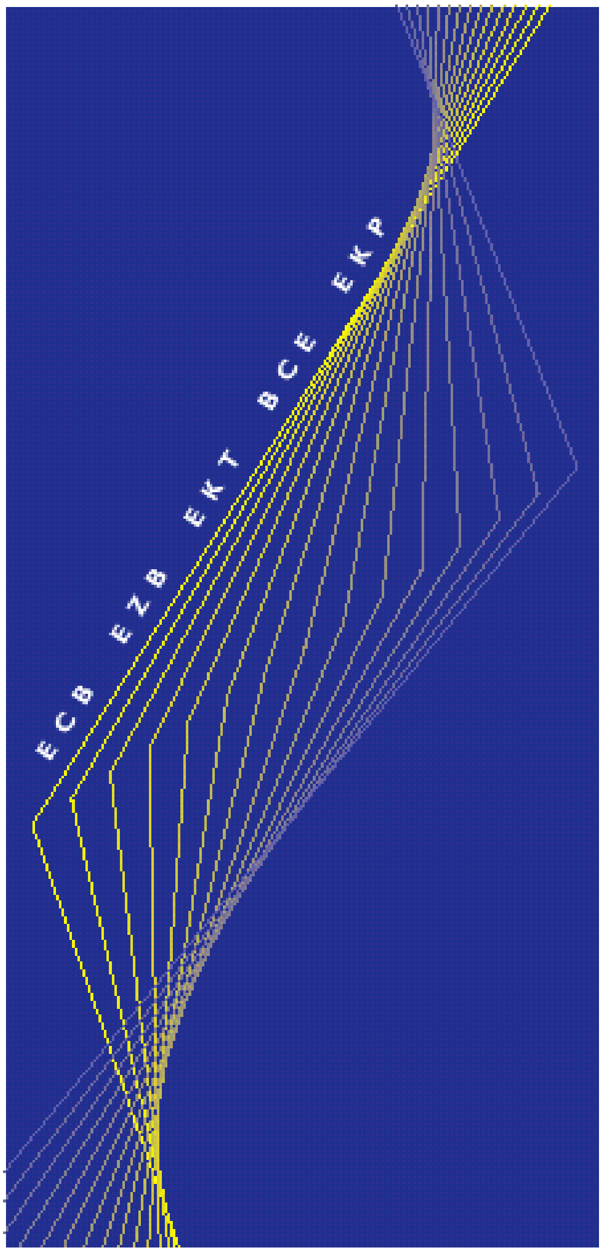
EUROPEAN CENTRAL BANK



TARGET ANNUAL REPORT

April 2002

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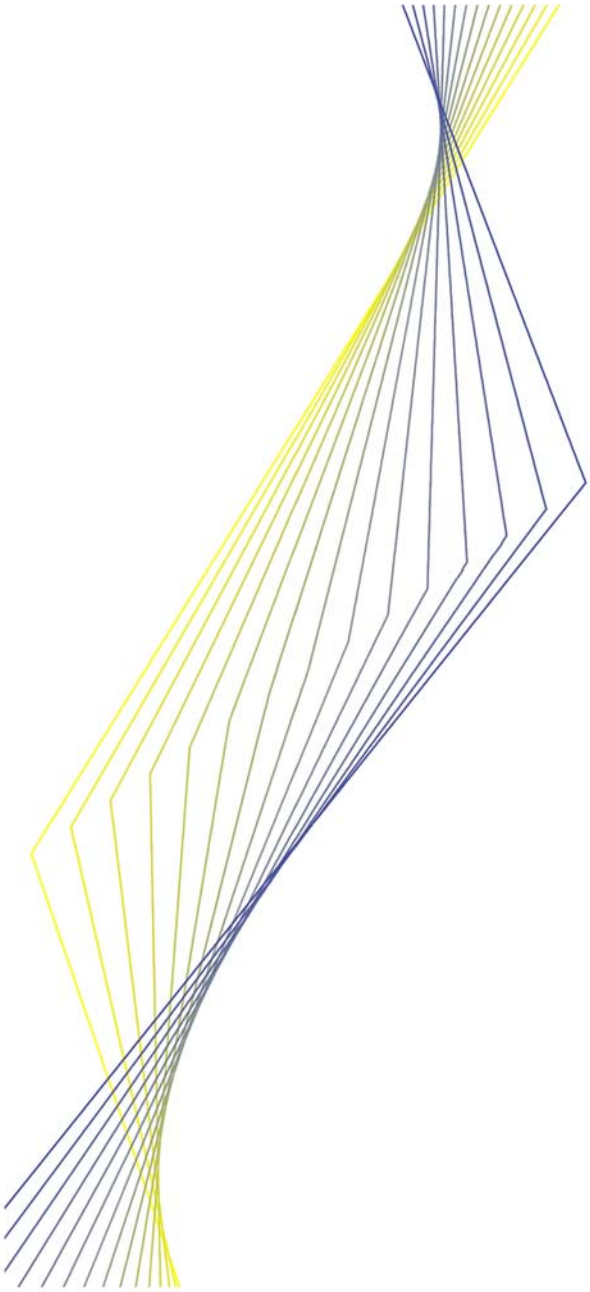

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Introduction

2001 can be seen as a year of consolidation for the Trans-European Automated Real-time Gross settlement Express Transfer system (TARGET), both from a business and from an infrastructural viewpoint.

In 2001 TARGET continued to fulfil its core objectives[1] and to meet the needs of the European banking community by providing real-time settlement, highly automated payment processing and broad market coverage. More than 37,000 banks (including branches and subsidiaries) are addressable via TARGET. Further progress towards integrated business practices in TARGET was made during 2001. This process has benefited in particular from the ongoing dialogue with TARGET users, which has proven very active and fruitful.

During 2001 TARGET processed a daily average of 211,000 transactions worth almost €1,300 billion (75% of the total turnover of large-value payments in the euro area). Continued efforts were made to enhance the availability of TARGET, with the result that TARGET's overall availability increased. In addition, existing contingency procedures were strengthened in order to cope with the new business requirements resulting from the forthcoming start-up of the CLS Bank (CLSB).

In November 2001 Euro Access Frankfurt (EAF) was merged with the new German TARGET component, RTGS^{plus}, as a step towards consolidating the large-value payment systems infrastructure within the euro area.
Finally, also in November 2001, the International Monetary Fund (IMF) published a report assessing the compliance of TARGET with the Core Principles for Systemically Important Payment Systems (Core Principles).

The purpose of this document is to report on TARGET's activities in 2001. In the first chapter, TARGET's business performance is measured on the basis of an analysis of TARGET payment flows. The second chapter assesses the technical performance of the system. The third chapter provides a description of major developments in the organisational and operational framework. A short overview is provided at the beginning of each chapter. Finally, the annexes contain a selection of statistical data, a chronology of developments in TARGET and an overview of its organisation and management structure.

1 TARGET was created with a view to meeting three main objectives: (i) to serve the needs of the Eurosystem's monetary policy; (ii) to increase the efficiency of intra-European cross-border payments; and (iii) to provide a reliable and safe mechanism for the settlement of cross-border payments.

Chapter 1
Business performance

In 2001 the TARGET system processed a daily average of 211,282 payments with a total value of €1,299 billion, thus showing a continuous increase in traffic since the start of TARGET operations.

The higher increase in domestic turnover than in cross-border turnover in 2001 went against the trend of previous years. Moreover, the continued increase in customer payments, particularly in terms of volume, remains one of the most notable trends in TARGET cross-border flows.

In 2001 TARGET remained the preferred system for the settlement of high-value payments in euro, and its market share in terms of value increased to 75% of the total turnover of large-value payments in the euro area. TARGET is also extensively used for the settlement of (relatively low value) commercial payments, and 63% of all payments in TARGET are less than or equal to €50,000.

With regard to market coverage, TARGET had more than 1,560 direct participants in 2001, and the number of indirect participants was estimated at over 5,000. At the same time, the overall number of banks addressable in TARGET (including branches and subsidiaries) reached more than 37,000.

Finally, the tragic events of 11 September had no significant impact on the sound functioning of the TARGET system. Credit Institutions were able to rely on the functioning of TARGET and managed their payment flows adequately under the difficult circumstances.

1 Payment flows[2] in TARGET

The aim of this chapter is to provide a description of the development of the payment flows in TARGET in 2001 in comparison with 2000. First, the level of activity in *TARGET as a whole* is described. Then a distinction is made between *TARGET domestic* and *TARGET cross-border*.[3] TARGET cross-border traffic is further broken down into interbank payments[4] and customer payments. The figures are expressed as daily averages in order to even out the impact of differences in the number of business days.

TARGET as a whole

In 2001 TARGET as a whole processed a daily average of 211,282 payments with a value of €1,299 billion.

A comparison of 2001 with 2000 shows a continued upward trend in the use of TARGET.

In 2001 the daily average turnover processed by TARGET as a whole rose by 26%. This growth was due mainly to the steady increase (32%) in the use of TARGET for domestic payments, followed by the increase in cross-border turnover (17%). The higher increase in domestic turnover than in cross-border turnover went against the trend of previous years.

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2 The development of traffic flows in TARGET is based on the statistics reported by the NCBs. Unless otherwise specified, the source of the data is the Interlinking Statistics Database maintained at the ECB, and the analysis is restricted to payments sent. The times expressed in this chapter are Central European Time (C.E.T.). For more detailed information please refer to the tables or charts provided in the Statistical Annex 1.

3 At present, only cross-border payments can be analysed by payment type (interbank or customer payments).

4 For reasons of simplicity, inter-NCB payments are included in the interbank figures in this report because they represent only 0.1% of the total turnover of cross-border payments.

TARGET as a whole also saw a substantial increase in terms of volume (12%). This increase was reflected in both domestic (12%) and cross-border traffic (14%).

TARGET's market share in terms of value increased to 75% (70% in 2000), but was almost unchanged in terms of volume (52%). This confirms the current market perception of TARGET as the core system for large-value payments in euro. However, TARGET is also used extensively for the settlement of relatively low value payments[5] – 63% of all payments are less than or equal to €50,000, while for higher value payments, ranging from €1 million to €1 billion, the share is 13%. Finally, TARGET payments with a value above €1 billion is less than 0.1%.

In 2001 TARGET flows were concentrated mainly in a few systems. Five RTGS systems processed as much as 80.8% (78.6% in 2000) of the total TARGET value and 82.8% (86.8% in 2000) of the total volume (see Statistical Annex 1, Tables 1.1 and 1.2).

Table 1

TARGET payment flows

		2000	2001	change	2000	2001	change
		EUR billions		%	Number of payments		%
TARGET overall	Total	263,291	330,031	25%	47,980,023	53,665,552	12%
	Daily average	1,033	1,299	26%	188,157	211,282	12%
of which: **Domestic**	Total	153,253	201,428	31%	37,811,112	42,166,173	12%
	Daily average	601	793	32%	148,279	166,009	12%
Cross-border	Total	110,038	128,602	17%	10,168,911	11,499,379	13%
	Daily average	432	506	17%	39,878	45,273	14%
of which: **Interbank**	Total	106,167	124,084	17%	6,664,078	6,992,979	5%
	Daily average	416	489	17%	26,134	27,531	5%
Customer	Total	3,809	4,519	19%	3,504,833	4,506,400	29%
	Daily average	15	18	20%	13,744	17,742	29%

Source: ECB.
Note: In 2000: 255 operating days; in 2001: 254 operating days

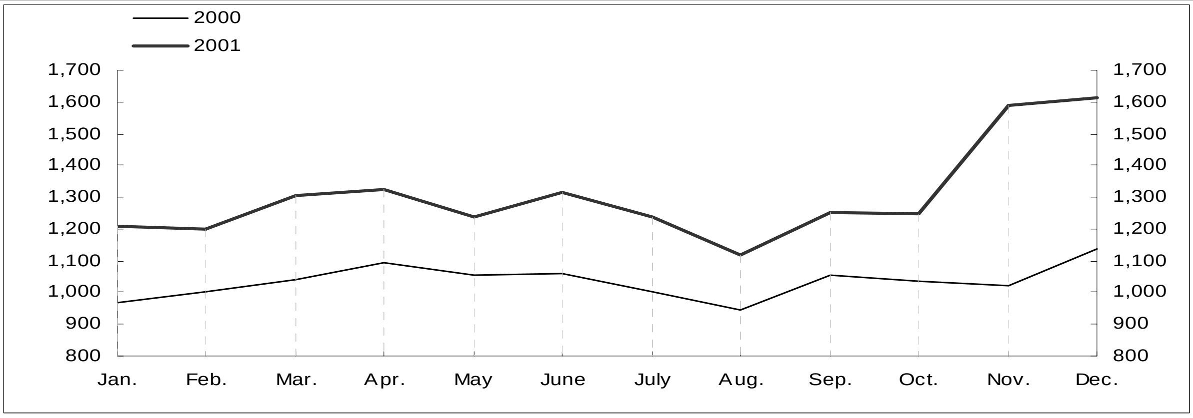
Since its start, the level of activity in TARGET has been characterised by a seasonal pattern, as was also the case in 2001 (see Charts 1 and 2). In line with the economic trend, TARGET activity declined during the third quarter of the year. Owing to seasonal holidays, the decline was most evident in the month of August. By contrast, the flows processed through TARGET increased substantially towards the end of the year. The peak daily average in 2001 was recorded in December.[6] The peak in traffic seen in November and December (see Chart 1) resulted from a combination of three factors: (i) the merger of the EAF[7] system and its traffic with the new German system (RTGS^{plus}) in early November; ii) the lower number of working days in December compared with the other months; and iii) the higher number of transactions generally settled in this part of the year.

5 In 2001 for TARGET as a whole the average value of a single payment was EUR 6.1 million.
6 The daily average for December 2001 in TARGET as a whole was 271,432 payments totalling EUR 1,612 billion.
7 Euro Access Frankfurt (EAF).

Chart 1

TARGET as a whole – value (EUR billions)

(daily averages per month)

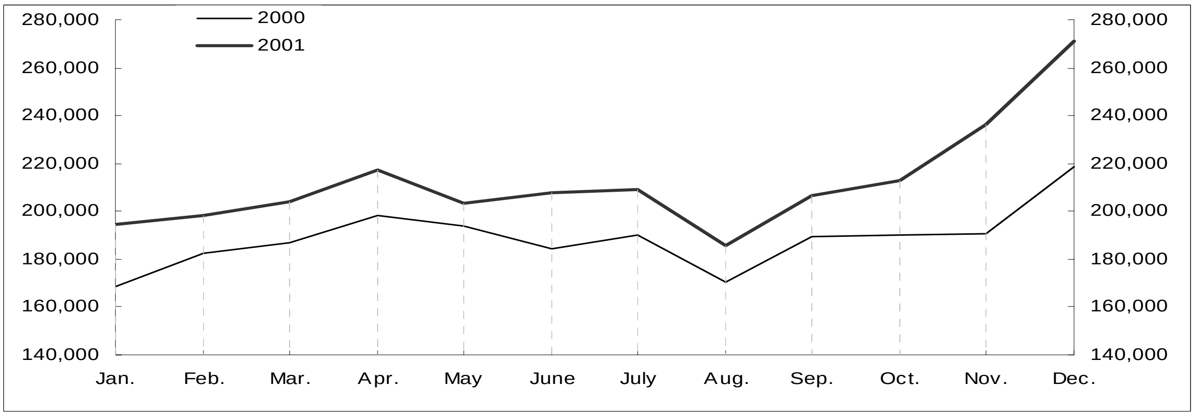


Source: ECB.

Chart 2

TARGET as a whole – volume

(daily averages per month)



Source: ECB.

TARGET domestic

In 2001 TARGET processed a daily average of 166,009 domestic payments with a value of €793 billion. This corresponds to an increase of 32% in terms of value and 12% in terms of volume compared with 2000.

The significant increase in turnover processed through TARGET at the domestic level stemmed mainly from the RTGS systems of France, Spain and Germany. The reasons for this increase were both structural/economic and statistical.

- On the one hand, in some countries the settlement through TARGET of securities transactions whose cash leg was formerly settled in net settlement systems (NSSs) increased substantially in 2001, including the settlement of cash transactions related to the public debt.

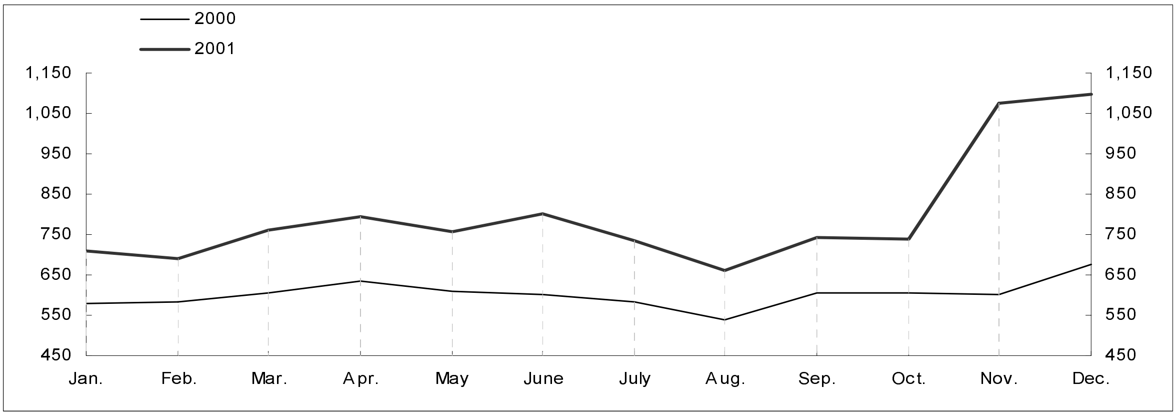
- On the other hand, the merger of EAF with RTGS^{plus} and the inclusion in the statistical data of the participants' liquidity transfers to and from their RTGS accounts[8] also contributed to the increase in the figures.

