accounts at the NCBs would have another important advantage in terms of technical reliability, since a centralised accounting system would be more vulnerable to technical failure than a decentralised system in which the failure of part of the system need not necessarily affect all, or even a major part, of the payments (though in the case of the failure of the Interlinking system, payments between holders of accounts at the same NCB could still be effected). In addition, centralised systems are considerably more vulnerable to being overburdened, since all payments - even domestic ones - would have to be executed via the accounts at the ECB.

1.2.3 The minimum approach

29. The establishment of the TARGET system will involve the creation of some common infrastructures and the harmonisation of some of the features of domestic RTGS systems. Two solutions could be envisaged: the wide-ranging approach and the minimum approach.

30. The wide-ranging approach would stress the advantages which would stem, as soon as Stage III starts, from a high degree of harmonisation between the components of the TARGET system. Such a system would maximise the benefits of Monetary Union and would lead to the rapid establishment of a decentralised RTGS system which, like the Eiliger Zahlungsverkehr in Germany and Fedwire in the United States, would work with a high degree of integration.

31. The minimum approach may be considered as the solution which takes into account the time constraints and the uncertainties which will apply to the implementation of TARGET. It can be defined as a general principle which aims at minimising the time and costs which are required in order to establish a fully operational TARGET system which meets the objectives assigned to the ESCB by the Treaty on European Union. There are at least three very strong arguments in favour of the minimum approach. The most important of these relates to the time constraints, which are extremely tight, since Article 109f (3) of the Treaty states that: *"at the latest by 31st December 1996, the EMI shall specify the regulatory, organisational and logistical framework necessary for the ESCB to perform its tasks in the third stage"*. Secondly, this approach leaves room for future adjustments. Finally, this approach will allow central and commercial banks to minimise the costs involved in the implementation of the system in a context where the flexibility granted by the minimum approach would enable the project to adjust to the uncertainties concerning the date of the start of Stage III and which countries will adopt the single currency from the beginning.

CHAPTER 2: THE ARCHITECTURE OF THE TARGET SYSTEM

32. The aim of this chapter is to describe the main technical features of TARGET system.

2.1 General overview

33. The TARGET system will be composed primarily of one RTGS system in countries adopting the single currency (and, on an optional basis, of RTGS systems operating in other EU countries - see Section 5.2 below). Technical links and procedures (the "Interlinking") will be established to allow payment orders to move from one RTGS system to another.

34. The system will be designed in such a way that it will be able to process cross-border payments almost as smoothly as if they were domestic payments. It will handle almost exclusively large-value payments which will be sent by credit institutions to domestic RTGS systems on their behalf, or on behalf of their customers. Cross-border payment orders will be exchanged bilaterally between NCBs, without any central counterparty. They will be sent through the Interlinking only when their amount has been irrevocably debited from the account of the originator's bank with its NCB. The system will be constructed so that the receiving NCB will then irrevocably credit the amount of the payment order to the bank account of the beneficiary's bank

2.2 The components of the TARGET system

2.2.1 The RTGS systems

35. The TARGET system will be composed of: i) one RTGS system in each participating country; ii) some functions performed by the ECB; iii) the Interlinking procedures.

36. Only payments which have been irrevocably debited from the account of the sending bank will be allowed to be processed through the Interlinking. In theory, this would not exclude the possibility for net settlement systems (or end-of-day gross settlement systems) to transfer payment orders to the Interlinking after their settlement time. However, in practice, this would not be convenient for the banks since it would entail unacceptable delays. Therefore, only RTGS systems will be connected to the Interlinking network and will be part of the TARGET system.

37. Since it is unlikely that NCBs will offer settlement facilities for two or more RTGS systems in their country, it is expected that TARGET will include only one RTGS system per country. For participating systems processing dual denominations of the single currency, these settlement facilities are likely to consist of a single settlement account for settlement of payment orders expressed in either denomination; national RTGS systems of countries which do not adopt the single currency, but which

link to TARGET in order to process the ECU as a foreign currency, may require separate settlement account facilities for the separate currencies.

