EUROPEAN CENTRAL BANK

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on the

TARGET Project

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INTRODUCTION AND EXECUTIVE SUMMARY

In March 1995 the Council of the European Monetary Institute (EMI) decided to establish the TARGET[1] system. Since then, three reports have been published by the EMI, in May 1995, August 1996 and September 1997 respectively: the TARGET report, and the First and Second Progress Reports on the TARGET Project. All the EMI Council decisions referred to in these reports were adopted by the Governing Council of the European Central Bank (ECB) in June 1998.

This report, the “Third Progress Report on the TARGET Project”, provides further information concerning the progress made on the TARGET project since September 1997. In particular it covers the following issues: (1) access to euro RTGS systems linked to TARGET; (2) operating time; (3) provision of intraday credit; (4) pricing policies; (5) bank to bank charges for customer payments; (6) intraday liquidity management in euro; (7) transparency during the changeover period; (8) return payments; (9) central bank correspondent banking relations; (10) progress made in the technical implementation of TARGET; and (11) the legal framework for TARGET.

Access criteria. Only supervised credit institutions established in the European Economic Area (EEA) can be admitted as direct participants in a national RTGS system. As an exception, the following entities may also be admitted as participants in a national RTGS system upon approval by the relevant national central bank (NCB): (1) *treasury departments of central or regional governments* active in the money markets; (2) *public sector* bodies authorised to hold accounts for customers; (3) *investment firms*; and (4) *organisations providing clearing or settlement services* subject to oversight by a competent authority.

Operating time. In 1999, TARGET will, in addition to Saturdays and Sundays, only be closed on the two public holidays that are common to all EU countries: Christmas Day and New Year’s Day. On all the other days, TARGET will be open in all countries of the European Union.

Provision of intraday credit. Unlimited (but fully collateralised) intraday credit will be provided to RTGS participants fulfilling the general counterparty eligibility criteria of the ESCB. Provided that it is a clear condition that intraday credit shall remain limited to the day in question and that no extension to overnight credit shall be possible, unlimited intraday credit may also be granted to treasury departments of central or regional governments active in the money markets and to public sector bodies authorised to hold accounts for customers. At their own discretion, NCBs may decide to grant intraday credit to investment firms, on condition that such investment firms are subject to a formal spillover prevention arrangement. Any arrangement in which, in specific circumstances, the

[1] Trans-European Automated Real-time Gross settlement Express Transfer.

NCB would grant intraday credit to organisations providing clearing or settlement services will need to be approved in advance by the Governing Council of the ECB.

In July 1998 the ECB decided to grant access to TARGET to NCBs and participants in RTGS systems operating in euro but located in non-euro area countries of the EU. Regarding the availability of intraday liquidity to non-euro area NCBs and their RTGS participants, the ECB decided that non-euro area NCBs have to ensure, at any time, an overall credit position vis-à-vis the other NCBs participating in or connected to TARGET taken together. In order to ensure the availability of intraday liquidity in their euro RTGS system, non-euro area NCBs have to make an intraday deposit with the ESCB.

The non-euro area NCBs may provide collateralised intraday credit in euro to participants in their national euro RTGS system subject to the following conditions: (1) the maximum amount of credit per participant is €1 billion; (2) after the liquidity deadline, set at 5 p.m. ECB time, non-euro area participants are allowed to make outgoing payments on a credit basis only; participants facing a debit position at the liquidity deadline have to square their positions so that they do not incur an overnight overdraft in euro; (3) should a participant, for any reason, be unable to square its position by the closing of TARGET, it will be subject to penalties; (4) the rate at which non-euro area NCBs may remunerate the end-of-day euro balances held by participants with them will be the rate of the ESCB's deposit facility; and (5) the assets that can be used by non-euro area credit institutions to collateralise intraday credit shall meet the same quality standards and be subject to the same valuation and risk control rules as prescribed for eligible collateral for ESCB credit operations in the "General documentation on ESCB monetary policy instruments and procedures".

Pricing policies. In June 1998 the ECB decided on the price structure for cross-border TARGET payments. The fee to be charged for cross-border payments through TARGET between direct participants will be based on the number of transactions, according to the following degressive scale: € 1.75 for each of the first 100 transactions per month; € 1.00 for each of the next 900 transactions per month; and € 0.80 for each subsequent transaction in excess of 1,000 per month. The fee will be charged by the sending NCB only and will be identical, irrespective of the destination or size of the payment. It will cover all the handling and processing costs of the transaction, with the exception of the communication cost between the ordering participant and the sending NCB. NCBs may also charge extra for payment orders which are not transmitted in electronic form. No additional entry or periodic fees will be applied to users of the cross-border TARGET service.

Bank to bank charges for customer payments. The way in which banks' customers are charged for TARGET payments will be left to competition between commercial banks. Nevertheless, to avoid confusion about the original amount paid through TARGET and to enhance transparency, it is recommended that TARGET participants credit the full value of customer payments to the account of the recipient: any charges to the receiving customer should be debited separately.

Intraday liquidity management in euro. The opportunity cost of having intraday liquidity available in TARGET is likely to be very low. It is therefore expected that credit institutions will benefit from the flexibility offered by TARGET in terms of intraday liquidity management. TARGET will provide the efficient payment infrastructure necessary for supporting the arbitrage activity of participants from different countries. Being an RTGS system, it is the only payment system in euro in which liquidity is available for the whole day, thus allowing large quantities of liquidity to be shifted from one institution to another for immediate re-use.