In 2001 domestic traffic represented 61.0% in value and 78.6% in volume of TARGET as a whole. In 2000 these figures were 58.2% and 78.8% respectively.

Chart 3

TARGET domestic – value (EUR billions)

(daily averages per month)

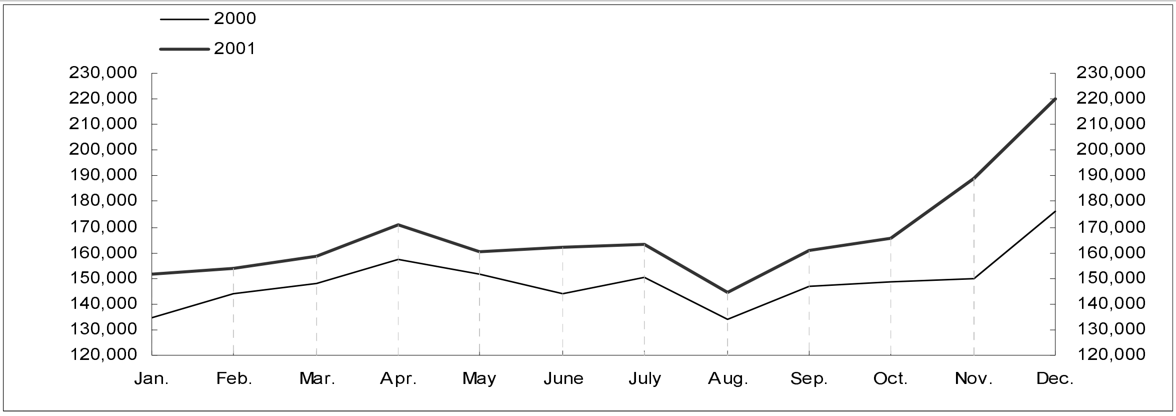


Source: ECB.

Chart 4

TARGET domestic – volume

(daily averages per month)



Source: ECB.

The distribution by country of payment flows in TARGET is presented in Tables 1.1 and 1.2 in Statistical Annex 1.

Country comparisons should be made with great care (see page 26, Statistical Annex 1, Section 1). Nevertheless, they provide an indication of the different uses that are made of TARGET across the EU.

In terms of volume, the local TARGET components in Germany and Italy processed more than two thirds of all TARGET domestic payments. In terms of value, the local TARGET components in France, Spain, Germany and

8 France, Germany and Spain.

Italy processed 84% of TARGET domestic flows. By contrast, the local TARGET components in Finland, Portugal, Luxembourg and Greece together processed less than 3% of the value and volume of TARGET domestic payments.

In Germany and Italy the number of payments processed was very high, as mentioned above. At the same time, the average value of a TARGET domestic payment in Germany or Italy is much lower than in France or Spain (€1.8 million in Germany and €1.9 million in Italy, against €27.9 million in France and €20.5 million in Spain). This reflects the fact that in Germany and in Italy TARGET is used to a large extent to process commercial payments at a domestic level.

The grouping of traffic figures for 2001[9] into value bands shows that TARGET domestic is used extensively for the settlement of low value payments (66% of all payments are less than or equal to €50,000), while for higher value payments, ranging from €1 million to €1 billion, the share is 11%. Finally, the share of TARGET domestic payments with a value above €1 billion is less than 0.1%.

TARGET cross-border

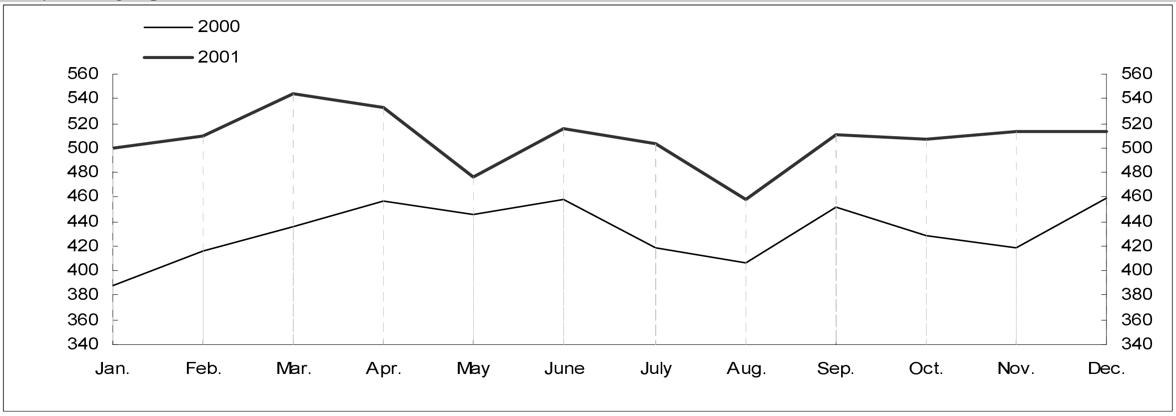
During 2001 TARGET cross-border processed a daily average of 45,273 payments with an average total value of €506 billion. A clear increase in traffic volumes and values (see Table 1) can be seen when compared with 2000, reflecting the progressive migration of cross-border commercial payments from correspondent banking into interbank systems such as TARGET.

As a share of TARGET as a whole, in 2001 TARGET cross-border decreased slightly in terms of value compared with 2000. Cross-border payments accounted for 39.0% of the total value in 2001, compared with 41.8% in 2000. However, in terms of volume its share grew from 21.2% to 21.4%.

Chart 5

TARGET cross-border – value (EUR billions)

(daily averages per month)



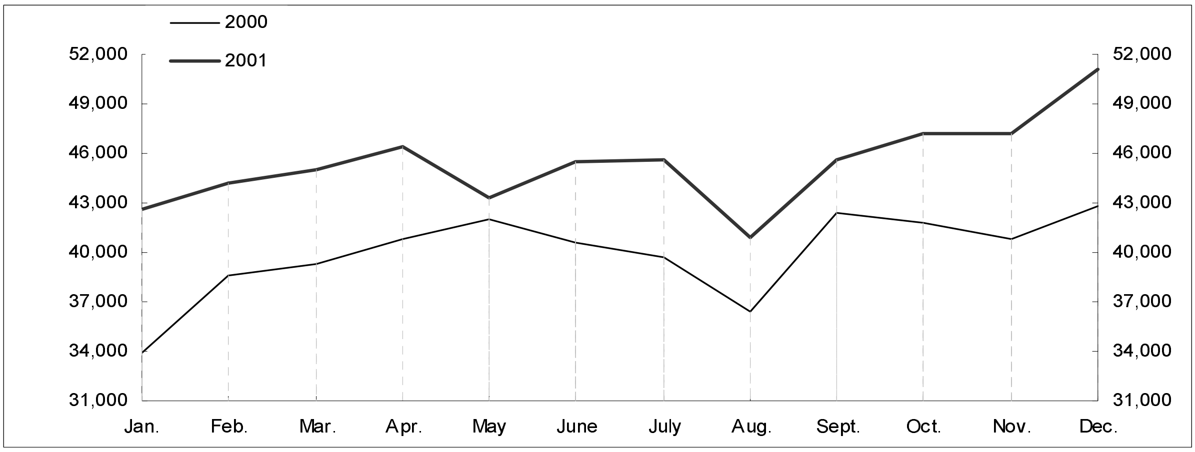
Source: ECB.

[9] UK domestic figures are not included.

Chart 6

TARGET cross-border – volume

(daily averages per month)



Source: ECB.

The local TARGET components which made the greatest contributions to the increase in total TARGET cross-border value (17%) in 2001 were those of Germany, France, Netherlands and UK.

In 2001 **interbank** payments represented 96.5% of the total cross-border value and 60.8% of the volume. In 2000 these figures were 96.5% and 65.5% respectively.

In 2001 **customer payments** represented 3.5% of the total cross-border value and 39.2% of the volume. In 2000 these figures were 3.5% and 34.5% respectively.

The continued increase in customer payments, most significantly in volume terms (29%), remains one of the most notable trends in TARGET cross-border flows.

The grouping of traffic figures in 2001[10] into value bands shows that TARGET cross-border, like TARGET domestic, is also used extensively for the settlement of low value payments (85% of customer payments and 25% of interbank payments are less than or equal to €50,000). For higher value payments, ranging from €1 million to €1 billion, the share is 22% for interbank payments and 1% for customer payments. Finally, the share of TARGET cross-border interbank payments with a value above €1 billion is 0.1%.

[10] UK cross-border figures are not included.

2 The size of TARGET payments

The average value of individual transactions processed in TARGET as a whole increased in 2001 when compared with 2000 (see Table 2). This is reflected both in the individual TARGET transactions processed at the domestic level and, most significantly, in the value of interbank cross-border transfers, which increased on average to €17.7 million. This is a confirmation that TARGET is the preferred system for the settlement of high-value cross-border payments.

Table 2

The average size of TARGET payments (EUR millions)

	2000				2001			
	1 Q	2 Q	3 Q	4 Q	1 Q	2 Q	3 Q	4 Q
TARGET overall	5.6	5.6	5.5	5.3	6.2	6.2	6.0	6.2
of which:								
Domestic	4.1	4.1	4.0	4.0	4.7	4.8	4.6	5.1
Cross-border	11.1	11.0	10.8	10.4	11.8	11.3	11.1	10.6
of which:								
Interbank	15.5	16.1	15.9	16.0	17.6	17.8	17.7	17.7
Customer	1.1	1.1	1.2	1.0	1.1	1.0	1.0	1.3

Source: ECB.

In 2001, as in the previous two years, cross-border payments had a higher average value than domestic payments. This is explained by the large number of "liquidity transfers" made across the system, especially by the major credit institutions. Since the introduction of the euro most banks have centralised their liquidity management. This new set-up requires a distribution of liquidity to the branches in the morning and the return of any excess funds in the evening. This is consistent with the high-value payments settled in the last hour of operations (between 5 and 6 p.m.) with, at the cross-border level, an average value of €93 million per payment. The lower average of €6.5 million in the morning (between 7 and 10 a.m.) is explained by the fact that a high number of lower value payments are normally processed in TARGET in the early morning (see Statistical Annex 2, Chart 2.2).

Box 1

Impact on payment flows of the adoption of the euro by Greece on 1 January 2001

On 1 January 2001 Greece joined the euro area, thus becoming the 12th European Union Member State to adopt the single currency. Given its fairly small size compared with the euro area as a whole, the entry of Greece has not substantially changed the patterns of traffic in TARGET. However, traffic in HERMES – the Greek RTGS system participating in TARGET – has shown impressive growth since the start of 2001.

In 2001 HERMES processed as a daily average in terms of both number of payments (4,190 payments) and turnover (€9.7 billion) ten times more than in 2000. In addition, at the cross-border level, the value was processed much earlier in the day than in the previous year. The flows sent from Greece in the early hours showed higher magnitudes than the flows received.

3 Fluctuations in TARGET payment flows[11]

In 2001 fluctuations in TARGET flows were triggered mainly by: (i) the settlement of periodical transactions (e.g. term deposits) at the end of each quarter, semester or year; (ii) public holidays in the United States; (iii) TARGET holidays and their effect on the days before and after; and (iv) major public holidays (not TARGET holidays) celebrated simultaneously in several euro area countries.

Impact of periodical transactions

In 2001 traffic in TARGET on the last day of the month, quarter or semester, increased by one quarter in terms of both value and volume. For TARGET as a whole, the last day of the year saw a traffic increase of 36% in terms of value and 44% in terms of volume (see Table 3).

In TARGET domestic, in addition to the increase recorded on the last day of the year, there was a significant impact on the last day of each quarter when traffic increased by around 30% in terms of both value and volume. At the cross-border level the strongest fluctuation was recorded in terms of value on the last day of the semester (+33%).

Impact of public holidays in the United States

On US public holidays, no EUR/USD foreign exchange transactions are settled. In 2001, in TARGET as a whole, this triggered an average decrease of 19% in terms of value and 14% in terms of volume. This decrease was compensated to some extent by an increase on the following business day of 12% and 9% respectively.

In 2001, as in the previous year, the impact of US public holidays was most prominent on TARGET cross-border traffic. The decrease in cross-border flows was around 50% in terms of both value and volume, followed by a rise on the next TARGET business day of up to 19% in terms of value and 23% in terms of volume.

Public holidays in other countries, outside the euro area, had little impact on TARGET activity. Neither national holidays in the United Kingdom nor Japanese public holidays had a significant effect on payment flows in TARGET.

The figures confirm that TARGET is extensively used for the settlement of the euro leg of EUR/USD foreign exchange transactions, and that the bulk of foreign exchange transactions involving the euro are made against the US dollar.

Impact of TARGET holidays

TARGET closing days are non-settlement days for the money market and the financial markets in euro, as well as for foreign exchange transactions involving the euro.

In 2001 traffic in TARGET as a whole on the **day before** a TARGET holiday[12] increased by up to 5% in terms of both value and volume. The same increase was seen in both TARGET domestic and TARGET cross-border.

The increases were more significant on the **day after** a TARGET holiday. In 2001 TARGET holidays fell on consecutive days (except 1 May), which meant there were two or more (when followed by weekends) non-

11 Comparisons in this section – Fluctuations in TARGET payment flows – are made against the daily average for 2001.
12 TARGET holidays in 2001: New Year's Day, Good Friday, Easter Monday, Labour Day, Christmas Day, 26 December and 31 December.

business days together. As a result, on the first business day after a TARGET holiday, TARGET as a whole showed an increase of 16% in terms of value and 21% in terms of volume. TARGET domestic figures were similar to those for TARGET as a whole. For TARGET cross-border the increase in traffic was more moderate, rising by 8% in terms of value and 11% in terms of volume.

Impact of euro area public holidays on TARGET

Public holidays which are observed in several euro area countries (e.g. Whit Monday, Assumption and All Saints' Day) had a significant impact in TARGET traffic as a whole with a decrease of 63% in value and 73% in volume. Obviously, the decrease was more significant at the domestic level, where traffic fell by 86% in terms of value and 88% in terms of volume. At the cross-border level the value decreased by 37% and the volume decreased by around 35%.

However, this traffic decrease was not followed by a steep rise in traffic on the day after the public holiday (as seen in TARGET after US public holidays). This is explained by the fact that TARGET is open on these regional public holidays and relevant transactions can be performed. Of course, there is also a general reduction in activity on these days and therefore no need for TARGET to catch up after regional public holidays.

In 2001, as in previous years, public holidays in a single country had hardly any impact on TARGET flows. However, Germany's national day, 3 October,[13] was an exception. On this day, turnover in TARGET as a whole decreased by 17% in terms of value and 38% in terms of volume. At the cross-border level, the German public holiday caused a reduction of 10% in terms of value and 6% in terms of volume.

Unlike the previous year, the French national holiday, 14 July,[14] had no impact in TARGET in 2001 as it fell on a non-business day.

Peak days in TARGET

In 2001 the highest volume and value on a single day in TARGET as a whole was recorded on 28 December, the last business day of the year, when a total of 380,146 payments were processed with a total value of €2,040 billion (almost 170,000 payments and €741 billion above the daily average). The peak day for domestic traffic was the same.

By contrast, cross-border flows peaked on 20 February 2001 in terms of volume (the day after a bank holiday in the US) and on 29 June 2001 in terms of value (the last TARGET day of the first semester).

The lowest volume on a single day in TARGET as a whole was recorded on 4 June (Whit Monday) when a total of 101,581 payments were processed (almost 110,000 payments below the daily average). In terms of value, the lowest day was 15 August (Assumption) with a total turnover of €710 billion (€589 billion below the daily average).

In TARGET domestic, the lowest volume on a single day was also recorded on 4 June. In terms of value, the lowest day was 1 November (All Saints' Day), while TARGET cross-border flows reached their lowest volume and value on 28 May 2001 (US bank holiday – Memorial Day).

13 German Unity Day.
14 Bastille Day.

Table 3
Peak days in TARGET

EUR billions	2000		2001	
TARGET as a whole	1,551	30 Nov.	2,040	28 Dec.
domestic	1,032	30 Nov.	1,480	28 Dec.
cross-border	586	30 Jun.	751	29 Jun.
Number of payments				
TARGET as a whole	283,745	29 Dec.	380,146	28 Dec.
domestic	236,658	29 Dec.	318,173	28 Dec.
cross-border	60,770	29 Sep.	63,159	20 Feb.

Source: ECB.

4 Cross-border intraday flows[15]

The pattern of intraday flows in TARGET in 2001 was similar to the previous year (see Charts 7 and 8).

In general terms, a large proportion of TARGET cross-border payments (nearly 50% of the volume) are processed in the first three hours of operations (between 7 and 10 a.m.). Two peaks in the value of TARGET cross-border payments are visible during the day: the first between 11 and 12 a.m.; and the second between 4 and 5 p.m.

The significant **volume** in the early hours seems to be related to the release of a high number of warehoused payments from previous dates. In 2001 in the first hour of TARGET operations a daily average of nearly 8,200 cross-border payments was released (of which 56% were interbank and 44% customer payments). By 5 p.m. (customer payment cut-off time) 99% of the total volume had already been processed (see Chart 8).