38. Under the minimum approach, each RTGS system participating in TARGET will be free to keep its specific features as far as it processes domestic payments (although central banks may choose to introduce the capacity for the system to operate in both the ECU and relevant national currency denominations of the single currency). Moreover, some of these specific features will continue to be used to process cross-border payments when the definition of common procedures is not necessary. Unlike other decentralised RTGS systems, such as Fedwire or the Eiliger Zahlungsverkehr, TARGET will not operate under a single set of rules and use common or identical infrastructures.[2] Domestic payments will continue to be processed according to local procedures which will be little affected by the establishment of TARGET. For example, it is not envisaged that the rules pertaining to waiting queues will be harmonised, although payment queues may be used for both domestic and cross-border payments (see Section 3.6 below). Nevertheless, the definition of common standards and/or procedures for the Interlinking may have consequences for domestic payments processed in TARGET. This may be the case, for example, for data formats (if it is felt useful to use only one format for both domestic and cross-border payments) and for operating hours (see Section 3.3 below). Nevertheless, it is intended that the creation of links between RTGS systems will affect as little as possible the way these systems process domestic payments.

39. Within each RTGS system, the division of responsibilities between the central bank and other operators is specific to each country. For example, in several systems, the processing and forwarding of payment messages is organised by, or delegated to, private operators. In establishing TARGET, EU central banks and the EMI have no intention of requiring any modification to these domestic arrangements. However, if decisions taken by the ECB and the NCBs create indirect obligations for third parties it is assumed that each NCB will be able to reach an agreement with these third parties, so that the provisions which need to apply throughout TARGET can be implemented.

2.2.2 The ECB

40. As explained in Section 1.2.2 above, it is assumed, for the purpose of this report, that the ECB will not hold settlement accounts for the banks. Nevertheless, in keeping with the Treaty, the ECB will have payments to make, in particular those which are related to the management of its own funds and to the use of its foreign exchange reserves (Articles 28.1 and 23 of the ESCB Statute). The ECB may also have customer operations, in accordance with Articles 21 and 23 which state that the ECB may open accounts for public entities, for financial institutions in other countries, and for international

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2 Although there will probably be, over time, a natural convergence towards similar rules and standards.

organisations. Moreover, Articles 18 to 20 also make provision for the ECB to conduct monetary policy operations, but the extent to which this possibility will be used is still unknown.

41. Therefore, since the ECB will handle banking operations which will involve debiting and crediting banks' accounts with the NCBs, it will need to have connections with the latter. Although it would have been possible to consider the ECB as a customer of the NCBs (or a direct participant in the national RTGS systems), it would be much simpler, and safer, to use the Interlinking network to process payments between the ECB and the NCBs. The participation of the ECB in the Interlinking system may also have the advantage of allowing the system to facilitate settlement between NCBs within TARGET, and settlement of net settlement systems (see Chapter 4).

2.2.3 The Interlinking System

42. In this report, the term Interlinking is used to designate the infrastructures and the procedures which are used within each RTGS system or in addition to the RTGS systems to process cross-border payments within TARGET. Therefore, the Interlinking system cannot be regarded as a functional unit which can be clearly separated from the national RTGS systems or, indeed, one which can be localised. Only the ECB and the NCBs, as settlement agents of the national RTGS systems, will be allowed to make use of the Interlinking procedures, for their own purposes, or on behalf of their customer banks. Therefore, they will be the only participants in the Interlinking system.

2.3 Payments to be processed

43. Most of the large-value payments in Europe are made by credit transfers, payment instruments which are easy to process automatically. Therefore, according to the minimum approach, the Interlinking will be developed in order to process credit transfers only. At a later stage, the possibility of processing debit transfers may also be considered.

44. As explained in Section 1.2.1 above, the Interlinking will be able to handle credit transfers of any amount, although it is expected that its cost structure will make the Interlinking system inappropriate for retail payments. Nevertheless, as explained in Chapter 5, an appropriately high minimum may be prescribed, for a limited period, when the system starts operating.