Transparency during the changeover period. In accordance with the principle of “no compulsion, no prohibition”, banks’ customers will, during the changeover period, have the possibility to decide either to continue to hold their accounts in the national denomination of the euro or to switch to euro. As senders and/or beneficiaries of payments, they may wish to keep track of the original denomination and amount of a payment instruction. If the sending bank, for information purposes, includes the original amount and currency denomination in the payment message, then TARGET will transmit this information to the beneficiary bank in accordance with the ERI (Euro-Related Information) mechanism developed by S.W.I.F.T.

Return payments. Payment instructions, if provided in accordance with the standards, will always be forwarded in their entirety to the beneficiary participant. Due to this full end-to-end transmission of information in TARGET, the receiving participant will obtain all the information necessary for returning to the ordering institution those funds which, for any reason, it cannot apply. This means that return payments are handled within the system.

Central bank correspondent banking relations. Euro area NCBs will process their payments through TARGET. As a result, they will not generally keep *nostro accounts* denominated in euro with credit institutions. However, euro area NCBs can still, for an interim period – especially for the processing of some retail payments – keep nostro accounts denominated in the national denominations of the euro with credit institutions located in other euro area countries. Euro area NCBs will still have the possibility of maintaining *loro accounts* for credit institutions of other countries in their books: these accounts could be denominated in euro or in their national denomination. Loro accounts denominated in the national denomination will not be used for payments related to monetary policy operations.

Progress made in the technical implementation of TARGET. All NCBs and the ECB have participated successfully in TARGET simulation testing since the start of July 1998. The aim of the simulation phase is to move operations to an environment which is as close as possible to the production environment. On specified dates, credit institutions have been participating in end-to-end simulation testing. Initial feedback has been positive.

Legal framework for TARGET. The legal framework for TARGET will be based on: (i) a Guideline of the European Central Bank on TARGET, which will apply to euro area NCBs and the ECB; and (ii) an Agreement on TARGET, to be entered into by the ECB and the NCBs, which will govern relations between euro area NCBs and the ECB on the one hand and non-euro area NCBs on the other, as well as relations between non-euro area NCBs.

1. POLICY ASPECTS OF TARGET

1.1 Access to euro RTGS systems linked to TARGET

1.1.1 Access criteria

The access criteria currently applied for direct access to EU interbank funds transfer systems have been set out in Principle 1 of the report on “Minimum Common Features for Domestic Payment Systems”, adopted by the Committee of Governors in September 1993. In establishing a legal framework for TARGET, consideration has been given, as part of the TARGET Guideline (see Chapter 4), to specifying in greater detail the access criteria to RTGS systems linked to TARGET, as follows.

Only supervised credit institutions as defined in the first indent of Article 1 of the First Banking Co-ordination Directive (77/780/EEC), and established in the European Economic Area (EEA) can be admitted as direct participants in a national RTGS system. Furthermore, as an exception, the following entities may also be admitted as participants in a national RTGS system upon approval by the relevant national central bank (NCB):

- *treasury departments of central or regional governments* of Member States active in the money markets;
- *public sector bodies* of Member States authorised to hold accounts for customers; for this purpose, “public sector” shall have the meaning of Article 3 of Council Regulation 3603/93 of 13 December 1993;
- *investment firms* as defined in Article 1.2 of Council Directive 93/22/EEC of 10 May 1993, established in the EEA and authorised and supervised by a recognised competent authority designated as such under the terms of the said Council Directive (with the exclusion of the institutions defined under Article 2.2 of the said Directive), provided the institution in question is entitled to carry out the activities referred to under items 1(b), 2 or 4 of Section A of the Annex to Council Directive 93/22/EEC;
- *organisations providing clearing or settlement services* subject to oversight by a competent authority.

The criteria for access to a national RTGS system shall be set out in the RTGS rules concerned and be made available to interested parties. In addition to those criteria mentioned in the second paragraph above, these national criteria may include inter alia:

- adequate financial strength;
- the expected minimum number of transactions;
- the payment of an entry fee;
- legal, technical and operational aspects.

A participant having access to a national RTGS system shall also have access to the cross-border payment facilities of TARGET, provided it has a BIC.[2]

1.1.2 Remote access

Remote access to settlement account facilities in TARGET can be defined as the possibility for an institution established in a country ("home country") in the EEA to become a direct participant in an RTGS system, participating in or connected to TARGET, of a(nother) country within the EU ("host country") and, for that purpose, to have a settlement account in euro in its own name with the central bank of the host country, without necessarily having established a branch or subsidiary in the host country.

Remote access to settlement account facilities in TARGET will be permitted in Stage Three. This decision is based on the principle of Single Market legislation and no distinction will therefore be made between euro and non-euro area EEA participants. It is clear, however, that no institution has an "automatic" right to remote access. The applicants must comply with the relevant legal provisions and the necessary technical requirements of the system; these requirements will not be discriminatory (the issues relating to remote access to intraday liquidity in TARGET are covered in Section 1.3.3 below).

The Interlinking specifications have been designed so as to support remote access. The message formats (for both interbank and customer payments) allow for a payment in favour of a credit institution with a BIC in country A (home country) to be routed to the RTGS system of country B (host country).

It is not expected, however, that extensive use of remote access will be made at the start of Stage Three, as the conditions prevailing in the individual RTGS systems linked to TARGET do not differ significantly, and because remote participants will not have access to intraday (see Section 1.3.3) or overnight credit from the host central bank.