In terms of **value**, 21% of the cross-border payments turnover was processed by 10 a.m., while 53% was processed by 1 p.m. By 5 p.m., 93% of the total value had already been processed.

The analysis shows that credit institutions have generally followed the guidelines issued by the European Banking Federation (EBF), thus facilitating the early settlement of cross-border large-value payments in euro.

The hourly average value of a cross-border **interbank payment** steadily increases through the day, from €7 million in the first hour to €99 million in the last hour of operations (see Statistical Annex 2, Chart 2.2). This is the time when the bulk of the liquidity shift between the financial counterparties takes place. Similarly, the average value of a cross-border **customer payment** increases significantly from €367,000 in the first three hours of operations, to €2.9 million in the hour just before the customer payment cut-off time at 5 p.m. (see Statistical Annex 2, Chart 2.3). This suggests that these late high-value customer payments are mainly related to corporate cash management activities.

15 Statistics for the intraday flows at domestic level are currently not available.

Chart 7
TARGET cross-border intraday pattern – value and volume

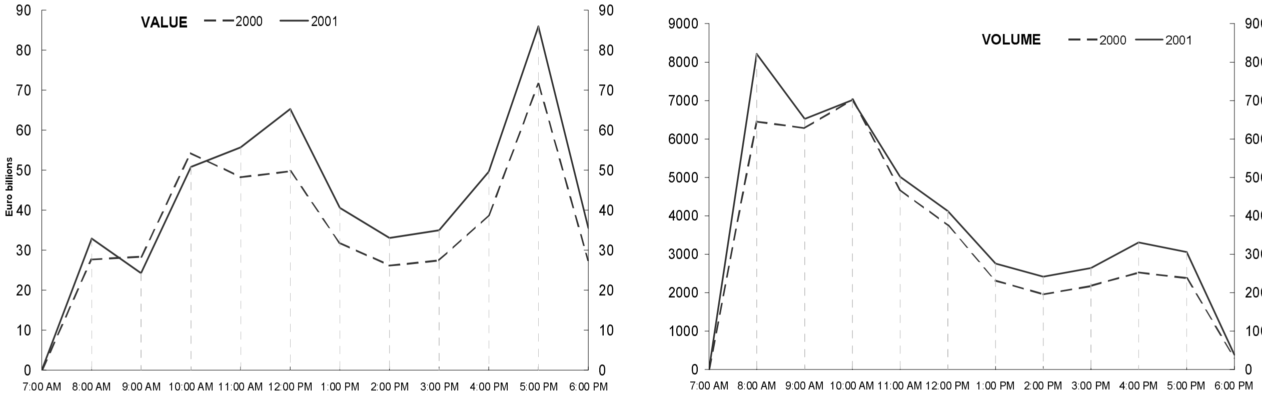
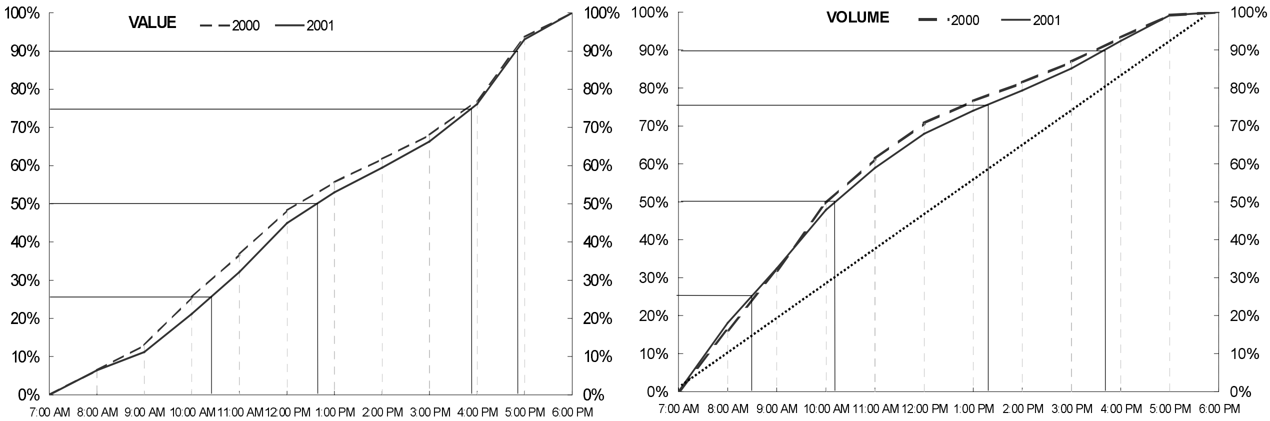


Chart 8
TARGET cross-border intraday pattern, cumulative – value and volume



11 September 2001

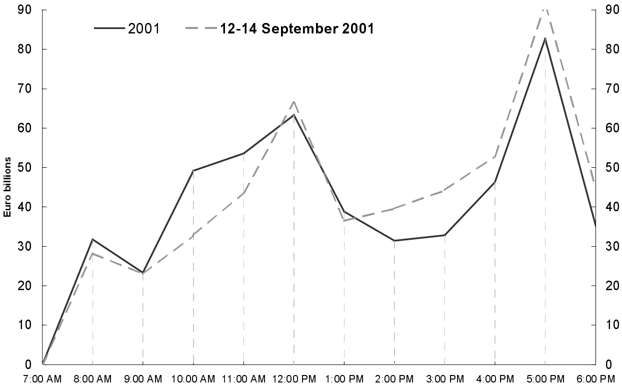
The tragic events of 11 September 2001 had no impact on TARGET, owing to the time of day when the tragedy happened (3 p.m. C.E.T.). By that time the vast majority of payments had already been executed, and the remaining payments for that day were processed normally. In the following days, 12 to 14 September 2001, the intraday distribution of payment flows changed compared to normal TARGET days. Banks held back payments because of uncertainties about possible developments, and TARGET cross-border payment flows decreased between 7 and 11 a.m. These payments were released later in the day, so total flows reflected the longer-term average. The closing time of TARGET was extended only on one day, 13 September 2001, to allow settlement of payments related to the swap arrangement with the Federal Reserve.[16] In the following week, 17 to 21 September 2001, the volumes and values processed in TARGET returned to the normal intraday pattern.

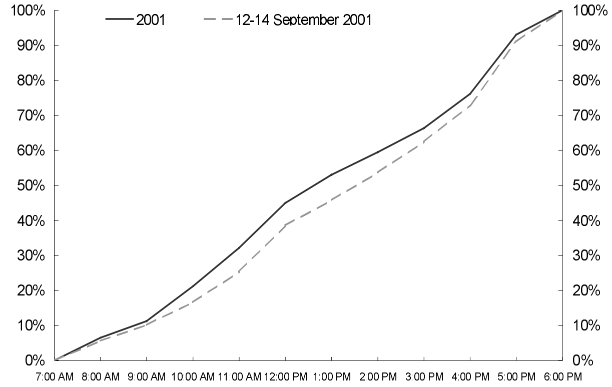
The rather limited impact on TARGET shows that banks were able to rely on the functioning of TARGET and managed their payment flows adequately under the difficult circumstances.

[16] ECB Press Release, 13 Septembe 2001 ("Swap agreement with the Federal Reserve").

Chart 9

TARGET cross-border intraday pattern, 12 to 14 September – value





Chapter II
Technical performance

The Eurosystem continued to attach the utmost priority to TARGET availability and the enhancement of contingency arrangements in order to ensure the completion of the daily settlement under all circumstances. In 2001 special focus was given to time-critical payments which should be processed even in the event of incidents in TARGET, if necessary by using contingency tools. For this reason a thorough revision of the existing contingency measures was carried out.

In particular, within the preparatory work undertaken for the forthcoming introduction of CLS[17], the first series of TARGET contingency end-to-end live trials was held during the second quarter of 2001. The outcome can be considered very successful as it proved that, from an operational and business point of view, the TARGET contingency measures meet the requirements for processing time-critical payments.

In the last part of the year, in addition to the global TARGET maintenance release 2001, some of the TARGET national components have been enhanced with the addition of a number of innovative RTGS features.

1 TARGET availability

The overall availability of TARGET in 2001 was 99.75%. Since January 2000 the overall availability has remained stable at levels around 99.72%.

A total of 115 incidents were recorded in TARGET in the year as a whole (125 incidents in 2000). Out of the 115 incidents, 63 had a real impact on TARGET availability.[18] The two main causes of incidents in TARGET were problems in the system's connection to the SWIFT network and software/hardware component failures.

The forthcoming start of CLS operations introduces a new critical timeframe into the TARGET day, as all CLS related payments in euro will be processed via TARGET. Because of the global impact that a delay in the funding process could have, the early morning availability has been evaluated. In 2001 the number and the average duration of early incidents was slightly reduced. However, there is still room for improvement in some systems, particularly in the time between 7 and 9 a.m. (future CLS settlement time).

Nevertheless, it should be stressed that adequate TARGET contingency measures are in place. In the event of an incident, these will enable national central banks (NCBs) and the ECB to process CLS-related payments in a timely manner (see also Section 2 below).

In 2001 three incidents visibly affected the payment processing capabilities of local TARGET components.

- On Wednesday 17 January at 3.55 p.m. C.E.T. the German TARGET component suffered a power failure at its operating centre in Düsseldorf which impacted on the domestic RTGS system, the accounting system, and EAF.[19] For this reason, on that day the German RTGS system was not available between 4.20 p.m. and 7.30 p.m. TARGET closing time was delayed first until 7 p.m. and then until 8 p.m. in order to allow for the complete settlement of the outstanding payments.

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17 Continuous linked settlement (CLS). The CLS Bank (CLSB) will provide global multi-currency settlement services for foreign exchange (FX) transactions, using a payment versus payment (PvP) mechanism, meaning that a foreign exchange operation is settled only if both counterparties simultaneously have a sufficient position in the currency they sell.

18 Incidents where the normal RTGS payment processing capabilities were reduced or interrupted for 20 minutes or longer.

19 Euro Access Frankfurt

- On Thursday 26 April the Banque de France experienced technical problems with its RTGS system, which caused the unavailability of the French TARGET component between 7.20 a.m. and 5.20 p.m. A direct result of this long interruption[20] was a delay of approximately 20 minutes in the completion of the settlement of Euro1. It was decided to delay the cut-off time for customer payments until 6 p.m., and the TARGET closing time until 8 p.m.

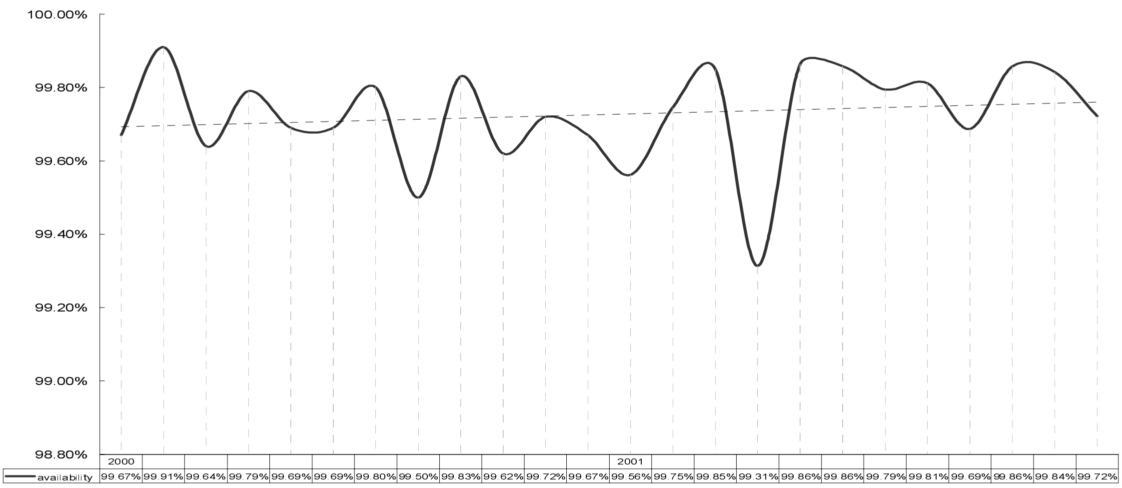
- On Monday 5 November the new German system, RTGS^{plus}, was launched successfully. However, later in the afternoon an emergency software update caused a backlog of more than 6,000 payments that were queued waiting for delivery into RTGS^{plus}. To allow the processing of this backlog of payments, a delay in the customer payments cut-off time until 6 p.m. and in the TARGET closing time until 7 p.m. were necessary.

During the above-mentioned incidents, appropriate contingency measures made possible the successful processing of the most critical payments. In addition, the standing facilities (see Glossary) were available for TARGET participants to support their liquidity management if needed. Moreover, appropriate corrective measures have been implemented in order to prevent this kind of interruption happening again in future.

On Friday 21 December, problems in Germany necessitated the postponement of the domestic cut-off time to 6.30 p.m. The domestic cut-off time in France was also delayed until 7.45 p.m. In addition, these domestic extensions coincided with the last business day before the end of the reserve requirement period on 23 December 2001. The fact that the domestic and cross-border components of the other systems were closed, while the German and the French domestic systems were still operational, created liquidity imbalances in some credit institutions across the EU (due to the heavy interdependence of their liquidity management). The European System of Central Banks (ESCB) is in the process of revising TARGET procedures to allow more harmonised action on such occasions.

Chart 10

TARGET availability



[20] This was one of the longest interruptions in TARGET operations.

2 TARGET contingency measures

The Eurosystem is aware of the increasing importance of TARGET to the market and of the development of more demanding business needs, especially in the processing of time-critical payments. For this reason, all local TARGET components have always been required to have in place both business continuity and contingency arrangements.

Business continuity measures require that, in the event of a failure at the primary site, each national component is able to switch to a remote secondary site and to be operational again, using automated procedures, within the shortest time possible.

In addition, provided that information on the participants' accounts is available, a contingency plan exists in each NCB in order to continue processing at least the most critical payments either during the time needed to move from primary to secondary sites or if both primary and secondary sites are unavailable.

The contingency arrangements cover payments which are related to monetary policy operations, settlement of ancillary systems,[21] transfers of liquidity to and from non-euro area NCBs and major liquidity transfers which are important for the smooth functioning of the euro money market.

Existing contingency procedures have been revised in order to cope with the new business requirements resulting from the forthcoming start-up of the CLS Bank (CLSB). This will require a certain number of payments to be processed in limited timeslots during the morning hours of TARGET operations. For this reason, TARGET contingency end-to-end live trials started in 2001. The aim of these trials was to verify that the business requirements imposed by CLS could be met operationally under contingency conditions. The trials have been performed in a live environment and under the assumption that the "Recommendations for CLS payments in euro" are applied (see Box 2). The ECB, NCBs and credit institutions involved in the forthcoming CLS settlement successfully participated in these trials. Another round of TARGET contingency end-to-end live trials took place in February 2002 in view of the increasing number of banks expected to be involved at the beginning of CLS operations.

Box 2

Recommendations for CLS payments in euro

In February 2001 the ECB published the "Recommendations for CLS payments in euro"[22] and the "Explanatory memorandum on the recommendations concerning CLS payments in euro". The objective of these recommendations is to provide a business practice structure through which CLS euro payments can be executed via TARGET in a timely manner. The forthcoming start of CLS operations has highlighted the importance of TARGET being able to meet the requirements for time-critical payments. In the event of problems in TARGET, delays in making CLS-related payments in euro might have knock-on effects in other currency zones. Therefore the Eurosystem has taken measures to enable a limited number of payments to be made in a timely manner under contingency circumstances.

In order to ensure that these measures are operationally effective, the Eurosystem, in co-operation with a group of TARGET users (the ad hoc TARGET Contingency Group), has prepared a set of recommendations for CLS-related payments in euro and an explanatory memorandum. These recommendations mainly emphasise the need for banks to prepare their payments as early as possible and to reduce the number of payments (i.e. by aggregating), especially in contingency situations. The recommendations also include guidelines for reducing the impact of technical problems at both the bank and central bank levels. In addition, the banks are invited to use alternative access points to TARGET in the event of problems in their primary RTGS systems. The recommendations and the explanatory memorandum were welcomed during the meeting with euro area shareholders in Continuous Linked Settlement Services Ltd (CLSS) on 30 January 2001

21 Ancillary systems settling via TARGET (domestic netting, FOREX, Securities Settlement Systems).

22 These recommendations do not give rise to any legally enforceable rights or obligations and are therefore not intended to supersede rules agreed in domestic systems or any legally binding bilateral agreements.

and were also endorsed by the TARGET working group (TWG) of the European Banking Federation (EBF). The recommendations for CLS payments in euro have already triggered similar activities in other currency areas. The recommendations and the explanatory memorandum are available on the ECB website (www.ecb.int).