2.4 The flow of information[3]

2.4.1 The responsibilities of the sending NCB

45. The first instructed central bank, the sending NCB, will check the validity of the payment,[4] i.e. that it is presented according to the agreed standards, that it contains the information needed and that the amount of the payment does not exceed the balance of the account of the sending bank, or the amount of the credit lines available to it. If the payment is "invalid", it is returned to the sender or put in a queue according to the procedures which prevail for domestic payments.

46. Once the sending NCB has declared the payment "valid", the amount of the payment is immediately and irrevocably debited from the account of the sending bank. The sending NCB is then entrusted with the task of converting the payment orders into the standards which are used by the Interlinking and of sending the messages to the receiving NCB[5]. The sending NCB will also be responsible for converting into the ECU denomination any payment order denominated in a national currency which it has received for transmission to another member state.

2.4.2 Exchange of information within the Interlinking

47. Exchanges of information between the NCBs (and the ECB) will be organised according to the "multilateral correspondent banking model", by which payment messages are exchanged on a bilateral basis between the participants in the Interlinking with reciprocal accounts being debited and credited each time a payment order is transferred from one NCB (or the ECB) to another.

2.4.3 The responsibilities of the receiving NCB

48. In principle, the receiving NCB will check only that the bank of the beneficiary, i.e. the receiving bank, is a participant in the domestic RTGS. If this is the case, the receiving NCB converts the Interlinking standards into domestic standards, where appropriate, and credits the receiving bank's account. Where the receiving RTGS system operates in dual denominations, the receiving NCB will credit the account in the appropriate denomination. If the receiving bank is not a member of the RTGS system, the receiving NCB may decide either to forward the payment to the bank of the beneficiary according to other procedures (e.g. cheques), or to reject the payment and ask the sending NCB to re-credit the amount to the sending bank account. If the payment can be automatically processed, the central bank will be obliged to accept the payment.

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3 It is clear that the information flows foreseen in this report do not impinge on statistical reporting requirements which have to be made, if appropriate, at the level of the bank of the originator.

4 The sending NCB may leave this responsibility to a private operator, in accordance with the functioning rules of the domestic RTGS system.

5 The standards and the carrier will be chosen during the next stage of the implementation of the project.

2.4.4 Cash management facilities

49. According to the minimum approach, no new cash management facility will be offered to the banks which have several accounts within TARGET (because they are direct participants in several RTGS systems[6]). In particular, no real-time consolidation of accounts will be provided, no consolidation of payments to be received pending in waiting queues, and no possibility of effecting automatic transfers from one account to the other. It is expected that the banks themselves will organise their cash management, according to their needs, drawing on the information they get from each RTGS system. At a later stage, some cash management features may be added to the system if the banks express a need for them and if their costs are justified.

2.5 The legal framework

2.5.1 The definition of the rules of the system

50. The first set of rules of the TARGET system will be defined jointly by the EU central banks and the EMI within the framework of the preparatory work for Stage III; subsequent amendments to the rules will be made jointly by the EU central banks and the ECB.

2.5.2 Irrevocability

51. Payment orders received via the Interlinking will need to be considered as irrevocable payments by the receiving NCB. It is up to each NCB to make sure that there is no legal impediment to this principle. If necessary, legislative action should be taken.

2.5.3 Oversight

52. According to the Report on Interbank Netting Schemes (the Lamfalussy Report), each cross-border interbank funds transfer system needs to have a primary overseer. According to Article 14.3 of the ESCB Statute, the ECB is empowered to provide guidance and instructions to the NCBs. It will therefore be able to perform oversight duties vis-à-vis TARGET. It can be expected, however, that the ECB will delegate some of its powers to the NCBs, in accordance with Article 12.1, as far as oversight of the national RTGS is concerned.

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6 The facilities which are (or will be) offered by some domestic RTGS to their participants are not affected by this decision.