1.2 Operating time

1.2.1 Calendar of TARGET operating days

In September 1998 the ECB published the final calendar of TARGET operating days for 1999. In addition to Saturdays and Sundays, TARGET will only close on the two public holidays that are common to all EU countries: Christmas Day and New Year's Day. Although the question of the introduction of additional closing days for domestic RTGS systems was left open (e.g. in those cases where the banking sector had clearly indicated that it would not like to participate in any settlement

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[2] Bank Identifier Codes are a universal method of identifying financial institutions in order to facilitate automated processing of telecommunication messages in banking and related financial environments. S.W.I.F.T. acts as a registration authority for the ISO-9362 Bank Identifier Codes.

activity during a specific national holiday), no national RTGS system will make use of this possibility in 1999.

The ECB will inform the financial community should any changes be made to the calendar of TARGET operating days after 1999.

1.2.2 TARGET opening times

TARGET will have long operating hours, implying that for interbank payments both domestic and cross-border settlement services will be available each operating day from 7 a.m. until 6 p.m. ECB time (that is the time at the seat of the ECB). For customer payments the cut-off time is 5 p.m. ECB time.

Having analysed the need for opening the whole TARGET system earlier (e.g. to pursue a further reduction of the cross-currency settlement risk, in particular when processing cross-border payments sent to or received from Asia), it was concluded that, for the moment, there is no need to open the TARGET system before 7 a.m. ECB time.

1.3 Provision of intraday credit

1.3.1 Access to intraday credit by ESCB monetary policy counterparties

For countries adopting the euro from the start of Stage Three, most RTGS participants currently eligible as monetary policy counterparties will also be eligible as counterparties for the ESCB. These institutions will have access to the ESCB overnight credit facility: the amount of the overnight credit will be limited only by the amount of eligible collateral provided and the credit will be provided at a pre-specified interest rate. These RTGS participants will also be granted unlimited access to intraday liquidity (based on eligible collateral) in TARGET.

1.3.2 Access to intraday credit by entities which are not ESCB monetary policy counterparties

Credit institutions participating in euro RTGS systems in EU countries outside the euro area. The Governing Council of the ECB decided in July 1998 to grant access to TARGET to NCBs and participants in RTGS systems operating in euro, but located in non-euro area countries of the EU. This is an innovation since no central bank has so far granted access to its settlement facilities to a payment system located outside its currency area.

For the processing of payments in euro, the minimum common features of national RTGS systems which have been approved by the Governing Council of the ECB and imposed on the participating NCBs have also to be met by the RTGS systems of the non-participating countries connected to TARGET. These minimum common features include, inter alia, provisions relating to the access criteria for national RTGS systems, pricing policies and operating times. In addition, the provisions relating to the Interlinking system and the security requirements for TARGET also apply to euro RTGS systems of non-euro area EU countries.

For the decision on the availability of intraday liquidity to non-euro area NCBs and their RTGS participants, both payment systems and monetary policy concerns were addressed.

From a payment systems perspective, central bank liquidity has to be provided to the extent necessary to avoid delays in the execution of payment orders. In order to allow the ESCB to cover the risks involved in extending credit, access to intraday liquidity is subject to full collateralisation. In order to preserve the integrity of the ESCB monetary policy, it has to be ensured that all the decisions affecting the monetary conditions in the euro area are made exclusively by the ESCB. Therefore, it is important that intraday credit granted to TARGET participants outside the euro area is managed so that it does not spill over into overnight credit.

On the basis of these considerations, the Governing Council of the ECB decided that non-euro area NCBs have to ensure, at any time, an overall credit position (i.e. a net claim) vis-à-vis the other NCBs participating in or connected to TARGET taken together. To ensure the availability of intraday liquidity in their euro RTGS system – so as to avoid extensive queuing – non-euro area NCBs have to make arrangements ensuring that under normal circumstances before 8 a.m. ECB time each day they have a deposit with the ESCB. This deposit will be of an amount of €3 billion for the Bank of England and €1 billion each for the Bank of Greece, Danmarks Nationalbank and Sveriges Riksbank. Overnight deposits held by the non-euro area NCBs with the ESCB will be remunerated at the ESCB's deposit facility rate.

The non-euro area NCBs may provide collateralised intraday credit in euro to the participants in their national euro RTGS system subject to the following conditions:

(1) the maximum amount of credit per participant is €1 billion;

(2) after the liquidity deadline, set at 5 p.m. ECB time, non-euro area participants are allowed to make outgoing payments on a credit basis only. Participants facing a debit position at the liquidity deadline have to square their positions so that they never incur an overnight overdraft in euro;

(3) should a participant, for any reason, be unable to square its position by the closing of TARGET, it will be subject to penalties. The first time within a period of twelve months that a spillover occurs, the penalty rate applied will be set at a rate of 5% above the marginal lending rate of the ESCB; the penalty interest rate will be increased by an additional 2.5% each further time a spillover occurs within a twelve-month period. Where a participant incurs a spillover four times within the past twelve months, its access to intraday credit shall be suspended for one week.

Ultimately, the participant may be excluded from access to intraday credit and/or participation in the national RTGS system concerned if spillovers occur repeatedly;

(4) the rate at which non-euro area NCBs may remunerate the end-of-day euro balances held by participants with them will be the rate of the ESCB's deposit facility;

(5) the assets that can be used by non-euro area credit institutions to collateralise intraday credit shall meet the same quality standards and be subject to the same valuation and risk control rules as prescribed for eligible collateral for ESCB credit operations in the "General documentation on ESCB monetary policy instruments and procedures".[3]

RTGS participants which are not credit institutions. In some EU countries, there exists a small number of RTGS participants which are not credit institutions (i.e. public sector entities,[4] investment firms and clearing organisations) and which are not eligible for access to the ESCB overnight credit facility. These participants can be classified in different categories according to the kind of activity they perform.