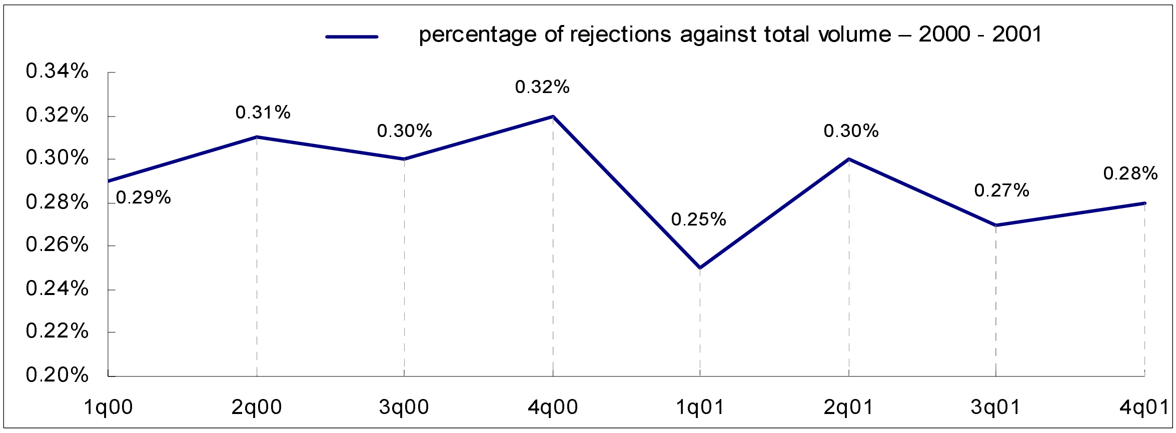
3 Cross-border interbank straight-through processing

Straight-through processing (STP) rules in TARGET are viewed as a way of facilitating further automation in the processing of payment messages, thus reducing the associated costs. At the cross-border level, TARGET allows fully automated processing between banks within the EU (from the sending bank's account to the receiving bank's account).

At present TARGET provides and fully supports STP standards for the SWIFT message types MT202, MT103 and MT103+. At the cross-border level this is reflected in the very low rate of rejected payments. Throughout 2001 this rate remained stable at around 0.28% of the total number of TARGET payments sent (0.30% in 2000). The main cause for rejections seems to be related to the fact that the addresses in the TARGET directory are updated only on a quarterly basis, so a more frequent update is required. In this respect, the ECB, in consultation with SWIFT, aims to improve the existing directory services and to be actively involved in the definition of new user requirements for future SWIFT directory services (SWIFTNet[23]). This is expected to reduce even further the number of rejections in TARGET.

Chart 11

Percentage of rejections in TARGET

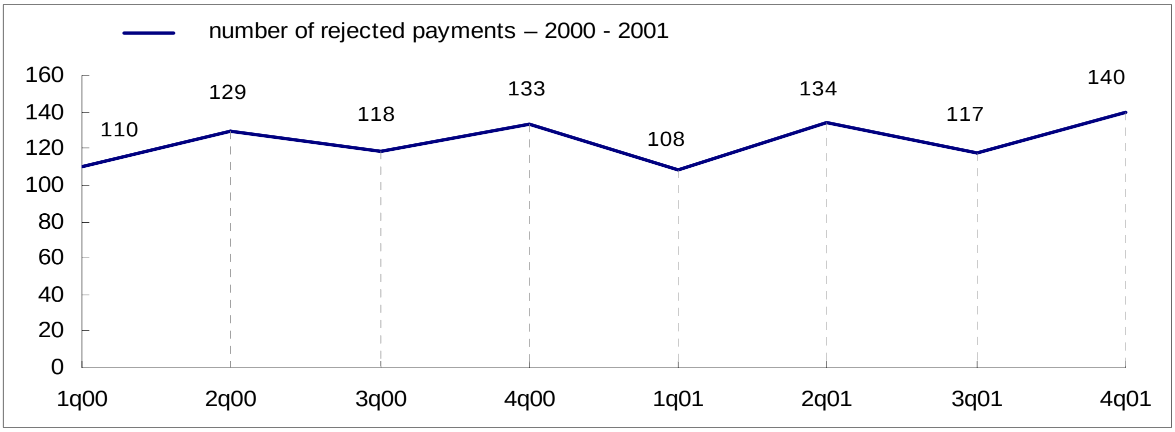


[23] SWIFT's IP-based (Internet Protocol) messaging solution.

Chart 12

Number of rejected payments in TARGET

(daily averages on a quarterly basis)



Box 3

The changeover from MT100 to MT103

The introduction of the new message type for customer payments, MT103/103+, in November 2000 had two main purposes: i) to overcome the limitations of MT100 (developed about 25 years ago); and ii) to meet the pressing demand from customers and regulators on banks for greater transparency in cross-border payments. As a result, the European banking community decided to move to a common framework for messages to be processed by end-to-end STP. This framework is used bank-to-bank, meaning from the debiting of the ordering bank's account to the crediting of the receiving bank's account, regardless of the payment system used at the European level or at a world-wide level.

The ECB survey carried out in 2001 shows that the new message type is widely used in TARGET. Since its introduction, there has been a continuous increase in the use of the new message type. In addition, a clear preference for the use of MT103+ over the non-STP MT103 has been observed. At the end of 2001, 52% of TARGET cross-border customer payments used MT103/103+, while at the domestic level the proportion was around 64%. The increasing use of the new message type MT103/103+ in the European banking community is expected to facilitate the changeover from MT100 to MT103/103+ in TARGET. This changeover will have to be completed by 2003 when MT100 will be removed from the SWIFT network.

4 Changes in the TARGET system

During the second and third quarters of 2001, several trials took place in preparation for the TARGET maintenance release 2001, which went live successfully on 19 November.

The changes in the TARGET release 2001 consisted mainly of the introduction of the new SWIFT standards, the validation of negative PSMNs[24] and the introduction of a time indication (field 13c, debit stamp) to be distributed through the Interlinking system and to be made available to the credit institutions. In June 2001 ITES[25] became available to all NCBs for certification and group trials were conducted in a number of sessions from the end of June until mid-October. Various end-to-end trials took place in September and October to

[24] Rejection code (reason for the rejection) inserted in the PSMN (Payment Settlement Message Notification).

[25] Interlinking Test Environment System.

allow credit institutions to test the functionality of TARGET release 2001 as well. Finally, all RTGS systems were fully certified to TARGET 2001 specifications before the new release went live on 19 November.

In addition, during the year enhanced RTGS features were introduced in local TARGET components.

At the end of August NewChaps was introduced in the UK, providing a common IT platform for sterling and euro RTGS participants.

On 5 November 2001 the Deutsche Bundesbank successfully launched RTGS^{plus}, which is now the new German TARGET component. At the same time, as a step towards consolidating the large-value payment systems infrastructure within the euro area, the hybrid system Euro Access Frankfurt (EAF) was shut down.

On 19 November 2001 the old Danish TARGET component was successfully replaced by KRONOS. The new system is the RTGS system for both Danish krone and euro payments and has replaced DEBES (Denmark's euro payment system).

Local changes have also been introduced in the RTGS systems in Belgium, Greece and the Netherlands.

Chapter III
Developments

Progress towards integrated business practices in TARGET continued during 2001. This process has benefited in particular from the ongoing dialogue with TARGET users, which has proven very active and fruitful.

In accordance with its policy of transparency, in April 2001 the ECB published the Guideline of the ECB on TARGET, which provides the legal framework for the system.

In order to ensure a smooth final changeover to euro banknotes, an exception to the normal TARGET calendar was made by adding 31 December 2001 to the TARGET closing days.

Finally, in November 2001, the IMF published a report assessing the compliance of TARGET with the Core Principles for Systemically Important Payment Systems.

1 Relations with TARGET users

In 2001 the Eurosystem continued its regular dialogue with TARGET users.

As in previous years, regular meetings were held with national TARGET user groups, while at the ESCB level, two meetings of the new Contact Group on Euro Payments Strategy (COGEPS) were held at the ECB. This group brings together representatives of the ESCB and market participants. Its aim is to facilitate dialogue on several topics, including TARGET-related issues such as the optimisation of the use of TARGET and developments in user requirements of TARGET participants in the medium and long-term. Although dialogue with TARGET users in previous years has already led to some improvements in terms of harmonisation, remarks made by market participants at recent COGEPS meetings indicate that further harmonisation is expected.

In addition to the meetings organised at the national and ESCB levels, the ECB has been regularly invited to participate in meetings organised by particular groups of market participants and by banking organisations such as the TARGET working group (TWG) of the European Banking Federation (EBF). In order to acknowledge and enhance the co-operative spirit of the dialogue with TARGET users, the TWG was invited to hold its October meeting at the ECB.

Co-operation with TARGET users has been very fruitful in the area of strengthening TARGET contingency measures (see Chapter II, Section 2). In this respect, the Eurosystem and a group of banks at the European level have been working together in a way that has proven beneficial for all parties.

As a result of the ongoing dialogue, the Eurosystem started a consultation process with the banks aimed at providing an additional form of compensation to complement the current reimbursement scheme,[26] thus creating a global TARGET compensation regime.

The process of consulting TARGET users also plays an important role with regard to TARGET enhancements. Whenever the ECB, an NCB or a TARGET user identifies a business requirement which leads to a request for a change in the system, an initial discussion normally takes place within the national TARGET user groups

26 The current reimbursement scheme applies whenever the same-day processing of payment orders cannot be completed in TARGET. In such cases, TARGET participants who have recourse to the standing facilities are compensated for losses resulting from the malfunctioning of the system.

(TUGs). Once a year, the Payment and Settlement Systems Committee (PSSC) of the ESCB evaluates the proposals and submits a comprehensive list of possible changes back to the TUGs in order to identify change requests which are supported by the whole TARGET user community. Only after a successful consultation with the TUGs is a detailed analysis of the changes and their associated costs carried out. A group of TARGET users at the European level then assesses the proposed changes from a TARGET-wide perspective. Only after this broad consultation has been undertaken, are the changes to be implemented in TARGET and the related time schedule submitted for approval to the Governing Council of the ECB.

2 The publication of the Guideline of the European Central Bank on TARGET

On 26 April 2001, in accordance with its policy of transparency through the publication of its legal instruments, the ECB published the Guideline of the ECB on TARGET (TARGET Guideline) in the Official Journal of the European Communities, L 140, 24/05/2001 (pp. 72 to 86). The document is also available on the ECB website (www.ecb.int).

The TARGET Guideline, which came into force on 1 January 1999, sets out the legal framework for TARGET. It lays down the rules governing TARGET and its functions and as they apply to the Eurosystem. Any modification to the Guideline must be adopted by the Governing Council of the ECB. The TARGET Guideline includes provisions on, inter alia, a number of minimum common features with which each national RTGS system participating in or connected to TARGET shall comply (e.g. access criteria, pricing rules, time of operation, payment rules and intraday credit), arrangements for cross-border payments through the Interlinking system and the management of TARGET.

A separate agreement between the NCBs of non-euro area EU Member States and the Governing Council of the ECB provides a mechanism whereby those NCBs are able to connect to TARGET and shall adhere to the rules and procedures referred to above with appropriate modifications (see also Box 4 in Annex 3).

3 TARGET calendar

The definition of TARGET closing days determines the value dates of the euro in the financial markets. On TARGET closing days no interbank settlement can be made in euro, no standing facilities are available at the NCBs, and the euro overnight index average (EONIA) is not published. Furthermore, the correspondent central banking model (CCBM) for the cross-border use of collateral is closed on these days.

In 2001, following a decision of the Governing Council of the ECB, in addition to Saturdays and Sundays, TARGET was closed on New Year's Day, Good Friday, Easter Monday, 1 May (Labour Day), Christmas Day, 26 December and 31 December. This was the same as the calendar adopted for 2000, with the exception of one additional closing day on 31 December. On that day TARGET as a whole, including all the national RTGS systems, were closed. This exception was made in order to facilitate the smooth conversion of retail payment systems and internal bank systems to the euro.

Furthermore, although no cross-border payments were processed on TARGET closing days, the Governing Council of the ECB allowed NCBs to keep their RTGS systems open for limited domestic operations as follows: the Banca d'Italia and the Nationale Bank van België/Banque Nationale de Belgique on Good Friday (13 April 2001), the Banco de España on Easter Monday (16 April 2001) and on 26 December 2001, the Central Bank of Ireland and De Nederlandsche Bank on Labour Day (1 May 2001).

Such variations will no longer be made as of 2002, when a more settled calendar will come into effect. The establishment of a long-term calendar was deemed necessary, as the frequent calendar changes and the existence of annual calendars introduced uncertainties into financial markets. From 2002, and until further notice, TARGET will be closed, in addition to Saturdays and Sundays, on New Year's Day, Good Friday, Easter

Monday, 1 May (Labour Day), Christmas Day and 26 December. To avoid problems arising from different national TARGET operating days, it was decided that TARGET as a whole would close on these days, including all national components (i.e. the national RTGS systems).

On 28 February 2002 the Governing Council of the ECB approved an exceptional derogation from the long-term calendar applicable in Greece for a three-year period on the basis of a limited adaptation. The Greek RTGS system (HERMES) will be operational on Catholic/Protestant Easter Fridays and Mondays which do not coincide with the Greek Orthodox Easter Fridays and Mondays, but only for a limited range of operations. Settlement services offered by HERMES on these days will only cover domestic customer payments of a retail nature, including the settlement of retail payment systems.

No other types of payment, such as cross-border, interbank, money market, capital market or foreign exchange transactions, will be processed through HERMES on these days. The Bank of Greece will not normally offer access to standing facilities and this will only be granted if absolutely necessary, e.g. to avoid a failure in the settlement of an ancillary system.

Following this three-year period, Greece's situation will be reassessed.

This derogation was deemed necessary because the closure of HERMES on Easter Friday and Easter Monday as they fall in the Catholic/Protestant religious calendars, usually normal business days in Greece, would create problems for the banking industry, for businesses and for the general public in Greece, as Catholic/Protestant and Orthodox Easters seldom coincide. This means there would be a larger number of closing days for domestic markets than is the case in other EU countries. The problem would be particularly acute when the two Easter periods fall within a week of each other, as will be the case in 2003. In that year, without the derogation, banks in Greece would operate on only three days over an 11-day period, a situation which was considered to be undesirable. With this limited derogation, the specific needs of the Greek banking industry, businesses and general public can be accommodated without any major impact on the level playing field between market participants in different countries.

4 Compliance of TARGET with the Core Principles

In February 2001 the Governing Council of the ECB approved the inclusion of the Core Principles for Systemically Important Payment Systems (the Core Principles) in the set of minimum standards which the Eurosystem uses for its common oversight policy with regard to payment systems. The Core Principles were developed by the G10 Committee on Payment and Settlement Systems (CPSS) in order to help maintain financial stability by strengthening the financial infrastructure. They comprise principles, best practices and guidelines which should govern the design and operation of all systemically important payment systems.

In 2001, at the request of the ECB, the IMF prepared Reports on the Observance of Standards and Codes (ROSCs) for the euro area in the context of its Financial Sector Assessment Program (FSAP). The participation of the ECB in the preparation of these ROSCs reflects its commitment to meeting international standards and codes and to "leading by example" in their implementation. This is based on the conviction that compliance with internationally agreed standards and best practices is key to strengthening the global financial system and to ensuring financial stability.

In the field of payment systems, the assessments by the IMF covered transparency in payment systems policy and the compliance of the TARGET system with the Core Principles.[27] The IMF acknowledged that the Eurosystem maintains a high level of transparency in payment systems policy. It also recognised that TARGET had successfully fulfilled the policy goals for which it was set up and largely meets the needs of the market.

27 The same assessment was also carried out for the Euro1 system of the Euro Banking Association (EBA).

TARGET complies fully with six of the Core Principles, while for three other Core Principles there was deemed to be scope for some further enhancements. One of the Core Principles is not applicable to TARGET. The Eurosystem is now focusing on further enhancing the compliance of TARGET with those Core Principles which are not yet met in full.

The IMF published its assessments in October 2001. They are available on the IMF's website (www.imf.org).

Annexes

1 TARGET Statistics

It should be noted that the statistics on domestic payments collected by the NCBs reflect the different practices in the use of RTGS systems – some NCBs included transactions related to intraday credit, liquidity transfers, central bank operations, and the settlement of ancillary systems, whilst others did not. Therefore caution is recommended when comparing the number and value of domestic payments processed by the different national TARGET components.[28]

Contents of the Statistical Annex

[28] In November 2001 EUR 2,618.1 billion and in December 2001 EUR 2,462.8 billion out of the total was related to liquidity transfers between the home accounts of the participants at the Deutsche Bundesbank and their RTGS^{plus} accounts. This kind of transaction did not exist in the ELS system. However, such transactions may also be included in the statistics of other countries in this table. The ECB is examing ways of improving the comparability of the payment statistics reported by the different NCBs and by the ECB.