CHAPTER 3: OPERATIONAL PRACTICE IN DOMESTIC RTGS SYSTEMS

3.1 The harmonisation issue

53. The introduction of a single currency within the area of the Monetary Union will completely transform the relationships which exist between EU central banks, because central banks of the Member States which adopt the single currency will, for the first time, be offering services in the same currency (although in a transitional phase these may be in different denominations of this currency). According to the "market principle" (see Section 1.2.1 above), banks will have some discretion in the way they organise their payment flows, and hence may enter TARGET from different domestic RTGS systems. On the other hand, according to the "decentralisation principle", domestic RTGS systems will have to be allowed to retain specific features. The need to reconcile these two principles poses the problem of whether, and to what extent, terms offered to credit institutions (as ESCB customers) by domestic RTGS systems and hence by TARGET should be harmonised in Stage III.[7] Indeed, in Stage III domestic RTGS systems will be at the same time local systems and part of a unified system (TARGET) that may be expected to become, over time, as "uniform" as a domestic system.

54. The EMI considers that the harmonisation of domestic RTGS systems should not be sought as an end in itself. Rather, it should be limited to the minimum required to avoid:
    i) impediments to the efficient conduct of the single monetary policy;
    ii) distorting competition between banks.

55. The EMI has identified three areas in which the features of domestic RTGS are likely to require a certain level of harmonisation. Such areas are:
    - the provision of intraday liquidity (see Section 3.2 below);
    - operating hours (see Section 3.3 below);
    - pricing policies (see Section 3.4 below).

    Other relevant features, such as access criteria to TARGET (see Section 3.5 below) or the conditions under which queuing facilities are managed (see Section 3.6 below) may not require harmonisation.

56. Any harmonisation which is required in the three areas identified above will have to be achieved by the time TARGET starts, in Stage III, not before. To this end, a number of requirements have to be reconciled. First, the diverse features of domestic RTGS which are not inconsistent with Stage II should not be prematurely suppressed. Such diversity will permit, inter alia, further examination of the advantages and disadvantages of the different solutions among which the "best" solutions for TARGET will be chosen. Secondly, account must be taken of the lead time needed by central banks

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7 In addition, they may also create problems for the definition of the dimensions of the Interlinking system.

and commercial banks to put in place the technical infrastructure required by TARGET and the need to avoid excessive costs of conversion. Thirdly, consistency between payment arrangements and monetary policy operations, particularly in the field of liquidity provision, will have to be ensured. Lastly, it needs to be recognised that decisions in some national RTGS systems may limit the availability of some options at the start of Stage III, and perhaps for some time thereafter.

3.2 The provision of intraday liquidity

3.2.1 Liquidity needs

57. Banks' liquidity needs arise from their payment system activities. If, over a given period of time, they send payment orders whose value exceeds the value of the payment orders they receive, they incur a liquidity shortfall which can be met either out of their pre-constituted holdings at the settlement agent, or by obtaining credit from the settlement agent or from other participants in the payment system.

58. For a given flow of payments, the amount of central bank money needed differs depending on whether payments are processed through net settlement systems or through real-time gross settlement systems. The former relies on intra-day provision of liquidity by the other participants, while the latter needs explicit intraday liquidity provided by the settlement agent (i.e. the ESCB in the case of TARGET). It is clear that, with RTGS systems, adequate provision of central bank money is necessary, not only at the end of the day but also during the day.

59. An RTGS system may function, in principle, without any required reserves or any overdraft facility but most central banks are reluctant to introduce a system on such lines. While it would give banks a very strong incentive to schedule their payment flows in a way which allows for a more efficient use of their resources in central bank money, it might give rise to a risk of gridlock, and also would increase excessively the cost to the banking communities of the move to RTGS systems.

60. The ESCB may itself schedule its own payments (customer payments, rollover of maturing overnight (or longer) liquidity support) during the day, so that it minimises the liquidity needs for the banks. If central banks' payments are organised efficiently throughout the day the need for the ESCB to provide extra liquidity could be reduced.

61. The rest of this section focuses on the provision of intraday liquidity, in the form of central bank money. Such provision will be a crucial feature for the system since inadequate liquidity mechanisms may lead to "gridlock" which: i) may have systemic implications; and ii) would discourage EU banks from processing payments through TARGET. The need for a harmonised policy with regard to the provision of intra-day liquidity will also be discussed.