The ECB Governing Council has decided that, provided that it is a clear condition that intraday credit shall remain limited to the day in question and that no extension to overnight credit shall be possible, intraday credit may also be granted to:

(1) treasury departments of central or regional governments of Member States active in the money markets;

(2) public sector bodies (in the meaning of Article 3 of Council Regulation 3603/93 of 13 December 1993) of Member States authorised to hold accounts for customers;

(3) investment firms referred to in Section 1.1.1 above, on condition that such investment firms submit satisfactory written evidence of having concluded a formal agreement with an ESCB monetary policy counterparty to cover any residual debt position at the end of the day in question. Alternatively, NCBs may, for an interim period, accept a spillover prevention arrangement according to which access to intraday credit is limited to investment firms which hold an account with a central securities depository, and the investment firm is subject to a liquidity deadline or the amount of intraday credit is subject to a ceiling. Should an investment firm for any reason be

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3 Collateral defined by non-euro area NCBs may be used in the euro area for payment systems purposes in countries where, subject to the approval of the Governing Council of the ECB, the local euro area NCB agrees to accept these assets. However, cross-border use within the euro area of such collateral is excluded.

4 In Article 104 (1) of the Treaty it is stated that: "Overdraft facilities or any other type of credit facility with the ECB or with the central banks of the Member States (hereinafter referred to as 'national central banks') in favour of Community institutions or bodies, central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of Member States shall be prohibited, as shall the purchase directly from them by the ECB or national central banks of debt instruments." However, according to Article 4 of Council Regulation (EC) No. 3603/93 of 13 December 1993 specifying definitions for the application of the prohibitions referred to in Articles 104 and 104b (1) of the Treaty, "intraday credits by the European Central Bank or the national central banks to the public sector shall not be considered as a credit facility within the meaning of Article 104 of the Treaty, provided that they remain limited to the day and that no extension is possible".

unable to reimburse the intraday credit on time, it will be subject to penalties along the lines of those which apply to participants in the euro RTGS systems of non-euro area NCBs (see above in this section);

(4) organisations providing clearing or settlement services subject to oversight by a competent authority on condition that the arrangements for granting intraday credit to such organisations are submitted in advance to the Governing Council of the ECB for approval.

1.3.3 Remote access to intraday credit in TARGET

In line with the decision taken by the EMI Council not to prepare for remote access to monetary policy operations, including overnight credit, no preparatory work has been undertaken to enable remote access to intraday credit. The ECB Governing Council may reconsider this issue in the future.

In the absence of remote access to intraday credit, intraday liquidity can be obtained from the home NCB and can then be transferred via TARGET to the RTGS system in which the credit institution participates on a remote basis.

Note: if a credit institution has a branch (or subsidiary) which participates in a euro RTGS system in another EU country, the branch (or subsidiary), as domestic credit institution, will have access to intraday and overnight credit from that NCB.

1.3.4 Limiting the amount of intraday credit

In Stage Two several NCBs apply limits to the amount of intraday liquidity they provide to their RTGS participants; there are also some differences in how the decision-making process related to the establishment of limits is organised.

In the "First Progress Report on the TARGET Project", approved by the EMI Council in 1996, it was stated (in Section 2.1.2) that: "In most countries, intraday credit provided by central banks will only be limited by the amount of appropriate collateral which credit institutions provide in order to fully collateralise that credit. However, NCBs wishing to limit the amount of intraday liquidity may do so, subject to ESCB guidance on this matter."

No limits will be applied to the amount of intraday liquidity to be provided to RTGS participants which have access to ESCB monetary policy operations. However, if an NCB had sufficient reason to impose limits on certain RTGS participants, it could do so with the agreement of the Governing Council.

1.4 Pricing policies

1.4.1 Pricing in national RTGS systems

The price for domestic RTGS transfers in euro will continue to be determined at the national level, taking into account that the price for domestic and cross-border transfers in euro should be broadly in the same range so as not to affect the singleness of the money market. The national central banks have established (or will establish) the fees for their euro RTGS systems on the basis of their own cost methodology (subject to some general principles agreed for the ESCB), which has to ensure respect for the full cost recovery principle on the basis of reasonable assumptions (e.g. volumes, number of participants, amortisation periods). The transaction fee for domestic RTGS transactions in those countries which have already made a decision on their domestic fee structure will be on average € 0.47.

1.4.2 Cost methodology for cross-border TARGET payments

In the "Second Progress Report on the TARGET Project", which was published in September 1997, the following items were defined as the building blocks for the determination of the price for cross-border TARGET transfers: (1) the investment and running costs for the Interlinking system; (2) the average costs of processing a domestic RTGS payment; and (3) the expected number of cross-border payments. For the calculation of the average costs of processing a domestic RTGS payment, a standard service has been defined in order to enhance the comparability between the different RTGS systems.

New information has shown that, owing to increased volumes and streamlined systems, the average domestic transaction costs are lower than those which were taken into account when a fee range of € 1.50 to 3.00 for cross-border payments in TARGET was envisaged in September 1997. In addition, recent estimates of the total cross-border payments traffic in Stage Three are somewhat higher than one year ago. The reasons are that it is now clear that eleven countries will participate in Stage Three from the beginning and that correspondent banking is likely to contract after the start of Stage Three. Accordingly, the transaction fee for cross-border transfers through TARGET has been reconsidered.