1. Distribution of payment flows in TARGET

Table 1.1

Distribution of payment flows in TARGET – 2000

	Total				Domestic				Cross-border			
	Value *)	%	Volume	%	Value *)	%	Volume	%	Value *)	%	Volume	%
ELLIPS (BE)	12,689	4.8%	1,780,336	3.7%	3,610	2.4%	952,805	2.5%	9,080	8.3%	827,531	8.1%
ELS (DE)	52,307	19.9%	21,520,815	44.9%	24,001	15.7%	17,840,390	47.2%	28,306	25.7%	3,680,425	36.2%
SLBE (ES)	34,232	13.0%	2,399,460	5.0%	30,136	19.7%	2,124,019	5.6%	4,096	3.7%	275,441	2.7%
TBF (FR)	68,157	25.9%	3,025,339	6.3%	52,805	34.5%	1,874,102	5.0%	15,352	14.0%	1,151,237	11.3%
IRIS (IE)	3,813	1.4%	485,075	1.0%	2,407	1.6%	294,522	0.8%	1,406	1.3%	190,553	1.9%
BI-REL (IT)	27,782	10.6%	10,400,560	21.7%	18,474	12.1%	9,234,658	24.4%	9,308	8.5%	1,165,902	11.5%
LIPS-Gross (LU)	3,700	1.4%	269,069	0.6%	1,024	0.7%	61,453	0.2%	2,676	2.4%	207,616	2.0%
TOP (NL)	19,900	7.6%	3,732,796	7.8%	10,041	6.6%	3,246,933	8.6%	9,859	9.0%	485,863	4.8%
ARTIS (AT)	5,061	1.9%	1,264,864	2.6%	2,467	1.6%	871,528	2.3%	2,594	2.4%	393,336	3.9%
SPGT (PT)	2,286	0.9%	526,089	1.1%	1,393	0.9%	317,040	0.8%	893	0.8%	209,049	2.1%
BOF-RTGS (FI)	3,092	1.2%	312,703	0.7%	1,560	1.0%	218,345	0.6%	1,533	1.4%	94,358	0.9%
EPM (ECB)	2,394	0.9%	15,130	<0.1%	-	-	-	-	2,394	2.2%	15,130	0.1%
DEBES (DK)	1,456	0.6%	79,950	0.2%	24	<0.1%	5,144	<0.1%	1,432	1.3%	74,806	0.7%
HERMES euro (GR)	214	0.1%	100,123	0.2%	9	<0.1%	14,731	<0.1%	205	0.2%	85,392	0.8%
Euro RIX (SE)	1,950	0.7%	65,593	0.1%	232	0.2%	3,388	<0.1%	1,718	1.6%	62,205	0.6%
CHAPS Euro (UK)	24,260	9.2%	2,002,128	4.2%	5,071	3.3%	752,054	2.0%	19,189	17.4%	1,250,074	12.3%

Source: ECB. *) EUR billions

Table 1.2

Distribution of payment flows in TARGET – 2001

	Total				Domestic				Cross-border			
	Value *)	%	Volume	%	Value *)	%	Volume	%	Value *)	%	Volume	%
ELLIPS (BE)	14,312.8	4.3%	1,841,885	3.4%	4,127.7	2.0%	901,095	2.1%	10,185.1	7.9%	940,790	8.2%
ELS**) (DE)	68,728.5	20.8%	23,860,179	44.5%	35,446.7	17.6%	20,122,522	47.7%	33,281.8	25.9%	3,737,657	32.5%
SLBE (ES)	53,221.2	16.1%	2,670,431	5.0%	48,255.5	24.0%	2,358,053	5.6%	4,965.7	3.9%	312,378	2.7%
TBF (FR)	87,572.7	26.5%	3,801,334	7.1%	68,465.1	34.0%	2,452,784	5.8%	19,107.6	14.9%	1,348,550	11.7%
IRIS (IE)	4,546.7	1.4%	543,897	1.0%	3,009.5	1.5%	306,994	0.7%	1,537.2	1.2%	236,903	2.1%
BI-REL (IT)	27,144.6	8.2%	10,247,620	19.1%	17,181.6	8.5%	8,892,860	21.1%	9,963.0	7.7%	1,354,760	11.8%
LIPS-Gross (LU)	4,436.4	1.3%	294,186	0.5%	1,232.0	0.6%	62,336	0.1%	3,204.4	2.5%	231,850	2.0%
TOP (NL)	21,193.3	6.4%	3,863,980	7.2%	9,325.1	4.6%	3,356,196	8.0%	11,868.2	9.2%	507,784	4.4%
ARTIS (AT)	4,981.2	1.5%	1,869,192	3.5%	2,461.9	1.2%	1,433,286	3.4%	2,519.3	2.0%	435,906	3.8%
SPGT (PT)	2,208.7	0.7%	545,962	1.0%	1,232.7	0.6%	314,625	0.7%	976.0	0.8%	231,337	2.0%
BOF-RTGS (FI)	3,582.6	1.1%	294,935	0.5%	2,312.3	1.1%	190,566	0.5%	1,270.3	1.0%	104,369	0.9%
EPM (ECB)	2,705.3	0.8%	15,504	<0.1%	-	<0.1%	-	<0.1%	2,705.3	2.1%	15,504	0.1%
DEBES***) (DK)	1,431.1	0.4%	106,325	0.2%	61.5	<0.1%	6,635	<0.1%	1,369.6	1.1%	99,690	0.9%
HERMES (GR)	2,448.1	0.7%	1,060,374	2.0%	1,407.0	0.7%	836,361	2.0%	1,041.1	0.8%	224,013	1.9%
Euro RIX (SE)	1,538.9	0.5%	70,216	0.1%	105.2	0.1%	4,071	<0.1%	1,433.7	1.1%	66,145	0.6%
CHAPS Euro (UK)	29,978.1	9.1%	2,579,532	4.8%	6,804.1	3.4%	927,789	2.2%	23,174.0	18.0%	1,651,743	14.4%

Source: ECB. *) EUR billions

**) RTGSplus, since 5 November 2001

***) KRONOS, since 11 November 2001

2. Average value of a TARGET cross-border payment – intraday pattern

Chart 2.1

Average value of a TARGET cross-border payment – intraday pattern

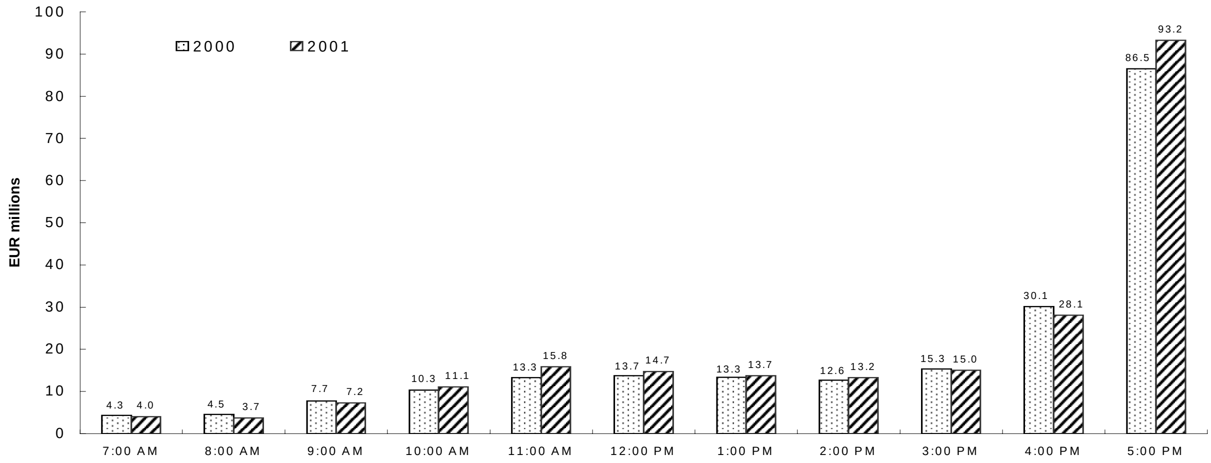


Chart 2.2

Average value of a TARGET cross-border interbank payment – intraday pattern

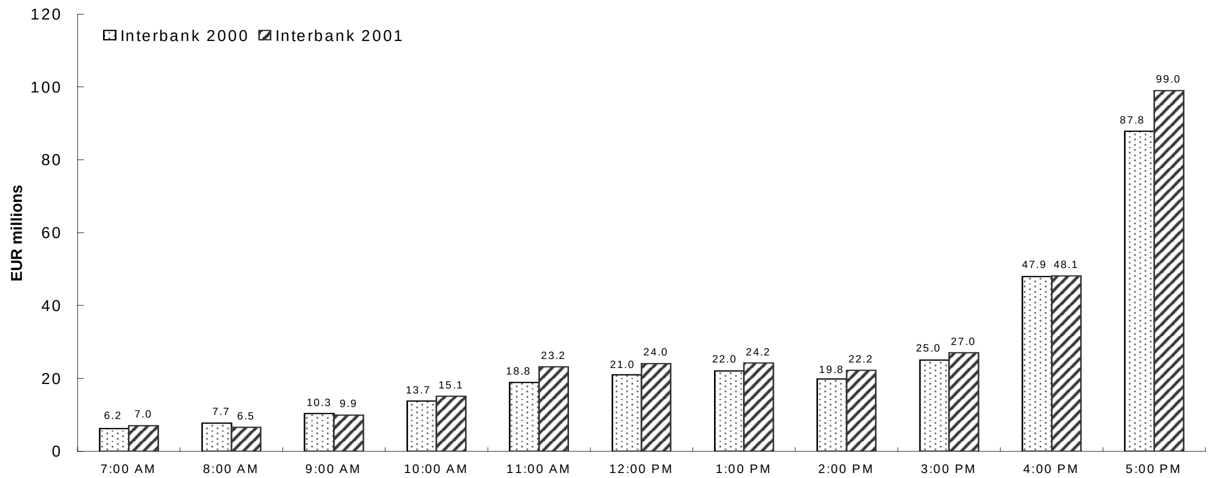
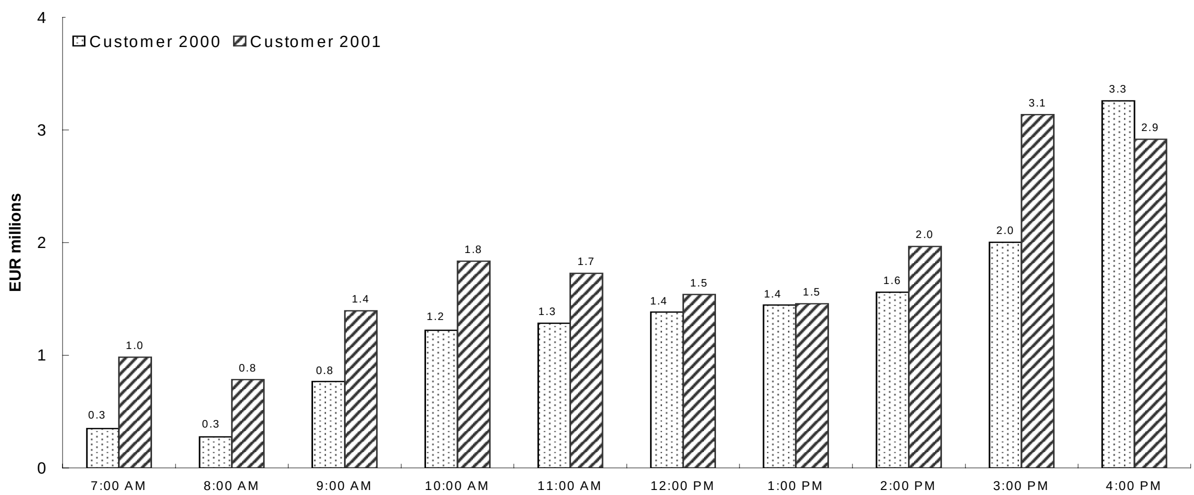