3.2.2 Instruments to provide intraday liquidity

62. Reserve requirements The Treaty on European Union leaves open to the ESCB the choice of whether to use or not to use reserve requirements. Required reserves are primarily a monetary policy instrument which cannot be imposed for purely payment system reasons. However, if, for monetary policy reasons, the ECB decides that required reserves should be imposed on banks' accounts, it would be useful, from a payment system point of view, that they could be used to provide intraday liquidity to the TARGET participants instead of being blocked as term deposits.

63. A market for intraday liquidity Whenever intraday liquidity is scarce and provided at a cost, there is an incentive for banks to economise on it. This will produce an increase in the velocity of circulation of central bank money, thereby increasing the cost in its various forms (intraday interest charges, collateral, etc.). This is likely to stimulate, at some stage, the emergence of a market for intraday funds.

64. Overdrafts at the central bank A more common way to increase the possibilities for the banks to get intraday liquidity is to allow them to overdraw their accounts at the central bank. Since unsecured overdrafts entail credit risks for central banks, they need to be fully collateralised, even during the day. This principle will apply for TARGET according to the statute of the ESCB[8] [9].

65. In order to provide equal access to central bank credit throughout the EMU area, it will be necessary to harmonise the definition of assets which can be accepted by the NCBs as collateral,[10] and the conditions under which their value will be taken into account. Such a study will be conducted by the EMI as an element of the preparatory work for Stage III.

66. The EMI and EU central banks will also examine whether securities settlements systems which currently exist in EU countries will be able to support payment systems and monetary policy needs.

3.2.3 The need for a harmonised policy

67. Each of the ways in which credit institutions get the intraday liquidity they need entails specific costs (or opportunity costs) for the banks, ranging from zero, when unlimited uncollateralised overdrafts are

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8 Article 18 states that "the ECB and the national central banks may conduct credit operations with credit institutions and other market participants, with lending being based on adequate collateral".

9 Some central banks prefer to use repurchase agreements instead of pledges of collateral to provide intraday liquidity to their banking sector, mainly because they are better protected in their country in case of default by the borrower.

10 For example, some central banks only accept public sector securities as collateral, while other central banks accept private claims.

granted, to high costs, when a high level of non-remunerated reserves is needed. The overall liquidity costs are determined by the actual mix of ways to provide liquidity in a specific country. In the context of Stage III, it is difficult to envisage a situation in which these costs would vary considerably from one country to another.

3.2.4 The distribution of liquidity within the system

68. At any moment a participant in the system may experience liquidity constraints at one NCB while it has liquidity available at another. At least initially, EU central banks do not intend to propose to the TARGET participants the possibility of consolidating their accounts (see Section 2.4.4 above) at the various central banks during the day because such a service would complicate the design of the Interlinking system and would be in conflict with the very tight time constraints under which they have to implement the TARGET system.

69. For the same reason, EU central banks do not intend to provide the possibility of transferring collateral from one country to another during the day. This would not only entail technical problems, but also involve legal issues which would be complex to solve. Instead, participants in the system will have the possibility of obtaining liquidity against collateral in any NCBs, provided that they have pledged collateral with it. However, they will not have to pledge collateral with all NCBs with which they have an account since they will be allowed to make payments between their accounts within the TARGET system in order to allocate liquidity wherever they need it.

3.3 Operating hours

70. Whenever central banks stop processing payments on behalf of their customer banks, liquidity which remains on the banks' accounts can no longer be used. In practice, therefore, the daily closing time for RTGS systems is also the last time when loans can be contracted on the local money market for same-day value.

71. The smooth functioning of the money market in Stage III will require that the Interlinking and all the RTGS systems which are part of TARGET are open during a large part of the day. As a result, some early closing RTGS systems may have to extend their opening hours in Stage III. However, it is not yet certain that all RTGS systems need to close when the Interlinking closes. Further analysis will be undertaken on this issue before a definitive conclusion is reached.

3.4 Pricing policies

72. In Stage III, the ESCB's pricing policy should satisfy three requirements, namely of avoiding:

a) any unfair competition with the private sector (according to the "market principle");
b) the subsidising of payments or certain kinds of payments (in order to achieve economic efficiency);
c) undue competition within TARGET.