1.4.3 Fees for cross-border TARGET payments

In June 1998 the ECB Governing Council decided on the price structure for cross-border TARGET payments. The fee (excluding VAT where applicable) to be charged for cross-border payments through TARGET between direct participants will be based on the number of transactions, according to the following degressive scale:

€ 1.75 for each of the first 100 transactions per month;

€ 1.00 for each of the next 900 transactions per month;

€ 0.80 for each subsequent transaction in excess of 1,000 per month.

For the purpose of the application of the degressive tariff, the payment volume to be considered is the volume of transactions entered by the same legal entity within a single RTGS system or the volume of transactions entered by different entities for execution through the same settlement account.

The fee will be charged by the sending NCB only and will be identical, irrespective of the destination or size of the payment. It will cover all the handling and processing costs of the transaction (including the sending RTGS system, the Interlinking system and the receiving RTGS system), with the exception of the communication cost between the ordering participant and the sending NCB.

No additional entry or periodic fees will be applied to users of the cross-border TARGET service. However, the possibility exists for RTGS systems to charge extra fees for additional services they may provide (e.g. the entering of paper-based payment instructions). The application of the above tariff scheme will be reviewed from time to time.

The assessment of different fee differentiation models has led to the conclusion that the implementation of a degressive tariff would offer the best chances of achieving both the risk reduction and cost recovery objectives. The tariff may help to attract the large-value payments of the major money market players and thus to reduce risk. In a dynamic view, also small participants will benefit, since an increase in the overall traffic in TARGET will lead to a decrease in the average cost per item.

The possibility of implementing intraday price variations according to the time of execution of a cross-border TARGET payment will be reconsidered after the start of Stage Three on the basis of the experience gained once the system is operating.

1.4.4 Bank to bank charges for customer payments in TARGET

When processing cross-border customer payments through TARGET, not only central banks but also credit institutions (RTGS participants) may be involved as intermediaries in the processing chain. As a result, the total price of the transfer for the final beneficiary will, in addition to the cross-border fee charged (by NCBs) in TARGET, involve fees charged by the credit institutions concerned to their customers. Both schemes for fees already used today in cross-border correspondent banking might be used: (1) the sending bank could charge for all costs and then reimburse a part to the receiving bank (i.e. the sending customer is charged for the full value of the payment plus all the processing costs) or (2) part of the fee might be charged to the receiving customer (to cover the costs of the receiving bank). The TARGET fee itself will be charged to the sending RTGS participant only. The receiving bank may either recover its costs by billing the sending bank – outside TARGET – or it would have to charge the receiving customer a fee.

At present, it is not felt necessary to reach an agreement between TARGET participants concerning the way in which banks' customers are charged for TARGET payments. Should problems of consumer protection arise, they will be discussed in due course.

Nevertheless, to avoid confusion about the original amount paid through TARGET, the participants are recommended that the full value of customer payments be credited to the account of the recipient; any charges to the receiving customer should be debited separately.

2. ORGANISATIONAL AND BUSINESS ASPECTS OF TARGET

2.1 The role of TARGET in the intraday liquidity management in euro

With the introduction of the euro the operating environment within payment systems and financial markets will change: the definition of the "domestic" money market will be modified, from a national to a euro-wide zone in which TARGET will allow payments in euro to be exchanged (and thus, liquidity be shifted) very quickly between all EU countries. As a result, the existing patterns for the flow of intraday liquidity will also change. Today, credit institutions are used to dealing in the money market with domestic counterparties but in Stage Three liquidity adjustments will take place partly on a cross-border basis. In this context, the ESCB expects that credit institutions will concentrate their core liquidity, and therefore their payments of very high value, in TARGET (in particular money market payments). This will be in the business interest of credit institutions and will meet the central banks' objectives.

2.1.1 The central banks' objectives

The singleness of the euro money market has always been seen as a requirement for the smooth implementation of the single monetary policy. For interest rates not to differ from one country to another, an efficient arbitrage needs to occur between participants from the different countries. TARGET will facilitate this arbitrage activity. Being an RTGS system, it is the only payment system in euro in which liquidity is available the whole day, thus allowing large quantities of liquidity to be shifted from one institution to another for immediate re-use. This is one reason why the ECB and the NCBs of the European Union consider that money market payments and other payments of very high value should be processed through TARGET. Another reason why central banks invite credit institutions to process their high-value payments through TARGET is linked to the very high safety standards offered by RTGS processing.

2.1.2 From the credit institutions' perspective

For payments of very high value, it is expected that credit institutions will benefit from the flexibility offered by TARGET in terms of intraday liquidity management. However, it is also recognised that the major EU credit institutions which have access to several payment systems will use alternative systems to TARGET to process payments which are neither time-critical nor of very large value, in order to benefit from the lower fees they can obtain there.

There are two reasons for credit institutions to concentrate their core liquidity management in TARGET: the amount of liquidity which may be mobilised in TARGET and the low cost of this liquidity.

For participants operating from the euro area, the amount of intraday liquidity which may be provided by the ESCB is, in principle, unlimited. In practice, however, the liquidity available will be limited by the volume of funds and collateral available. Because the range of assets eligible for collateralisation of central bank credit in euro has been defined very widely, it is expected that the banking sector will be able to obtain as much intraday liquidity as it needs. Furthermore, since funds held as reserve requirements will be available for payments during the day, the banking sector in the euro area will automatically have at its disposal a substantial amount of intraday liquidity.