Chart 2.3

Average value of a TARGET cross-border customer payment – intraday pattern



3. TARGET cross-border intraday pattern

Chart 3.1

Intraday pattern of interbank payments – value

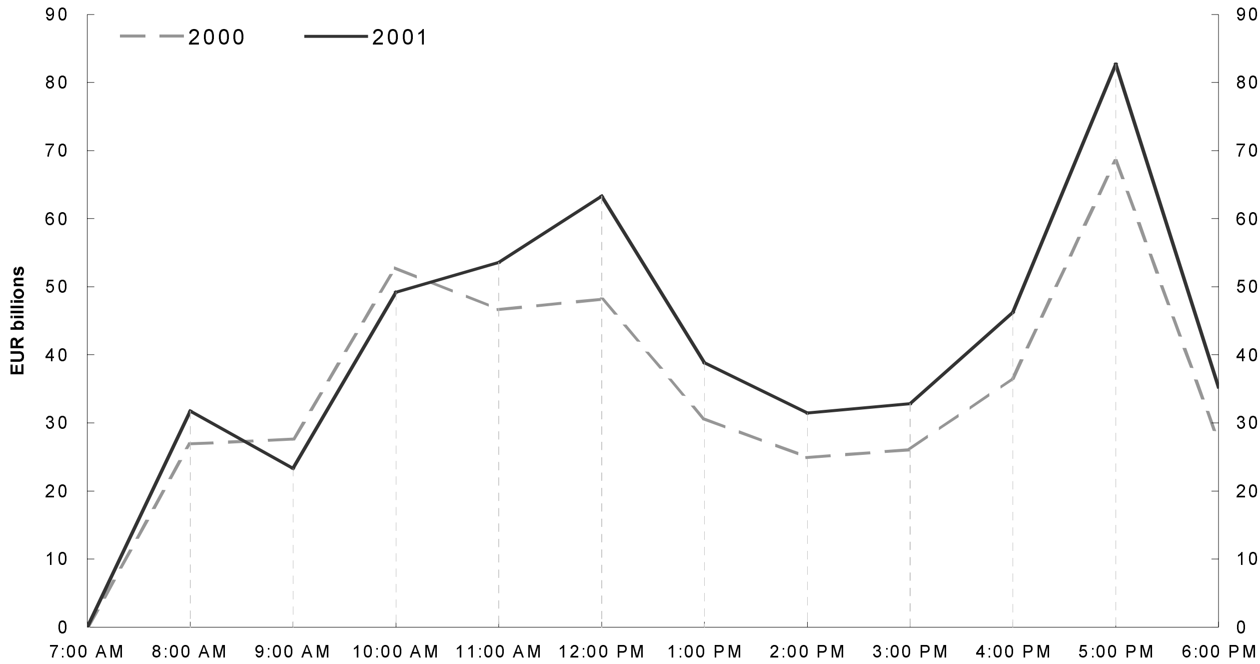


Chart 3.2

Intraday pattern of customer payments – value

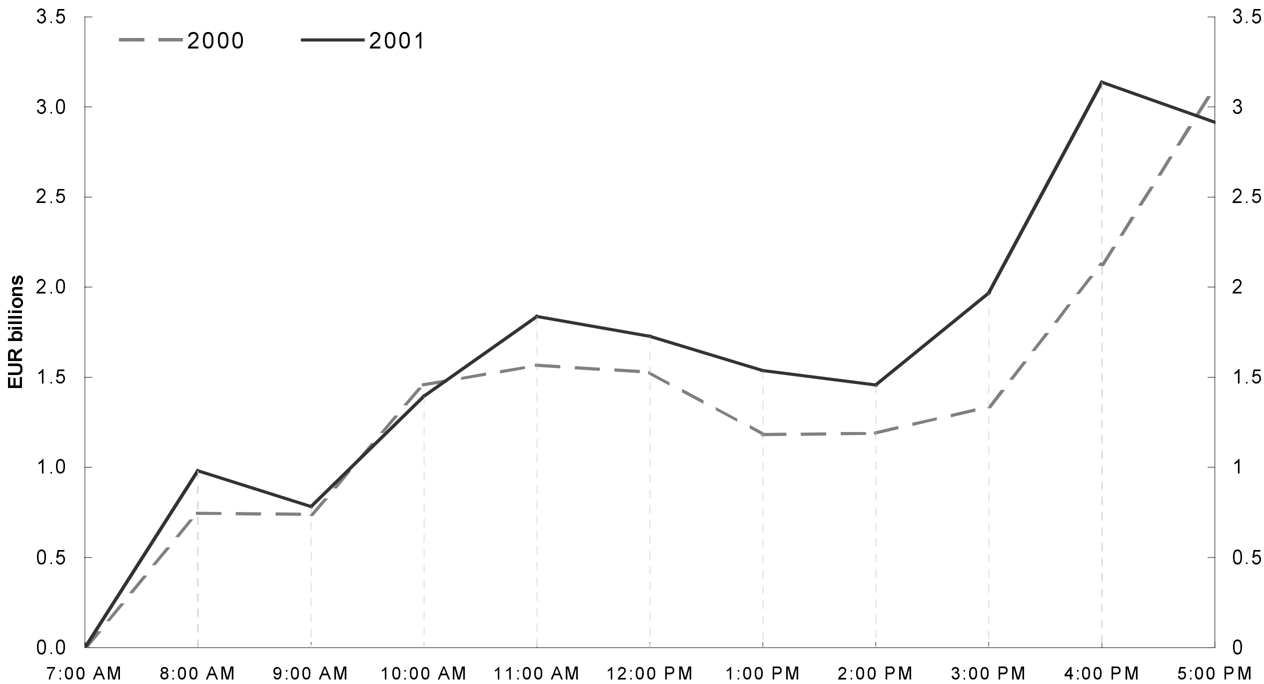


Chart 3.3

Intraday pattern of interbank payments – volume

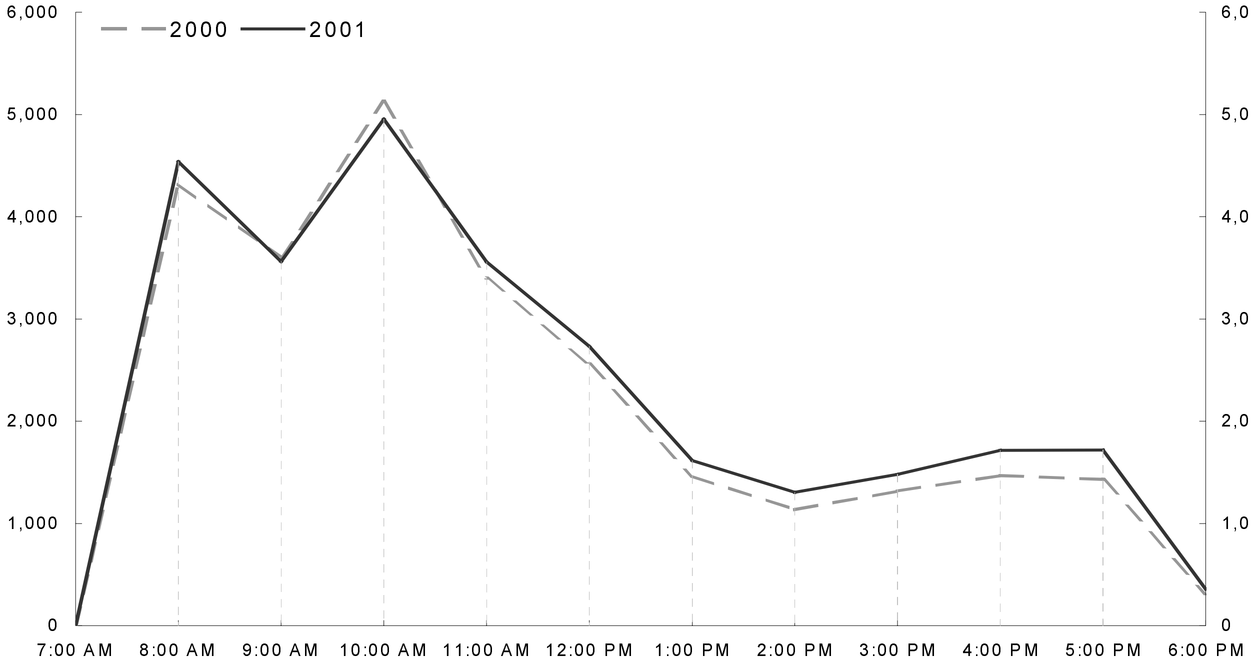


Chart 3.4

Intraday pattern of customer payments – volume

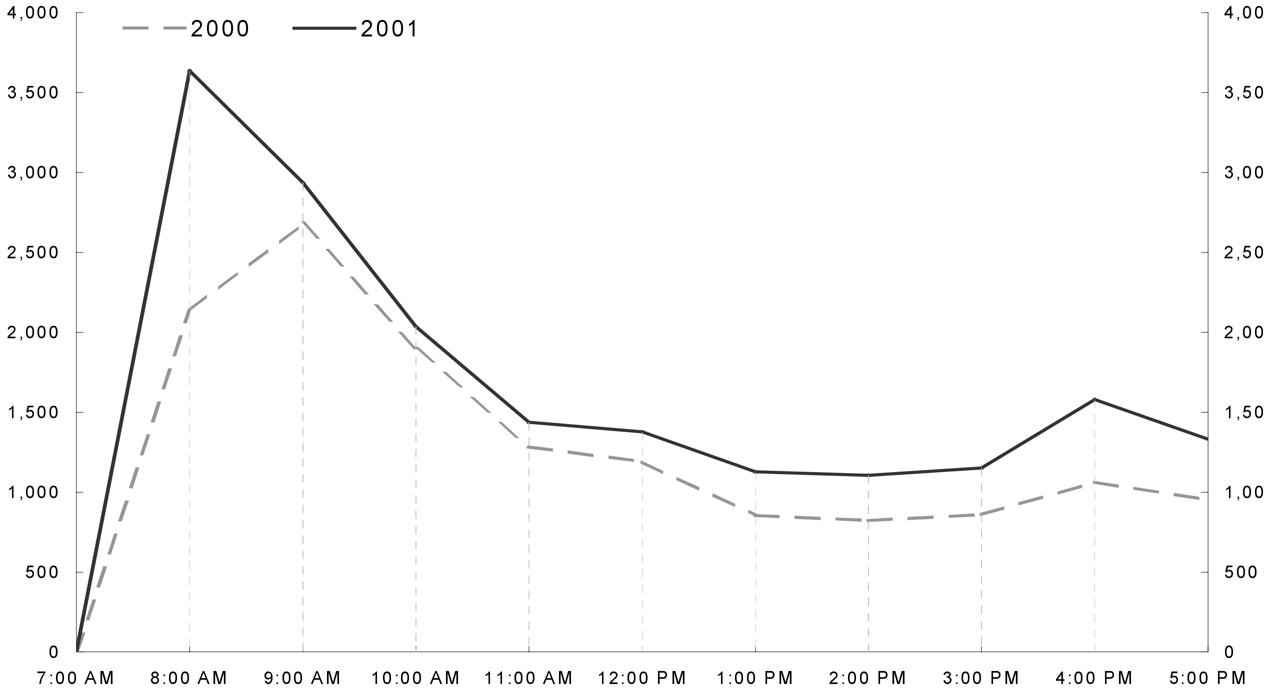


Chart 3.5

Intraday pattern for interbank payments, cumulative – value and volume

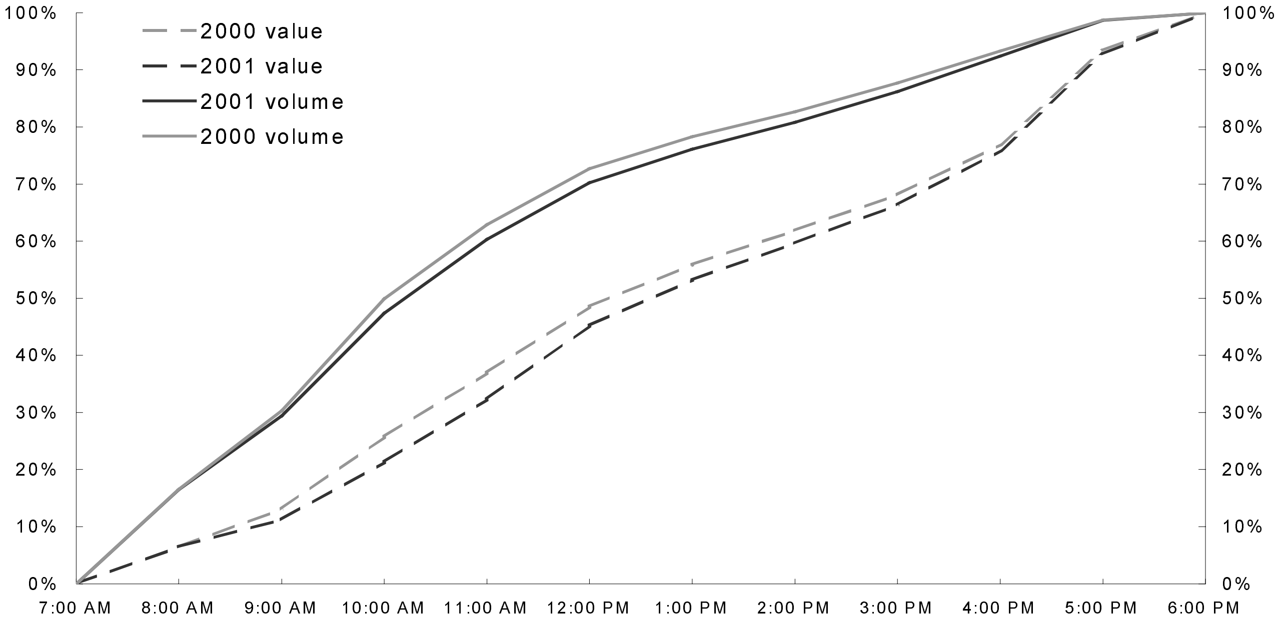
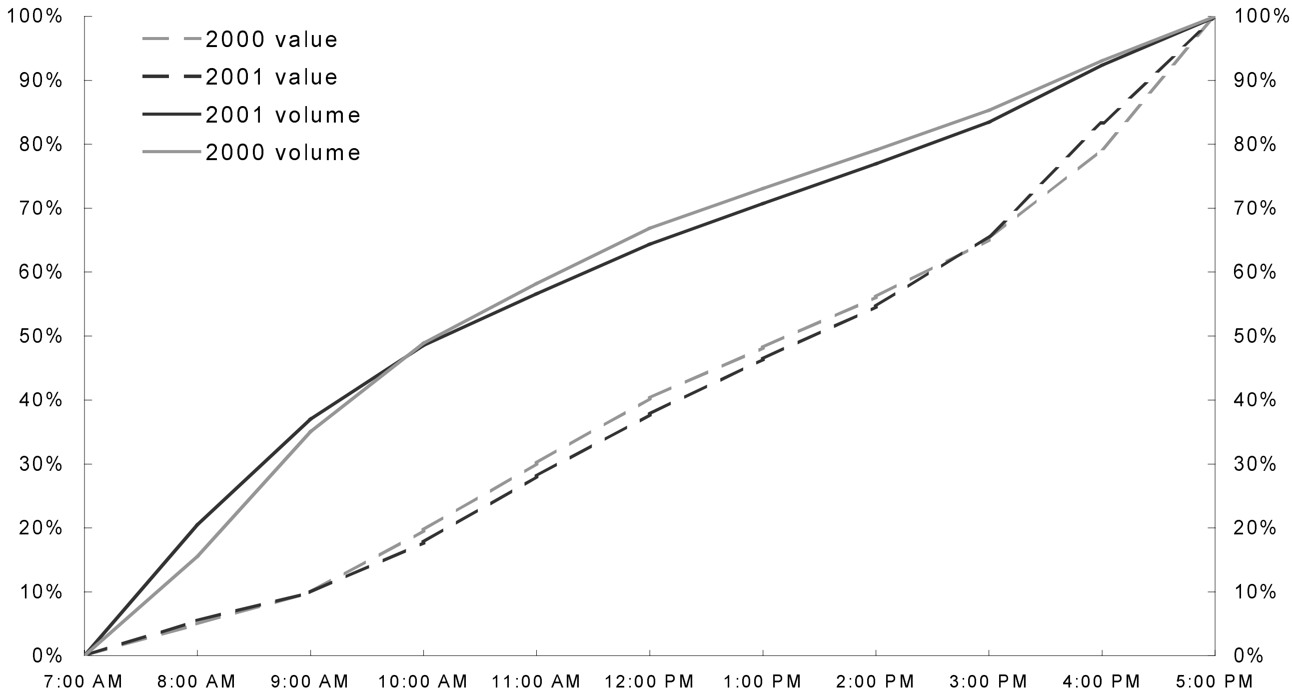


Chart 3.6

Intraday pattern for customer payments, cumulative – value and volume



2 Chronology of developments in TARGET

November 1994
The European Monetary Institute (EMI) published a report entitled "The EMI's intentions with regard to cross-border payments in Stage Three", which laid down the **basic principles** and **objectives** as well as the **approach to be adopted** by EU central banks and the EMI **in creating a new cross-border payment arrangement for Stage Three** of Economic and Monetary Union (EMU). A system for Stage III would be set up by linking the domestic real-time gross-settlement (RTGS) facilities. Only the national central banks (NCBs) would hold settlement accounts for banks, although the European Central Bank (ECB) would also be connected to the NCBs through the Interlinking system for the purpose of making payments for its own account or for the account of its customers. To ensure a level playing field for the banks, and to facilitate the creation of a single money market, some harmonisation of the operating features of the domestic RTGS systems was deemed necessary.

May 1995
Based on the decision of the EMI Council **to establish the TARGET system**, the report entitled "The TARGET system – Trans-European Automated Real-time Gross settlement Express Transfer system, a payment system arrangement for Stage III of EMU" was published. Through this report the EMI Council **defined certain basic principles** of the system and confirmed that **linkages** would be **established between national RTGS systems**. These linkages (the Interlinking system), together with the national RTGS systems, would form the TARGET system. In addition, the **RTGS systems of non-participating countries** (not identified at that stage) **may be connected to TARGET**, but only to process euro. Any participant in any RTGS system connected to TARGET would be entitled to send payments via TARGET and would be obliged to accept any such payment processed through TARGET. Domestic RTGS systems would retain their specific features insofar as this was compatible with the single monetary policy of the Eurosystem and a level playing field for credit institutions. **A certain level of harmonisation** was considered necessary, especially in three areas: i) the provision of intraday liquidity, ii) operating time; and iii) pricing policies.

With regard to **intraday liquidity**, in order to provide equal access to central bank credit throughout the area encompassed by EMU it was necessary to harmonise the definition of assets which can be accepted by the NCBs as collateral and the conditions under which their value will be taken into account. With regard to **operating hours** it was recognised that there would be a need for the Interlinking system and the national RTGS systems to be open for a large part of the day. Finally, the **pricing policies** should satisfy three requirements: i) avoiding unfair competition with the private sector, ii) avoiding the subsiding of payments or certain kinds of payments; and iii) avoiding undue competition within TARGET.

August 1996
The EMI **further defined the features of TARGET, especially in the following areas**: i) the provision of intraday liquidity; ii) pricing policies; iii) operating time; and iv) relations with other transfer systems, as described in the "First Progress Report on the TARGET Project" and in the "Technical Annexes to the First Report on the TARGET Project".

Intraday liquidity would be provided by NCBs, making use of two facilities: fully collateralised intraday overdrafts and intraday repurchase agreements. If reserve requirements were to be imposed for monetary policy reasons, reserve balances would be available intraday for payment systems purposes. Intraday liquidity would be free of interest and potentially unlimited, provided that it was fully collateralised. The EMI Council also agreed that collateral would, in principle, be the same for intraday credit as for monetary policy operations.

With regard to the provision of intraday credit in euro to non-euro area NCBs and to participants in RTGS systems of non-euro area countries, the EMI Council decided in December 1996 to prepare three mechanisms[29] aimed at preventing intraday credit, if granted to non-euro area NCBs, from spilling over to overnight credit. The final decision on which mechanism to implement was left to the Governing Council of the ECB.[30]

The EMI Council agreed that the TARGET **pricing policy** should have one major objective, namely cost recovery, and that it should take account of three main constraints: it should not affect monetary policy; it should maintain a level playing-field between participants; and it should contribute to risk reduction policies in payment systems.

With regard to **operating time**, it was decided that, in order to meet market and risk management needs, TARGET should have long operating hours and that, in order to facilitate the implementation of the single monetary policy and a level playing-field for credit institutions, all TARGET components should have a common closing time. It was therefore decided, as a general rule, that TARGET would open at 7 a.m. and close at 6 p.m. C.E.T.[31]

With regard to **relations with other funds transfer systems**, it was decided that all large-value NSSs would be required to settle in central bank money (i.e. through TARGET).

September 1997
A number of TARGET features were defined in more detail, in particular in the following areas: i) operating days; ii) pricing policies; iii) the provision of intraday liquidity to non-euro area countries; iv) the role of the ECB; and v) the provision of settlement services to cross-border large-value NSSs. These issues were elaborated in an EMI report entitled "Second Progress Report on the TARGET Project", and in the "Technical Annexes to the Second Progress Report on the TARGET Project".

With regard to **operating days**, it was decided that, in addition to Saturdays and Sundays, there would be two common holidays for TARGET: Christmas Day and New Year's Day. On other days, the TARGET system would be open, although NCBs would be allowed to close their domestic systems during national holidays if so required by law or by the banking communities. The Interlinking system between open RTGS systems would remain open.

In the area of **pricing policies** it was decided that a common transaction fee for cross-border TARGET transfers would be charged, based on the principle of full cost recovery and in line with EU competition policy. The pricing of domestic RTGS transfers in euro would continue to be determined at the national level, taking into account that the price of domestic and cross-border transfers in euro should be broadly similar. With regard to the cross-border leg, it was agreed that the single transaction fee would be set within the range €1.50 to 3.00. In addition, a price differentiation based on volume was anticipated.[32]

With regard to one of the possible mechanisms for the provision of **intraday liquidity to non-euro area NCBs**, namely an earlier closing time for non-euro area NCBs connected to TARGET, the EMI Council agreed that the earlier cut-off time should not apply to the processing of payments by the non-euro area NCBs, but rather to the use of intraday credit in euro by them. The time of this liquidity deadline would be determined by the Governing Council of the ECB, if it chose to implement this option.

29 These three mechanisms are as follows: i) Non-euro area NCBs would receive, and would provide to participants in their respective RTGS systems, only limited intraday credit, and the size of the limit may be zero. Should a non-euro area NCB incur an overnight overdraft on one of its accounts with a euro area NCB, overnight credit would be granted at a penalty rate. ii) Non-euro area NCBs would be allowed to incur unlimited intraday overdrafts in euro and could, in turn, grant unlimited collateralised intraday credit to participants in their respective RTGS systems. The risk of spillover of intraday credit into overnight credit would be contained through a system of penalties and sanctions applied in the event of overnight overdrafts. iii) Participants in RTGS systems in non-euro area countries would be required to complete their operations some time before the closing time of TARGET in order to allow any shortage of funds to become apparent early enough for non-euro area NCBs to be able to offset their RTGS participants' spillovers by borrowing euro in the money market while it was still open. (For details, see the report entitled "The single monetary policy in Stage Three – Specification of the operational framework", EMI, January 1997.)
30 EMI Annual Report 1996, EMI, April 1997.
31 EMI Annual Report 1996, EMI, April 1997.
32 See also the EMI Annual Report 1997, EMI, May 1998.

Furthermore, it was agreed that the **ECB** would perform the following **functions** in TARGET: i) provide end-of-day and possibly other control procedures for the TARGET system; ii) provide settlement services to cross-border large-value NSSs; iii) process payments for its own account; and iv) maintain accounts on behalf of its institutional customers (excluding credit institutions).

For the **provision of settlement services to cross-border large-value NSSs**, the EMI Council agreed on a method for the settlement of the future Euro Banking Association (EBA) clearing system within the euro area. This envisages that the EBA will open a central settlement account at the ECB and may also open settlement accounts with NCBs which agree to do so.