73. At the moment, the costs of central banks' payment services are not comparable from one country to another. Further work will be undertaken, within the framework of preparatory work in view of Stage III on a common methodology for cost calculation which enables due account to be taken of the structural differences between NCBs, including such factors as the size of their branch network. At a later stage, the need for harmonisation of pricing policies will be considered.

3.5 Access conditions

74. The issue of access conditions in TARGET can be divided into two aspects: access to the Interlinking and access to the RTGS systems.

3.5.1 Access to the RTGS systems

75. Under the minimum approach, the EMI feels that there is no need to define common access criteria to the RTGS systems which will be connected to TARGET. Access criteria could continue to rely on national approaches, provided that they comply with the general framework adopted by EU central banks in the report on "Minimum Common Features for Domestic Payment Systems".

3.5.2 Use of the Interlinking

76. Under the minimum approach, it is proposed that all participants in an RTGS system which is connected to TARGET should be allowed to send (and receive) payments through the Interlinking system. Such a solution would avoid the need for a complex mechanism for each system to be able to recognise whether the bank of the beneficiary is a participant in the receiving RTGS or not.

77. As a result, i) a participant in any RTGS system connected to TARGET will be entitled to send payments via TARGET, and ii) any participant in any RTGS system will be obliged to accept any payment for its benefit or for the benefit of its customers which is processed through TARGET (see also Section 2.4.3 above). The terms and conditions of most RTGS systems may have to be modified accordingly before TARGET starts operating.

3.6 Queuing facilities

78. As explained in Section 3.2.2, it is very likely that most, if not all, RTGS systems within TARGET will provide for some form of access to central bank liquidity during the day. However, because the

provision of intraday liquidity will be limited, at least by collateral requirements, payments which exceed the available liquidity, granted by the central bank to a given participant need to be rejected or put in a waiting queue. The second solution offers more flexibility to the banks in general and therefore reduces the need for intraday liquidity. Furthermore, the way in which queues are managed also results in a greater or lesser need for central bank money. For example, waiting queues which function under a simple "first in, first out" principle require banks to hold more liquidity than queues which provide for some form of simultaneous settlement of some queued items. As a result, these mechanisms create for RTGS systems participants liquidity needs, and therefore costs, which can differ from one country to another. However, it can be expected that RTGS systems which offer costly mechanisms to control and manage flows of payments will be induced to voluntarily modify their functioning rules, so that the impact of these differences on competition will be very limited. Therefore, also in accordance with the minimum approach principle, no harmonisation will be sought in this field in the implementation phase of the TARGET system.

CHAPTER 4: RELATIONS WITH OTHER TRANSFER SYSTEMS

4.1. Net settlement systems

4.1.1 General principles

79. As explained in Section 1.2.1 above, net settlement systems may continue to operate in Stage III in parallel with TARGET. According to Principle 5 of the report on "Minimum Common Features for Domestic Payments Systems", all large-value net settlement systems will settle at the ESCB. Of course, net settlement systems which continue to remain "domestic", i.e. clearing local payments mainly with domestic banks, would continue to settle at their local NCB.[11] Technically, the move to Stage III will not require any modification of the settlement arrangements of these systems. However, there might also exist systems with a strong cross-border base. This section envisages only the case of such net settlement systems.

80. The settlement of netting systems always involves a certain degree of centralisation. Typically, at the end of the day (or, possibly, several times a day), the settlement agent receives from the clearing house (or, in some cases, directly from the participants) the list of the balances stemming from the netting operations. Participants in the clearing which have a debit position need to send a payment order to the settlement agent to cover their positions; the settlement agent debits the accounts of the originators of these payments and credits a special central account held in the name of the clearing house, or in the name of all the participants in the clearing. Such an account is usually used only for clearing operations. When the settlement agent has made sure that all participants with a debit position have settled, it debits the clearing account and credits the accounts of the participants in the net-settlement system which have a credit position.[12] In this way, the net positions at the end of the clearing phase are subtracted or added to the accounts held with the settlement agent. Two possible models can be proposed in order to facilitate the settlement of net systems in Stage III: settlement at one NCB and settlement through the Interlinking.