The opportunity costs for having intraday liquidity available are likely to be minimal for at least three reasons: (1) fully remunerated minimum reserve holdings, held by credit institutions with their NCB for monetary policy reasons, will be available intraday for payment purposes; (2) most credit institutions will not need to acquire eligible assets just for collateralisation purposes, as they would in any case hold them for other reasons; and (3) a large part of these assets would not be traded during the day and, in addition, central banks and market participants have developed efficient procedures in order to allow easy collateral substitution and cross-border use of collateral.[5]

2.1.3 Operational aspects

From the viewpoint of the ESCB credit operations, the smooth functioning of the relationships between TARGET and Securities Settlement Systems (SSSs) is very important since NCBs need to be able, throughout the business day, to manage (control the availability of) collateral provided by credit institutions for central bank credit, both intraday and longer term. This implies that not only the opening and closing times, but also the operating days of SSSs will have to be synchronised with those of the ESCB and TARGET.

ESCB monetary policy counterparties will have the possibility, until 6 p.m. ECB time, of requesting their NCB to provide overnight credit: if the counterparty is not able to transfer the collateral to the safe custody account of the NCB at that time of the day, the collateral has to be delivered in advance. In the event of cross-border use of collateral, since the processing through the CCBM will take some time, it is recommended that RTGS participants and ESCB monetary policy counterparties avoid providing foreign collateral after 4 p.m. ECB time and that they inform the NCB concerned as early in the day as possible if they nevertheless intend to do so.

Regarding the intraday scheduling of the settlement of clearing systems (for payments, securities or derivatives), it is important that settlement participants, in co-operation with their NCB, seek to arrange the timing of settlement in such a way that there is a clear sequence with sufficient time between settlement events. To provide time to manage unexpected problems and in order that RTGS participants can adjust their liquidity after settlement, it is strongly recommended that there is a reasonable “buffer” between the time of the last settlement event and the closing time of TARGET. This is why EU large-value net settlement systems have been required by the ECB to set their cut-off

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[5] In particular, EU central banks have prepared a specific procedure for cross-border use of collateral: CCBM – correspondent central banking model; see the ECB report entitled “The Single Monetary Policy in Stage Three: General documentation on ESCB monetary policy instruments and procedures”, dated September 1998.

time (the time when they stop accepting payments for processing) at 4 p.m. ECB time as from the start of Stage Three.

2.2 Transparency in TARGET during the changeover period

2.2.1 The principle of "no compulsion, no prohibition"

From the start of Stage Three, all RTGS systems linked to TARGET and the Interlinking system will work in euro only. However, during the changeover period the banks' customers will have the possibility to decide, in accordance with the principle of "no compulsion, no prohibition", either to continue to hold their accounts in the former domestic currency or to switch to the euro. Therefore, as senders and/or beneficiaries of payments, they may wish to keep track of the original denomination and amount of a payment instruction. The objective of TARGET is to provide for transparency in this respect.

2.2.2 Transmission of euro-related information

Where the original amount of a payment order is in the local denomination of the originator (e.g. in DEM for a German originator), the bank of the originator (or the NCB) needs to be able to convert the original amount from the domestic denomination into euro and to transmit the converted payment order to its local RTGS system. If, for information purposes, the sending bank includes the original amount and currency denomination in the payment message, then TARGET will transmit this information to the beneficiary bank, according to the ERI (euro-related information) mechanism developed by S.W.I.F.T. It should be clear, however, that for RTGS settlement purposes NCBs will not use such information.

Where the original amount of a payment order is in a non-domestic denomination of the euro (e.g. in FRF for a German originator),[6] the "no compulsion, no prohibition" principle does not apply and there is no obligation for the banks (or the NCBs) to accept the payment order. However, the originating bank may do so if it is technically possible and if it wants to provide this service to its customer. Also in that case TARGET will transmit the relevant information.

Where the sending NCB receives information on the original amount and currency denomination of the payment order, it will transmit this information to the receiving NCB. On the receiving side, the NCB and the local RTGS system will be able to forward the information they receive to the beneficiary bank. The beneficiary bank will credit its customer either in euro or in the domestic denomination depending on the denomination of the customer's account. The recipient bank should, in principle, inform its customer of the original denomination and amount, if it has received the information itself.

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[6] The non-domestic denomination can be either the domestic denomination of the recipient or another denomination.

2.3 Return payments

2.3.1 No loss of information

Payment instructions, if provided in accordance with the standards, will always be forwarded in their entirety to the beneficiary participant. As a result, no payment-related information will be lost in TARGET. Due to this full end-to-end transmission of information in TARGET, the receiving participant will obtain all information necessary for returning to the ordering institution those funds which, for any reason, it cannot apply to the beneficiary. This means that return payments are handled within the system.

2.3.2 The return key

Each Interlinking payment will, in addition to the BIC of the ordering institution, include a return key, transmitted in the account number line of field 52A of the message.

The return key will comprise:

- the country code of the sending NCB;
- the BIC (11 characters, i.e. including the branch code) of the bank that has sent the payment message to the sending NCB; and
- the Transaction Reference Number (TRN) assigned to the message by the bank that has sent the message to the sending NCB.

The return key will be added to the message by the sending NCB, on the basis of the information provided by the sending credit institution. If necessary, the sending NCB will fill in the field with the BIC of the sending credit institution.

When a bank needs to return funds, it will simply have to send a new MT 202 (even if the original payment was sent as an MT 100) or its domestic equivalent.

2.4 Other issues

2.4.1 Settlement procedures related to the deposit facility

The national central banks will have the option of providing monetary policy counterparties with the possibility of using the national RTGS payment system infrastructure to submit to the NCB their requests to access the deposit facility.[7] These requests for a transfer of liquidity to the deposit accounts via the RTGS system will not be considered as payments (as the ordering party and the recipient are the same) but as internal book entries which will be permitted until 6.30 p.m. ECB time.