June 1998

All the EMI Council decisions referred to above were adopted by the Governing Council of the ECB. Furthermore, the **price structure for cross-border TARGET payments was agreed** upon. The fee to be charged for cross-border payments through TARGET between direct participants would range from €0.80 to €1.75, depending on the number of transactions.[33] The way in which banks' customers would be charged for TARGET payments was be left to the discretion of the commercial banks.

July 1998

The Governing Council of the ECB decided to grant **access to TARGET** to NCBs **and** participants in euro RTGS systems located in EU Member States outside the euro area. With regard to the **availability of intraday liquidity to non-euro area NCBs and their RTGS participants**, the ECB decided that at all times non-euro area NCBs would have to maintain an overall credit position vis-à-vis the other NCBs participating in or connected to TARGET taken as a whole. In order to ensure the availability of intraday liquidity in its euro RTGS system, each non-euro area NCB would have to make an intraday deposit with the Eurosystem.[34]

November 1998

A number of TARGET features were defined in more detail, in particular in the following areas: i) access to euro RTGS systems linked to TARGET; (ii) provision of intraday credit; (iii) central bank correspondent banking relations; and (iv) the legal framework for TARGET. These issues are addressed in the "Third Progress Report on the TARGET Project".

Only supervised credit institutions located in the European Economic Area (EEA) could be **admitted as direct participants** in a national RTGS system. However, certain other entities may also be admitted as participants in a national RTGS system subject to the approval of the relevant NCB (see Annex entitled "The organisation of TARGET and its management structure").

Unlimited, but fully collateralised, **intraday credit** would be provided to RTGS participants fulfilling the general counterparty eligibility criteria of the ESCB.[35] Unlimited intraday credit could 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, provided that no spillover to overnight credit was possible. At their own discretion, NCBs could decide to grant intraday credit to investment firms, on condition that such investment firms be subject to a formal spillover prevention arrangement. Any arrangement under which, in specific circumstances, the NCB granted intraday credit to organisations providing clearing or settlement services would have to be approved in advance by the Governing Council of the ECB.

33 See also the annex entitled "The organisation of TARGET and its management structure" and the ECB's Press Release of 10 June 1998.
34 See also the annex entitled "The organisation of TARGET and its management structure" and the ECB's Press Release of 8 July 1998.
35 See "The Single Monetary Policy in Stage Three, General Documentation on ESCB Monetary Policy Instruments and Procedures", ECB, September 1998, and its updated version "The Single Monetary Policy in Stage Three, General Documentation on Eurosystem Monetary Policy Instruments and Procedures", ECB, November 2000.

4 January 1999
TARGET successfully went live.[36] 15 national RTGS systems and the ECB Payment Mechanism (EPM) were linked together through TARGET.

However, since the banks needed some time to adapt to the new payment systems environment and to new treasury management practices, the ESCB provided an "extended service window" between 11 and 29 January 1999 by delaying the closing time of TARGET by one hour from 6 to 7 p.m. C.E.T. To avoid any abuse of this arrangement a special fee of €15 was levied for each payment made during the extra hour. Since the banks gradually adjusted to a more efficient way of managing their liquidity, it did not prove necessary to continue to make use of the extended TARGET opening hours.[37]

March 1999
With regard to TARGET operating days, in 1999 the system was supposed to remain closed only on New Year's Day and Christmas Day. However, in order to safeguard the transition to the year 2000, the Governing Council of the ECB decided that, by way of exception, TARGET would also remain closed on 31 December.[38]

July 1999
Due to rather low payment traffic on traditional public (or bank) holidays, and at the request of the European banking industry, the Governing Council of the ECB decided to have six closing days in 2000 in addition to Saturdays and Sundays. These were New Year's Day, Good Friday, Easter Monday, 1 May (Labour Day), Christmas Day and 26 December. These days were de facto non-settlement days for the money market and the financial markets in euro, as well as for foreign exchange transactions involving the euro. However, in some cases, in euro area countries in which one or other of these days was not a public holiday, the national RTGS system remained open for limited domestic payment activity.[39]

May 2000
The Governing Council of the ECB decided on the TARGET operating days for 2001. These were the same as for 2000, with the exception of one additional closing day on 31 December, introduced in order to safeguard the smooth transition of retail payment systems and internal bank systems to the euro banknotes and coins.[40]

October 2000
A TARGET Information System (TIS) was introduced, providing users of TARGET with information on the status of the system.[41]

November 2000
The TARGET 2000 upgrade went live successfully. It was the first common TARGET software release since the system commenced live operations in January 1999. The upgraded software included the new common message format for customer payments, MT103, and the straight-through processing version, MT103+.

December 2000
A long-term calendar for TARGET operating days, applicable as from 2002 until further notice, was established. Accordingly, in addition to Saturdays and Sundays, TARGET will be closed on New Year's Day, Good Friday (Catholic/Protestant), Easter Monday (Catholic/Protestant), 1 May (Labour Day), Christmas Day and 26 December. On these closing days TARGET as a whole, including all the national RTGS systems, will be closed. A long-term calendar was deemed necessary to eliminate uncertainty for financial markets and to avoid problems arising from different national TARGET operating days. On TARGET closing days no standing facilities will be available at the NCBs. These days will not be settlement days for the euro money market or for foreign exchange transactions involving the euro. The EONIA will also not be published. Furthermore, the

[36] For an overview of TARGET developments in 1999, see ECB Annual Report 1999, ECB, April 2000.
[37] See also ECB's Press Release of 11 January 1999 and ECB Monthly Bulletin, March 1999.
[38] See also ECB's Press Releases of 3 September 1998 and 31 March 1999.
[39] See also ECB's Press Release of 15 July 1999.
[40] See ECB's Press Release of 25 May 2000.
[41] See Chapter III, Section 4 of the TARGET Annual Report 2000, ECB, May 2001.

correspondent central banking model (CCBM) for the cross-border use of collateral will be closed on TARGET closing days.[42]

The **legal framework** for TARGET is based on: i) the Guideline of the European Central Bank on TARGET, which applies to euro area NCBs and the ECB; and ii) a TARGET Agreement which provides a mechanism whereby non-euro area NCBs are able to connect to TARGET and adhere to the rules and procedures referred to above, subject to certain modifications. National RTGS rules have been amended according to the terms and conditions of the Guideline and the Agreement.[43]

[42] See the ECB's Press Release of 14 December 2000.
[43] See also the Annex entitled "The Organisation of TARGET and its Management Structure".

3 The organisation of TARGET and its management structure

TARGET allows for the smooth implementation of the single monetary policy, facilitates the efficient functioning of the money market and improves the soundness and efficiency of cross-border payments in euro. The system successfully commenced live operations on 4 January 1999.

Organisation

The TARGET system is the real-time gross settlement system for the euro. It is a decentralised system consisting of 15 national RTGS systems, the EPM and the Interlinking system, which is a telecommunications network interconnecting these systems.

Legal framework

The rules governing TARGET and its functions can be found in the Guideline of the European Central Bank on a Trans-European Automated Real-time Gross settlement Express Transfer system (TARGET Guideline) and the sets of rules and procedures in national regulations and/or contractual provisions (national RTGS rules) applicable to each of the national RTGS systems and the EPM. The TARGET Guideline came into effect on 1 January 1999, the starting date of Stage Three of EMU. The decision-making body for TARGET matters is the Governing Council of the ECB, consisting of the governors of the euro area central banks and the members of the Executive Board of the ECB.

The TARGET Guideline applies to the ECB and the NCBs participating in the Eurosystem. It includes provisions on, inter alia, a number of minimum common features with which each national RTGS system participating or connected to TARGET must comply (e.g. access criteria, currency unit, pricing rules, time of operation, payment rules and intraday credit), on arrangements for cross-border payments through the Interlinking system and on the management of TARGET. For the NCBs of the non-euro area EU Member States, the TARGET Agreement provides a mechanism whereby non-euro area NCBs are able to connect to TARGET, must adhere to the rules and procedures referred to above and shall implement the modifications and specifications appropriate for the non-euro area NCBs.

On 26 April 2001, in accordance with its policy of transparency through the publication of its legal instruments, the ECB published the TARGET Guideline on its website. The document has also been published in the Official Journal of the European Communities, L 140, 24/05/2001 (pp. 72 to 86).

Participation in the system

Only supervised credit institutions as defined in the first indent of Article 1 of the First Banking Co-ordination Directive[44] and which are located in the European Economic Area (EEA) can be admitted as direct participants in a national RTGS system. In addition, by way of exception, the following entities may also be admitted as participants in a national RTGS system subject to the approval of the relevant NCB:

- treasury departments of central or regional governments of Member States active in money markets;
- public sector bodies of Member States authorised to hold accounts for customers;
- investment firms established in the EEA which are authorised and supervised by a recognised competent authority; and
- organisations providing clearing or settlement services subject to oversight by a competent authority.

44 Which is now incorporated into Directive 2000/12/EC of the European Parliament and the Council of 20 March 2000 relating to the taking up and pursuit of the business of credit institutions.

The criteria for participation in a national RTGS system are set out in the RTGS rules concerned and are available to the interested parties. All credit institutions participating in national RTGS systems automatically have access to the cross-border TARGET service.

It is also possible for credit institutions to access TARGET remotely.[45] However, remote participants can only participate in TARGET on a credit basis, i.e. they cannot have recourse to intraday credit or to the Eurosystem's credit facilities.

Types of transactions handled

TARGET can be used for all credit transfers in euro between and within the current EU Member States. It processes both interbank and customer payments and there is no upper or lower limit placed on the value of payments. All payments are treated equally.

The following types of transactions are handled by TARGET: i) payments directly connected with central bank operations in which the Eurosystem is involved either on the recipient or the sender side; ii) the settlement operations of large-value netting systems operating in euro; iii) interbank and commercial payments in euro; and iv) payments between Eurosystem central banks. It is mandatory for the first two types of transactions to be settled through TARGET.

Technical infrastructure

TARGET is a decentralised system with only certain functions performed centrally by the ECB. The TARGET system consists of one RTGS system in each EU Member State and the EPM. In order to allow payment orders to move from one system to another these individual components are interconnected via the Interlinking system.

TARGET allows credit institutions to use the same connection for both domestic and cross-border payments, i.e. no separate communication channel is required. All credit institutions which are addressable through TARGET are listed in the TARGET directory, which now includes more than 37,000 addressable entities.

In order to initiate a cross border payment, the ordering TARGET participant simply sends the payment order to the national RTGS system in which it participates. Since domestic formats can vary from country to country, the national RTGS systems may offer conversion features to convert domestic payments into the Interlinking format and vice versa. This means that the sending and receiving participants each use their own domestic format.[46]

At the present time the SWIFT FIN service is used as communication network for the Interlinking system. However, in order to allow for the possibility of changes in the network services, application-oriented functions (e.g. payment system functions) are clearly separated from network functions (e.g. data transmission, Message Authentication Code (MAC) calculation and MAC checking at the communication level).

The design of the messages exchanged via the TARGET system is based on the widely used SWIFT message standards MT100 and MT103 (STP and non-STP) for customer payments and MT202 for interbank payments. In order to avoid a merging of the payment data (e.g. amount, beneficiary, etc.) with the protocol information of the communication, all messages are presented within an "envelope", namely the SWIFT proprietary message MT198. This means that communication data are presented only in the header and the trailer of the SWIFT MT198 while the payment information itself is incorporated into the body of the message.

45 Remote access to settlement facilities in TARGET is defined as the possibility for an institution established in one country within the EEA to become a direct participant in the RTGS system of another country and, for this purpose, to have a settlement account in euro in its own name with the central bank of the second country without necessarily having established a branch or subsidiary in that country.

46 Information about the mapping of domestic payments messages to and from Interlinking formats can be obtained from the "Information guide for credit institutions using TARGET".

In accordance with the logic of RTGS system processing, the payment messages are processed individually, i.e. item by item. The Interlinking system uses processing cycles, which are directly linked to each individual payment message. This means that an open cycle can only be closed after the respective notification has been assigned to the message initiating the settlement request. A cycle is usually completed within a couple of minutes, sometimes only a few seconds.

While the above mentioned subsets of SWIFT message types are used for payment systems purposes, a specific "Interlinking design" has been created for Interlinking messages.[47]

Settlement procedures

TARGET is a real-time gross settlement (RTGS) system. Payments are settled one by one on a continuous basis in central bank money. TARGET thus provides for immediate and final settlement of all payments provided that there are sufficient funds or overdraft facilities available in the sending institution's account with its central bank.

To initiate a cross-border payment, the ordering credit institution sends a payment order to the local NCB through the local RTGS system. The sending NCB checks the validity of the payment and that the receiving RTGS is operational. The sending NCB is entrusted with the task of: i) converting, if necessary, the payment order into the message standards which are used by the Interlinking system; ii) applying the additional security features used during communications between NCBs; and iii) sending the message through the Interlinking network to the receiving NCB. Once the sending NCB has checked the validity of a payment message, the amount of the payment is irrevocably, and without delay, debited from the RTGS account of the sending credit institution and credited to the Interlinking account of the receiving NCB.

As soon as the receiving NCB receives the payment message, it checks the security features and verifies that the receiving bank, as specified in the payment order, is a participant in the domestic RTGS system. If so, the receiving NCB converts the message from Interlinking standards into domestic standards if necessary, debits the Interlinking account of the sending NCB, credits the receiving bank's RTGS account and sends a positive acknowledgement to the sending NCB/ECB. Finally, the receiving NCB sends the payment information through the local RTGS system to the receiving bank. If the receiving bank is not a member of the RTGS system, the receiving NCB rejects the payment and asks the sending NCB to re-credit the amount to the sending bank's account.

Under normal circumstances, cross-border TARGET payments reach their destination a few minutes after being debited from the account of the sending participant.

Liquidity

Since TARGET settles payments in central bank money with immediate finality, settlement risk and credit risk are eliminated. In TARGET, the account of the receiving institution is never credited before the account of the sending institution has been debited. As a result, the receiving institution always has the certainty that funds received through TARGET are unconditional and irrevocable. Thus the receiving institution is not exposed to any credit or liquidity risk originating from such payments received.

47 TARGET messages exchanged via the Interlinking system are classified either as requests, notifications, free format or as statistical information messages: Request messages are used when a specific action on the part of the receiving NCB/ECB is required. Typical messages of this type include payment messages. Only payments denominated in euro can be processed via TARGET. Notification messages are replies to requests. The notifications (or acknowledgements) can be either positive (ACK) or negative (NACK). A notification message completes the communication cycle initiated by a request. Free format messages (IFFM) are plain text messages containing information that might be useful either to all central banks (broadcast messages) or to one particular NCB/ECB. Unlike request messages, an IFFM does not require a response in the form of a notification message. Statistical information messages (ISIM) contain statistical information on the Interlinking traffic between NCBs/the ECB.

The availability and cost of liquidity are two crucial issues with regard to the smooth processing of payments in RTGS systems. In TARGET, liquidity can be managed very flexibly and it is available at a low cost, since minimum reserves – which credit institutions are required to hold with their central bank – are available for settlement purposes during the day. Moreover, the averaging provisions applied to minimum reserves allow for flexibility in the banks' end-of-day liquidity management. The overnight lending and deposit facilities also allow for last-minute reactions to unexpected liquidity situations. In addition, intraday credit is provided free of charge by the Eurosystem. However, all central bank credit must be fully collateralised, although the range of eligible collateral is very wide. Assets eligible for monetary policy purposes are also eligible for intraday credit.

With regard to the availability of intraday liquidity to non-euro area NCBs and their RTGS participants, the non-euro area NCBs have to maintain, at all times, an overall credit position vis-à-vis the other NCBs participating in or connected to TARGET taken as a whole. In order to ensure the availability of intraday liquidity in their euro RTGS systems, non-euro area NCBs have to make intraday deposits with the ESCB. The provision of collateralised intraday credit in euro to participants in national euro RTGS systems is subject to the following conditions: i) the maximum amount of intraday credit granted by the non-euro area NCB to any single participant in its respective national RTGS system shall be €1 billion for the Bank of England, €0.650 billion for Danmarks Nationalbank, and €0.5 billion for Sveriges Riksbank; ii) 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 must square their positions so that they do not incur an overnight overdraft in euro); iii) should a participant, for any reason, be unable to square its position by the close of TARGET, it shall be subject to penalties; iv) the rate at which non-euro area NCBs may remunerate the end-of-day euro balances held by participants with them shall be the rate of the ESCB's deposit facility; and v) the assets which 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 collateral which is eligible for ESCB credit operations.

Box 4

The connection of euro RTGS systems of non-euro area central banks to TARGET

A unique feature of TARGET is that its euro payment services are available throughout the EU, i.e. across a wider area than that in which the single currency has been adopted. The specific situation with regard to the three EU countries which did not adopt the euro from the outset (Denmark, Sweden and the United Kingdom) arose because all EU NCBs had to start making preparations for TARGET before knowing whether they would be part of the euro area, and because of the limited time available for setting up the system. Thus the EMI Council agreed in 1995 that all EU NCBs should prepare themselves for connection to TARGET. It was indicated, however, that for those countries which did not adopt the euro from the outset, the connection would be subject to certain limitations and conditions, which would be decided by the Governing Council of the ECB.

The TARGET Agreement (and its transposition into national RTGS rules) provides a mechanism whereby non-euro area NCBs are able to connect to TARGET, must adhere to the rules and procedures stipulated in the TARGET legal documentation and implement the modifications and specifications appropriate for the non-euro area NCBs. Via the TARGET Agreement any changes made to the TARGET Guideline are also directly applicable to the non-euro area NCBs (see the section entitled "Legal framework" in Annex 3).