81. Settlement at one NCB would require that all participants in the clearing hold an account with that NCB. The settlement operations would not involve the Interlinking. An example of such a solution is the German EAF system which settles in the Land Central Bank in Hessen and makes no use of the German RTGS EIL-ZV which links all Land Central Banks together. Such a settlement method would not entail any modification of the settlement procedures, except that if participants from several countries were involved, those which do not have a local branch may have to open a settlement account with the NCB involved, on a remote basis.

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11 Some NCBs may continue to run such systems.

12 In fact, it is likely that for legal reasons, the funds are blocked in the first instance and debited only when the settlement agent is certain that all net-debtors have enough funds available for settlement to take place.

82. Settlement through the Interlinking would require that the clearing account is held at a central location, which could be either one NCB or the ECB.[13] Net debtors would send payment orders to their local NCB through the local RTGS system, which would debit their account; the Interlinking network would be used to channel the corresponding amount to the institution which holds the central clearing account. In a second phase, the institution in charge of managing the central account would debit that account and send to the relevant NCBs the amounts to be credited to the accounts of the net creditors. This model is followed by the US system CHIPS whose central account is maintained at the Federal Reserve Bank of New York while settlement payments are made through the RTGS system Fedwire. In Stage III, such an arrangement would probably be better suited to systems which have a strong cross-border membership, such as, perhaps, the ECU Clearing and Settlement System.

83. In accordance with the market principle, it should be left to the owners/managers of each net settlement system to propose to the relevant authority the settlement arrangement which they feel is the most suitable for them. As a way of ensuring a smooth transition to Stage III, it is assumed that those systems which already settle in Stage II with an NCB will continue to do so at the start of Stage III.

4.1.2 The ECU Clearing and Settlement System

84. The ECU Clearing and Settlement System is a private sector system which may continue to operate in Stage III provided that its owners decide that there is a business case for it to do so. In that case, the ECU Clearing and Settlement System will have to settle through accounts held at the ESCB since, in accordance with Principle 5 of the report on "Minimum Common Features for Domestic Payment Systems", all large-value net settlement systems should have a central bank as settlement agent. Like any other private system, the ECU Clearing and Settlement System will have to comply with appropriate safety standards.

85. If the owners of the ECU Clearing decide that the system should continue to operate in Stage III, they will have to discuss settlement arrangements with the EMI and EU central banks before the start of Stage III.

4.2 ACH linkages and DVP procedures

86. The conditions under which TARGET could be used to support delivery versus payment procedures for securities settlement systems will be studied further during the coming months. Possible links with

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13 Such a solution would not be incompatible with the decentralisation principle since the ECB would not open settlement accounts for the banks.

the development of netting schemes for foreign exchange contracts, and with ACH linkages, will also be assessed.

CHAPTER 5: THE TRANSITION ISSUES

87. This chapter is devoted to an examination of the consequences of variations in the assumptions underlying the previous chapters of this report.

5.1 TARGET is not ready when Stage III starts

88. Section 1.1 of this report explained why new payment arrangements are necessary to facilitate the implementation of the single monetary policy in Stage III. According to the Treaty on European Union, Stage III can start as early as 1st January 1997. It is therefore prudent to consider the eventuality of the TARGET system not being ready to operate as described in the four first chapters of this report, either because the Interlinking will not be ready or because some national RTGS systems will not yet be fully operational. In this context, a contingency plan should be implemented by all parties concerned, so that the core function of the system (the settlement of monetary policy operations and probably, more generally, money market operations), can be put in place as soon as 1st January 1997, if needed.

5.1.1 The Interlinking is not ready

89. For efficiency reasons, the preparation of a specific contingency plan for the Interlinking is to be avoided. Instead, the Interlinking will be implemented in several phases, the first being the contingency plan (referred to in the previous paragraph) which should be ready for implementation, if needed, on 1st January 1997. At that time, the performance features of the system will be lower than in the fully-fledged TARGET; for example, an appropriately high minimum amount could be set so as to reduce the number of payments to be processed.