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[7] A need for such an instrument will only exist where deposits have to be held separately from the RTGS account.

Interbank or customer payments may not be made via this route. The purpose of this tool is to simplify and speed up the transfer of funds to the deposit accounts.

2.4.2 Information and guidelines for TARGET users

The ECB and the NCBs are preparing an information guide for credit institutions using TARGET. The aim of this document, which will be published in early December 1998, is to provide a standard set of information that NCBs can communicate to credit institutions using TARGET. Since TARGET is a decentralised system in which each RTGS system retains some of its own individual features, the document is designed to give users a better understanding of which features and business practices are common and which are specific to each country, and to assist credit institutions using TARGET to make the best use of the system.

TARGET is the first cross-border RTGS system in the world. It creates a new standard for payment systems in a unique environment. It is to be expected that it will be a catalyst in fostering industry-wide best business practices. A TARGET User Group is organised by the NCB in each of the countries concerned. These are forums for an exchange of information and views on issues regarding TARGET. The subjects in this information guide will also include answers to questions raised at these meetings.

2.4.3 TARGET and NCB correspondent banking relations

Correspondent relations with euro area institutions. Euro area NCBs will process their payments through TARGET. As a result, they will not generally keep *nostro accounts* denominated in euro with credit institutions. However, to avoid investment in conversion facilities, euro area NCBs can still, for an interim period – especially for the processing of low-value cross-border payments – keep nostro accounts denominated in the national denominations of the euro with credit institutions located in other euro area countries. Most euro payments made by euro area NCBs to credit institutions in the euro area will be processed through TARGET.

NCBs will still have the ability to maintain in their books *loro accounts* for credit institutions of other euro area countries: these accounts could be denominated in euro or in the national denomination of the NCB concerned. Loro accounts denominated in the national denomination will not be used for payments related to monetary policy operations.

Correspondent relations in foreign currencies. Since TARGET will only handle payments in euro, it will not be suitable for cross-border payments where beneficiaries have to be paid in foreign currencies (i.e. currencies other than the euro or the national expressions thereof). As a result, these payments will be handled by means of correspondent relations (in “foreign currency”) with NCBs or credit institutions outside the euro area.

3. PROGRESS IN THE TECHNICAL IMPLEMENTATION OF TARGET

3.1 National applications

In 1995 the EMI Council set three objectives for the preparatory work concerning TARGET: (i) all RTGS systems should be ready by mid-1997; (ii) at least three RTGS systems should be able to start testing with the EMI Test Centre in July 1997 and all NCBs should be able to do so before the end of 1997; and (iii) all NCBs should be able to participate in the simulation phase in July 1998.

As stated in the "Second Progress Report on the TARGET Project", which was adopted by the EMI Council in September 1997, four central banks missed the first deadline, while the second objective was met. As all NCBs and the ECB have participated in simulation testing since the start of July 1998, the third objective has now also been met (see Section 3.4 below).

3.2 ECB applications

3.2.1 Interlinking test system (ITES)

ITES is an automated "interface testing device" which allows NCBs and the ECB to test the compliance of their systems with the Interlinking Specifications. NCBs had to pass tests successfully against ITES before they were allowed to test amongst each other. ITES has been used extensively and is still being used by the NCBs for testing new functionalities or for testing error corrections. ITES is seen as a very useful tool to achieve stable interoperability among systems. ITES will be retained for all forthcoming TARGET project phases (also after the start of Stage Three). All relevant new or amended software versions have to be tested against ITES before they can be integrated for multilateral tests among TARGET/Interlinking participants and later on for live processing of data.

3.2.2 The end-of-day application (EDA)

The Interlinking Specifications assign to the ECB some end-of-day check functions which have to be processed quickly and in a secure way and therefore have to be provided in an automated manner. These functions have been used throughout the multilateral testing phase and continue to be used during simulation testing. The development of the EDA software started in May 1997 and was completed successfully in October 1997. Subsequently the EDA proved its interoperability with ITES and the NCBs/ECB.

3.2.3 The ECB Payment Mechanism (EPM)

The development of the EPM started in October 1997 and was completed and installed on the ECB's IT systems in a two-step process. As from end-May 1998 the ECB went through an intensive testing procedure with the EPM to verify the compliance of the software and the technical environment with the specific EPM requirements and the overall TARGET requirements. After successful completion of the testing phase, the EPM joined the simulation phase. During that phase the ECB, like all NCBs, has been integrated in the overall TARGET testing and has started testing the interfaces to its own customers (e.g. the EBA clearing)[8].

3.3 TARGET as a whole

The TARGET Audit Group, consisting of internal auditors from each of the NCBs and the ECB, carries out assessments of the TARGET project. The assessments which concern security, organisational control, timing and budget are presented to the ECB Governing Council.

In addition, regular TARGET risk analyses are conducted with the objectives of presenting a comparable picture of the TARGET risk situation throughout the whole system, comparing the individual security level against the defined security requirement and, where necessary, establishing plans of action. The risk analysis is a management tool for the responsible bodies at the NCBs and the ECB.

As a follow-up to the risk analyses, the NCBs and the ECB prepare regular progress reports. A third round of risk analyses, including a check that the year 2000 issue is being adequately covered, has recently been carried out as a final security check before the TARGET system goes live.

With regard to contingency planning, all components are available on primary and remote secondary sites. This ensures that TARGET is a system with very high availability.