As of the provision of intraday liquidity, the non-euro area NCBs are allowed to offer only limited amounts of intraday liquidity in euro to their credit institutions on the basis of a deposit in euro held with the Eurosystem. Safeguards have been established in order to ensure that non-euro area credit institutions will always be in a position to reimburse intraday credit in due time, thus avoiding any need for overnight central bank credit in euro. This arrangement is a very unique one, as it is the first time a central bank has allowed central banks belonging to other currency areas to provide settlement facilities in its currency. A policy statement issued by the ECB in November 1998 made it clear that central bank money in euro can only be provided by central banks belonging to the Eurosystem and indicated that the facility offered to non-euro area central banks was a specific exception.

Pricing

The price charged for cross-border payments (excluding VAT) through TARGET between direct participants is based on the number of transactions sent by a participant within a single RTGS system 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.

Fees are charged only by the sending NCB/ECB to the sending participant in the national RTGS system/EPM. No fees are charged by the receiving NCB/ECB to the receiving participant.

The cross-border TARGET fee structure does not cover the costs of the telecommunications link between the sender and the national RTGS system in which the sender is a participant. The fee for this telecommunications link is paid according to the domestic rules.

The price of domestic RTGS transfers in euro is determined at the national level by the NCBs. When determining the price structure, the NCBs take into account the principles of cost recovery, transparency and an open market economy with free competition and non-discrimination. They must also take into account the fact that the fees for domestic and cross-border transfers should be in the same range so as not to distort the singleness of the money market.

RTGS systems may charge extra fees for any additional services they may provide (e.g. the entering of paper-based payment instructions).

Management structure

The management structure of TARGET can be divided into day-to-day management and activities aimed at assessing, reviewing and optimising the system.

The day-to-day management of TARGET is the responsibility of the settlement managers of the NCBs and of the ECB (in the case of the EPM). This is co-ordinated by the TARGET co-ordinator nominated by the ECB. The settlement managers and the TARGET co-ordinator communicate via a teleconference facility or alternative communication means several times a day.

Problems that cannot be addressed at the level of settlement managers are passed on to the TARGET crisis managers for further assessment. This group is co-ordinated by the ECB Director General – Payment Systems, who will refer problems to the Executive Board of the ECB for presentation to the Governing Council as appropriate.

Activities aimed at assessing and optimising the TARGET system take place on a continuous basis on the Payment and Settlement Systems Committee (PSSC) and in its working groups, which are, in general, composed of representatives of the Eurosystem central banks. The performance of TARGET as well as possible enhancements with regard to technical characteristics and organisational features are assessed and reviewed at this level. In this context, an active exchange of views and co-operation with the TARGET users plays an important role. In 2001 the ECB and the NCBs maintained a fruitful dialogue with TARGET users by means of regular meetings of the national TARGET user groups (see Chapter III, Section 1). In addition, meetings were organised at the Eurosystem level. The main aim of these meetings is to improve understanding of the participants' business needs.

4 Glossary

Availability:	criterion for evaluating a system on the basis of its back-up facilities and the possibility of switching over to them.
Bank identifier code (BIC):	a universal means of identifying financial institutions in order to facilitate the automated processing of telecommunication messages in financial environments.
Business continuity:	a payment system or securities settlement system arrangement which aims to ensure that it meets agreed service levels even if one or more components of the system fail or it is affected by some other abnormal event. This includes both preventative measures and arrangements to deal with such events.
Central bank credit (liquidity) facility:	a standing credit facility at a central bank which can be drawn upon by certain designated account holders (e.g. banks). The facility can be used automatically at the initiative of the account holder. The loans typically take the form of either advances or overdrafts on an account holder's current account which may be secured by a pledge of securities or by repurchase agreements. See **daylight credit**, **marginal lending facility**.
CLS Bank (CLSB)	Continuous linked settlement (CLS). The CLS Bank (CLSB) will provide global multi-currency settlement services for foreign exchange (FX) transactions, using a payment versus payment (PvP) mechanism, meaning that a foreign exchange operation is settled only if both counterparties simultaneously have a sufficient position in the currency they sell.
Correspondent banking:	an arrangement under which one bank provides payment services and other services to another bank. Payments through correspondents are often executed through reciprocal accounts (nostro and loro accounts), to which standing credit lines may be attached. Correspondent banking services are primarily provided across international boundaries, but are also found as agency relationships in some domestic contexts. A loro account is the term used by a correspondent to describe an account held on behalf of a foreign bank; the foreign bank would regard this account as its nostro account.
Correspondent central banking model (CCBM):	a model established by the European System of Central Banks (ESCB) with the aim of enabling **counterparties** to transfer eligible assets as collateral in a cross-border context. Under the CCBM, national central banks (NCBs) act as custodians for one another. This means that each NCB has a securities account in its securities administration for each of the other NCBs (and for the European Central Bank (ECB)).
Counterparty:	the opposite party in a financial transaction (e.g. the other party in any transaction with a central bank).
Credit institution:	a credit institution is an institution covered by the definition contained in Article 1(1) of Directive 2000/12/EC of the European Parliament and of the Council of 20 March 2000 relating to the taking up and pursuit of

the business of credit institutions. According to this definition, a credit institution is (a) an undertaking whose business is to receive deposits or other repayable funds from the public and to grant credit for its own account, or (b) an electronic money institution within the meaning of Directive 2000/46/EC of the European Parliament and of the Council of 18 September 2000 on the taking up, pursuit and prudential supervision of the business of electronic money institutions.

Credit risk/exposure: the risk that a **counterparty** will not settle an obligation in full, either when due or at any time thereafter. In exchange-for-value systems, the credit risk is generally defined as including the replacement cost risk and the **principal risk**.

Credit transfer: a **payment order** or sometimes a sequence of payment orders made for the purpose of placing funds at the disposal of the beneficiary. Both the payment instructions and the funds described therein move from the bank of the payer/originator to the bank of the beneficiary, possibly via several other banks as intermediaries and/or more than one **credit transfer system**.

Credit transfer system: a funds **transfer system** through which payment orders move from (the bank of) the originator of the transfer message, or payer, to (the bank of) the receiver of the message, or beneficiary.

Cross-border settlement: a **settlement** which takes place in a country other than the country or countries in which one or both of the parties to the trade are located.

Customer payment: a **payment** where the originator or the final beneficiary, or both, are not financial institutions.

Daily processing: the complete cycle of processing tasks which need to be completed in a typical business day, from start-of-day procedures to end-of-day procedures, including the backing-up of data.

Daily settlement: the completion of **settlement** on the day of value of all payments accepted for settlement.

Daylight credit (daylight overdraft, daylight exposure, intraday credit): credit extended for a period of less than one business day. Daylight credit may be extended by central banks to even out mismatches in payment settlements. In a **credit transfer system** with end-of-day final settlement, daylight credit is, in effect, extended by a receiving institution if it accepts and acts on a payment order even though it will not receive final funds until the end of the business day.

Deposit facility: a standing facility of the Eurosystem which **counterparties** may use to make overnight deposits at a national central bank and which are remunerated at a pre-determined interest rate.

EEA (European Economic Area) countries: the EU Member States plus Iceland, Liechtenstein and Norway.

Final (finality): the state of being irrevocable and unconditional.

Final settlement: **settlement** which is irrevocable and unconditional.

Final transfer: an irrevocable and unconditional transfer which effects a discharge of the obligation to make the transfer. The terms "delivery" and "**payment**" are each defined as a final transfer.

Financial the SWIFT II application within which all SWIFT II user-to-user

application (FIN): messages are input and output. Certain user-to-SWIFT and SWIFT-to-user messages may also be sent and received within FIN.

Financial risk: term covering a range of risks incurred in financial transactions – both liquidity and credit risks. See also **liquidity risk**, **credit risk/exposure**.

Foreign exchange settlement risk: the risk that one party to a foreign exchange transaction will pay the currency it sold but not receive the currency it bought. This is also called cross-currency **settlement risk** or **principal risk**. It is also referred to as **Herstatt risk**, although this is an inappropriate term given the differing circumstances in which this risk has materialised.

Gross settlement system: a **transfer system** in which the **settlement** of funds or securities occurs individually.

Herstatt risk: see **principal risk**.

Interbank payment: a **payment** where both the originator and the final beneficiary are financial institutions.

Interlinking system: within TARGET, the Interlinking system provides common procedures and an infrastructure which allow **payment orders** to move from one domestic **RTGS system** to another..

Intraday credit: see **daylight credit**.

Intraday liquidity: funds which can be accessed during the business day, usually to enable financial institutions to make **payments** in real time. See also **intraday credit**.

Irrevocable and unconditional transfer: a transfer which cannot be revoked by the originator and is unconditional. See **final**.

Interlinking Test Environment System (ITES) where interlinking test messages based on the use of envelops (MT198/…), running on pre-defined scenarios, are validated and tested before being introduced to 'live' environment.

Large-value funds transfer system: a funds **transfer system** through which large-value and high-priority funds transfers are made between participants in the system for their own account or on behalf of their customers. Although, as a rule, no minimum value is set for the **payments** they carry, the average size of payments passed through such systems is usually relatively large. Large-value funds transfer systems are also known as wholesale funds transfer systems.

Large-value payments: **payments**, generally of very large amounts, which are mainly exchanged between banks or between participants in the financial markets and usually require urgent and timely **settlement**.

Liquidity risk: the risk that a **counterparty** (or participant in a settlement system) will not settle an obligation for full value when due. Liquidity risk does not imply that a counterparty or participant is insolvent, since it may be able to settle the obligations at some unspecified time thereafter.

Marginal lending facility: a standing facility of the Eurosystem which **counterparties** may use to receive overnight credit from a national central bank at a pre-determined interest rate.

Net settlement system:	a funds transfer or securities settlement system whose **settlement** operations are completed on a bilateral or multilateral net basis.
Obligation:	a duty imposed by contract or by law.
Payment:	the transfer of a monetary claim on a third party from the payer to the payee. Typically, claims take the form of banknotes or deposit balances held at a financial institution or at a central bank.
Payment message/ instruction/ order:	an order or instruction to transfer funds (in the form of a monetary claim on a third party) to the account of the beneficiary. The order may relate either to a credit transfer or to a debit transfer. See also **credit transfer**, **payment**.
Payment system:	a payment system consists of a set of instruments, banking procedures and, typically, interbank funds transfer systems which facilitate the circulation of money.
Payment Settlement Message Request	(PSMR) The normal settlement of cross-border payments involves the exchange of PSMRs from the sending Central bank and PSMNs (see below) from the receiving Central Bank.
Payment Settlement Message Notification	(PSMN) A PSMN is normally positive (indicating that the beneficiary's settlement account in the receiving Central Bank's books has been successfully credited). It may be negative, in which case it is returned to the sending Central Bank with an error code.
Principal risk:	the risk that a party will lose the full value involved in a transaction (**credit risk**). In the **settlement** process, this term is typically associated with exchange-for-value transactions when there is a lag between the **final settlement** of the various legs of a transaction (i.e. the absence of delivery versus payment). The principal risk which arises from the settlement of foreign exchange transactions (**foreign exchange settlement risk**) is sometimes called cross-currency settlement risk or **Herstatt risk**. See **credit risk/exposure**.
Real time:	the processing of instructions at the time they are received rather than at some later time.
Real-time gross settlement (RTGS):	the continuous (real-time) **settlement** of funds or securities transfers individually on an order-by-order basis (without netting).
Real-time gross settlement (RTGS) system:	a settlement system in which processing and **settlement** take place on an order-by-order basis (without netting) in real-time (continuously).
Remote participant:	a participant in an **RTGS system** which has neither its head office nor any of its branches located in the country where the system is based.
Repo:	see **repurchase agreement**.
Repurchase agreement:	an arrangement whereby an asset is sold while the seller simultaneously obtains the right and obligation to repurchase it at a specific price on a future date or on demand. Such an arrangement is similar to collateralised borrowing, with the exception that ownership of the security is not retained by the seller.
Reserve	the requirement for **credit institutions** to hold minimum reserves with the central bank. In the minimum reserve framework of the

requirement: Eurosystem, the reserve requirement of a credit institution is calculated by multiplying the reserve ratio for each category of items in the reserve base by the value of those items on the institution's balance sheet. In addition, credit institutions are allowed to deduct a lump-sum allowance from their reserve requirement.

Retail payments: this term describes all **payments** which are not included in the definition of **large-value payments**. Retail payments are mainly consumer payments of relatively low value and urgency.

Settlement: an act which discharges **obligations** in respect of funds or securities transfers between two or more parties. Settlement may be final or provisional. See **gross settlement system**, **net settlement system**, **final settlement**.

Settlement risk: general term used to designate the risk that **settlement** in a **transfer system** will not take place as expected. This risk may comprise both **credit risk** and **liquidity risk**.

Standing facility: a central bank facility available to **counterparties** on their own initiative. The Eurosystem offers two overnight standing facilities: the **marginal lending facility** and the **deposit facility**.

Straight-through processing (STP): the automated end-to-end processing of **payments** including the automated generation, confirmation, clearing and **settlement** of instructions.

SWIFT: the Society for Worldwide Interbank Financial Telecommunication (S.W.I.F.T. s.c.r.l.): a co-operative organisation created and owned by banks which operates a network to facilitate the exchange of **payment messages** and other financial messages between financial institutions (including market-makers and securities companies) throughout the world. A SWIFT payment message is an instruction to transfer funds; the exchange of funds (**settlement**) subsequently takes place through a **payment system** or through **correspondent banking** relationships.

Systemic risk: the risk that the failure of one participant in a **transfer system**, or in financial markets generally, to meet its required obligations will cause other participants or financial institutions to be unable to meet their obligations (including settlement obligations in a transfer system) when due. Such a failure may cause significant liquidity or credit problems and, as a result, might threaten the stability of financial markets.

TARGET cross-border: term used to define transactions processed via TARGET for which **settlement** takes place in an **RTGS system** other than the one in which the payment instruction was generated.

TARGET domestic: term used to define transactions processed via TARGET for which **settlement** takes place within a single national **RTGS system**.

TARGET market share: the percentage processed by TARGET of the large-value payments in euro exchanged via all euro large-value payment systems. The other systems are Euro1 (EBA), EAF (Euro Access Frankfurt), PNS (Paris Net Settlement) and SPI (Servicio de Pagos Interbancarios).

Transfer: operationally, the sending (or movement) of funds or securities or of rights relating to funds or securities from one party to another party by (i) conveyance of physical instruments/money; (ii) accounting entries on the books of a financial intermediary; or (iii) accounting entries processed through a funds and/or securities transfer system. The act of transfer affects the legal rights of the transferor, the transferee and possibly third parties with regard to the money, security or other financial instrument being transferred.

Transfer system: a generic term covering interbank funds transfer systems and exchange-for-value systems.

TARGET-related documents published by the ECB

This list is intended to inform readers about selected documents published by the ECB in which TARGET-related information can be found. The publications are available to interested parties free of charge from the ECB's Press Division. Please submit orders in writing to the postal address given on the back of the title page.
For a complete list of documents published by the European Monetary Institute (EMI), please visit the ECB's website (www.ecb.int).

The ECB's Annual Report

"Annual Report 1998", April 1999.
"Annual Report 1999", April 2000.
"Annual Report 2000", May 2001.

The ECB's Monthly Bulletin

TARGET payment flows and new developments are published in the Monthly Bulletin on a quarterly basis (March, June, September and December):

"The TARGET system: Operational framework; Payment flows in TARGET", March 1999.
"The TARGET system: Operational framework; Payment flows in TARGET; Liquidity aspects", June 1999.
"The TARGET system: Operational framework; Payment flows in TARGET", September 1999.
"The TARGET system: TARGET as seen by its users; Payment flows in TARGET", December 1999.
"The TARGET system", March 2000.
"The TARGET system: TARGET closing days in 2001; Payment flows in TARGET", June 2000.
"The TARGET system: Payment flows in TARGET", September 2000.
"The TARGET system: The TARGET Information System; TARGET reimbursement scheme; Payment flows in TARGET", December 2000.
"The TARGET system: Long-term calendar for TARGET closing days; Information guide for credit institutions using TARGET; Payment flows in TARGET", March 2001.
"The TARGET system: Payment flows in TARGET; Recommendations for CLS payments in euro; TARGET Annual Report", June 2001.
"The TARGET system: Payment flows in TARGET", September 2001.
"The TARGET system: Payment flows in TARGET; Compliance of TARGET with oversight standards; Impact on TARGET of the 11 September attacks in the United States", December 2001.

Other TARGET-related articles published in the Monthly Bulletin:
"TARGET and payments in euro", November 1999.

"TARGET Annual Report", May 2001.

First Annual Report for TARGET covering the main issues and developments for the years 1999 and 2000.

Other publications

"Third progress report on the TARGET project", November 1998.
"Payment systems in the European Union: Addendum incorporating 1997 figures", January 1999.
"Cross-border payments in TARGET: A users' survey", November 1999.
"Payment systems in the European Union: Addendum incorporating 1998 figures", February 2000.
"Interlinking: Data dictionary", version 2.02, March 2000.
"Information guide for credit institutions using TARGET", November 2000.
"Recommendations for CLS payments in euro", February 2001.
"Explanatory memorandum on the recommendations concerning CLS payments in euro", February 2001.
"Guideline of the European Central Bank on a Trans-European Automated Real-time Gross settlement Express Transfer system", April 2001.

Information brochures

"TARGET: facts, figures, future", September 1999.
"The ECB payment mechanism", August 2000.
"TARGET", November 2001.