5.1.2 The RTGS systems are not ready

90. In principle, payments sent or received through TARGET use the domestic RTGS procedures. Nevertheless, it is possible that some RTGS systems will not be ready when Stage III starts. In such a case, the NCBs would have to use other procedures, which may include some manual operations, in order to exchange payments through the Interlinking procedure. If needed, all central banks will have to specify their own contingency plans, so that they can be ready to operate RTGS procedures on 1st January 1997. Of course, some of the advantages of real-time processing would be lost; however, the fundamental principles of irrevocable settlement, on a gross basis, throughout the day, would be kept.

5.2 Not all EU countries adopt the single currency at the start of Stage III

91. Because one of the main objectives of TARGET is to facilitate the implementation of the single monetary policy, it might be decided that only RTGS systems of countries which adopt the single currency will be part of it. However, such a solution would raise technical problems because the names of these countries will probably be known only at a very late stage, and probably later than the date when NCBs should start implementing the TARGET system. Within this context some NCBs may have to prepare themselves for a single currency unnecessarily.

92. Another solution would be to prepare TARGET so that it can handle as many currencies as will remain at the start of Stage III; in such a case, all EU countries would participate in TARGET whether or not they adopt the single currency. In a flexible exchange rate environment, this would mean that all central banks in the EU would have to hold accounts for their banks in ECUs and in all the other remaining currencies. This would imply creating a TARGET system which would be much more costly and time-consuming than the system envisaged in the rest of this report. Moreover, these additional needs may not be justified in the long run and, in any case, would not relate to the main objective of TARGET, namely the implementation of the single monetary policy.

93. In this context, a third solution has been adopted which consists of allowing those countries which do not adopt the single currency from the start of Stage III to choose to adapt their national RTGS system so that it can operate in both the relevant national currency and the ECU as a foreign currency. These systems could then link to the TARGET system in order to process ECU payments. Within this framework, the central banks in these countries may have to maintain separate settlement accounts for the two separate currencies. This solution would help EU countries to better plan their technical preparation for Stage III. However, since it would involve additional costs, it is proposed to leave each country free to choose to follow this route or not.

94. In any case, the rules concerning RTGS systems of countries which do not adopt the single currency may have to differ from those which do, because the provisions of the ESCB Statute would not apply to them.

5.3 The ECU is not introduced as the single currency at the start of Stage III

95. There are several possible scenarios currently under examination to decide how the single currency will be introduced in the economies of the participating countries. Some of them presuppose that only the ECU denomination of the single currency will be used, from the start, to conduct monetary policy operations (and perhaps also some or all other large-value payments). In such a case, TARGET could be used - although perhaps for a limited range of transactions - and it would meet its primary objective.

96. If, however, the ECU denomination is not used at all in commercial and financial transactions when Stage III starts, it could still be used as a numeraire for cross-border transactions within the EMU area. Since by definition all currencies would be locked together within the EMU area, it would be conceivable to add a money conversion mechanism to TARGET which would allow the amount of the payment to be debited in one national currency denomination and credited in another.

97. If, for some time, both the ECU and the national currency denominations were to be used for payments, the central banks of those EU member states whose national RTGS systems participate in TARGET may choose to adapt their national systems so that they are capable of processing transactions in both the ECU denomination and the relevant national currency denomination. In the later phase of EMU, these systems would only need to operate in the ECU denomination.

98. In all cases, for simplicity the Interlinking system would operate from the outset of Stage III in the ECU denomination only. This may necessitate the operation of a mechanism attached to the Interlinking system to convert national currency denominated payments, at the fixed conversion rates, to the ECU denomination, and vice versa, for as long as the national currency denominations continue to exist.

CONCLUSION

99. The creation of a system like TARGET will be indispensable for the proper functioning of the Monetary Union. The EMI and EU central banks will now deepen their analysis on the future TARGET system focusing on the three areas which follow from this report: i) the technical definition of the Interlinking (users' requirements, functional specification and detailed specification); ii) the implications of Stage III for securities settlement systems; and iii) the degree of harmonisation which will be needed.

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