3.4 TARGET testing

3.4.1 Organisation of the TARGET testing

Throughout its development cycle, TARGET has followed a structured project approach to reduce the complexity of potential error situations and other implementation problems. The aim is to ensure a stable production system well before the live date of TARGET.

A schedule for TARGET testing and implementation was established in 1996. According to this schedule, the systems of the NCBs and the EMI/ECB, before they are permitted to migrate (in late 1998) with their Interlinking/RTGS components towards TARGET production, have to go through three testing steps: (i) static and dynamic tests; (ii) multilateral tests; and (iii) simulation tests. Since mid-1997 testing has been a major work item for the NCBs and the ECB.

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8 The ECB will have three types of customers: international and European organisations, non-EU central banks and clearing organisations.

3.4.2 Status of the test phase

The elements of the test phases already completed are as follows.

Static and dynamic tests. All NCBs and the ECB (EPM and EDA) completed predefined test cases against ITES to ensure that technical specifications were respected.

Multilateral tests. First, groups of four NCBs/ECB formed mini-TARGET systems and performed predefined tests, including the end-of-day function with the end-of-day application of the ECB, in both normal and abnormal working conditions. When all groups had successfully completed these tasks, all NCBs and the ECB carried out joint tests as part of a single system.

These tests have spanned a period of some twelve months. All NCBs had to complete each test phase successfully before moving to the next. In parallel, all NCBs and the ECB have been testing the interface between their local banking communities and their future euro RTGS systems.

On 1 July 1998, as scheduled, all NCBs and the ECB moved to the penultimate test phase known as *simulation testing*. Whereas the previous test phases were conducted essentially in a test environment, the aim of the simulation phase is to move operations to an environment which is as close to the production environment as possible, integrating operational staff and operational infrastructures. On specified dates, credit institutions have been invited (after approval by the NCB) to participate in end-to-end simulation testing.

The final test period will comprise *migration to production tests* and will take place in November and December 1998.

3.4.3 Test results

The aim of testing is both to check that all functions work satisfactorily and to identify and correct those which do not. Therefore, work is still going on to improve the working of individual components and to increase the stability of TARGET as a whole. No major problems are outstanding.

Since 1 July 1998, between 120 and 150 credit institutions have joined TARGET simulation testing on each predefined end-to-end testing day. This has given them the opportunity to test their payment applications interfaces and procedures with TARGET and to build up experience in exchanging cross-border euro payments with their current and future counterparties. Initial feedback from this experience has been positive and more credit institutions are expected to participate in the coming months.

4. THE LEGAL FRAMEWORK FOR TARGET

The legal framework for TARGET is built on: (i) a Guideline of the European Central Bank on a Trans-European Automated Real-time Gross settlement Express Transfer system ("the TARGET Guideline" or "the Guideline"); (ii) an Agreement on a Trans-European Automated Real-time Gross settlement Express Transfer system ("the TARGET Agreement" or "the Agreement") to be entered into by the ECB and the NCBs; and (iii) each of the sets of rules and procedures for the national regulations and/or contractual provisions applying to each of the national RTGS systems which will be component parts of TARGET ("the National RTGS Rules").

4.1 The TARGET Guideline

The ECB and the NCBs have prepared the TARGET Guideline for adoption by the Governing Council of the ECB. The Guideline will be addressed to the NCBs of Member States which have adopted the single currency. The Guideline will become effective as of 1 January 1999, i.e. the starting date of Stage Three of EMU, as an internal ESCB document addressing the relationship between the ECB and all participating NCBs. Hence, the Guideline will be directly binding upon NCBs of Member States that have adopted the euro. NCBs of Member States which have not adopted the euro may connect to TARGET by entering into the TARGET Agreement, whereby such NCBs agree to adhere to the rules and procedures for TARGET referred to in the Guideline (with specifications and modifications where appropriate).

The provisions of the Guideline include: (i) a brief description of the component parts of TARGET; (ii) a number of minimum common features, with which each national RTGS system participating in or connected to TARGET shall comply, relating to the following: (a) access criteria; (b) currency unit; (c) pricing rules; (d) time of operation; (e) payment rules; and (f) intraday credit; (iii) arrangements for cross-border payments through the Interlinking system, addressing: (a) the establishment and description of the Interlinking system; (b) the opening and operation of inter-NCB accounts held at the NCBs and the ECB; (c) the obligations and liabilities of the sending NCB/ECB; (d) the obligations and liabilities of the receiving NCB/ECB; (e) the transfer of responsibility for payment orders; (f) the regime for errors; and (g) the relationship to the network service provider; (iv) security strategy and security requirements for TARGET; (v) audit rules for the audit of TARGET; and (vi) the management of TARGET.

4.2 The TARGET Agreement

The TARGET Agreement, to be entered into by all NCBs and the ECB, provides a mechanism whereby non-euro area NCBs can connect to TARGET and adhere to the rules and procedures for the system as referred to above. The basic terms of the Agreement provide for the incorporation of the provisions of the Guideline and the appropriate modifications and specifications to the rules and procedures for TARGET referred to in the Guideline as far as the application of such provisions to non-euro area NCBs is concerned.

4.3 The National RTGS Rules

For participants in a national RTGS system of a Member State participating in or connected to TARGET, the applicable rules will continue to be the National RTGS Rules applying to such a system, as such rules are amended to reflect the provisions of the Guideline or the Agreement. Each NCB is currently reviewing the National RTGS Rules applicable to the RTGS system in its Member State in order to make the necessary amendments.