

Protection of deferred net payment and securities settlement systems: the examples of SIT and Relit

CHRISTINE SAMPIC, FRÉDÉRIC HERVO

Directorate General Operations

Payment Systems Directorate

Payment and Securities Settlement Systems Oversight Division

As the last stage in the risk-prevention programme for the Paris financial centre, the securing of deferred net settlement systems concerns the SIT interbank clearing system, the retail payment system for customer transactions, and Relit, the securities delivery-versus-payment system, which in particular processes transactions effected on the regulated market Euronext Paris.

The Banque de France, which is in charge of overseeing the smooth functioning of payment and securities settlement systems has taken the step of asking the French banking community to strengthen the security of the SIT and Relit systems. The aim of this initiative to enhance security (or built-in protection) is to protect these systems, in compliance with the applicable international standards, from settlement risk. The risks borne by the participants in SIT and Relit are systemic in character and this has been accentuated by the recent developments in the European environment in which these systems operate.

The protection mechanisms defined for these two systems display similar features: protection against the failure of the participant with the largest settlement obligation, establishment of a permanent common mutual fund for each of the two systems, supplemented where necessary by individual collateral, setting of ceilings for transactions exchanged, and use of central bank money holdings as collateral.

The implementation of these safety mechanisms for SIT and Relit will involve various players, who will accordingly take on new responsibilities: participants in the two systems, the administrator of the guarantee fund (a role which will fall to the operator of each of the two systems: GSIT for SIT and Euroclear France for Relit), as well the depository for collateral, which will be the Banque de France.

At the beginning of the 1990s, at the instigation of the Banque de France, the Paris financial centre launched a risk-prevention programme for payment systems. Four objectives were set: tailoring the different systems according to the size and nature of the payments they process; setting up a real-time gross settlement system in central bank money for large-value payments; dematerialising all interbank exchanges; and securing deferred settlement clearing systems. The first three objectives have been met. To achieve the final objective, principles of built-in protection have just been laid down for the French clearing systems concerned: the SIT interbank clearing system, which clears retail payments, and the revocable channel of the RGV2 system of delivery versus payment of financial instruments, known as Relit.

The built-in protection of a deferred settlement clearing system seeks to reduce as much as possible the risk of the transactions exchanged in this type of system being cancelled in the event of one or several participants being unable to meet their settlement obligations arising from these exchanges. It thus makes it possible to prevent the spread of the potential failure of one participant to the other participants in this system and to other interbank systems, and therefore to contribute to

the stability of the financial system. The setting in place of a built-in protection mechanism is all the more timely in that deferred settlement clearing systems are potential channels *via* which a domino effect can be transmitted: hence their “systemic importance”. Over the past few years, the systemic importance of SIT and Relit has grown very substantially as a result, on the one hand, of the centralisation within SIT of the multilateral netting of all retail interbank exchanges, and on the other, of the impact on Relit of the pan-European integration in the context of Euronext/Clearnet.

Moreover, the international standards applicable to payment systems, as well as to securities settlement systems, have recently laid down what is expected of them in terms of built-in protection. It is in this context that, at the request of the Banque de France, French banks have just defined the principles governing the built-in protection mechanisms planned for SIT and Relit.

After rehearsing the risks linked to settlement failure by participants in SIT and Relit, and setting out the international standards applicable to them with the aim of reducing this type of risk, this article will present the principles of the safety mechanisms envisaged.

1| Risks associated with settlement failure by participants in SIT and Relit

The operational features of SIT and Relit are at the root of the specific settlement risks to which their participants are exposed, should one of them default.

These risks have taken on a new magnitude with the developments in the two systems and in the European environment within which they operate.

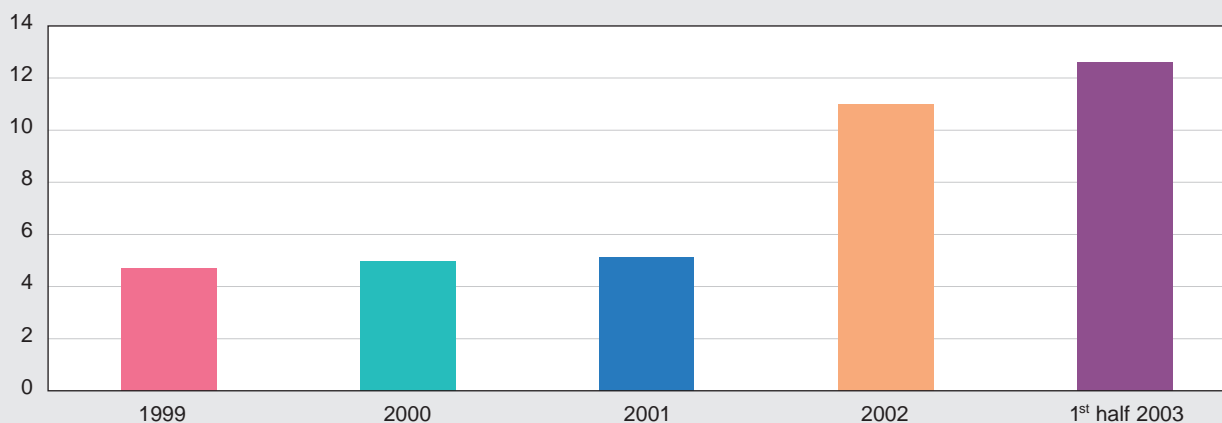
Box 1

SIT as it currently operates

The SIT processes retail payments arising from customer transactions, with the exception of customer transfers in excess of EUR 800,000, which have to be exchanged in TBF (Transfert Banque de France) or PNS (Paris Net Settlement). With the completion of the dematerialisation of interbank payment transactions at the end of the first half of 2002, SIT has become the sole system in France for the exchange of retail payment media and the largest European system both in terms of the volumes exchanged and the total value of the transactions processed (around 45 million transactions a day, with a value in the region of EUR 20 billion, and an average amount of cash debtor balances settled in TBF of nearly EUR 13 billion).

Average daily amount of SIT cash debtor balances settled in TBF

(EUR billions)



SIT is run by GSIT (Groupement d'intérêt économique pour le système interbancaire de télécompensation) which was set up in 1983 by the main French banks, the French Post Office and the Banque de France. It is a payment system ensuring multilateral netting, which processes transactions between participants in three stages: continuous exchange of payment orders directly between banks' IT centres; multilateral netting of orders via an accounting centre; and the settlement of net balances in the TBF system. All SIT participants' balances must be simultaneously booked to the central settlement accounts held by direct participants with the Banque de France. Once they are recorded, transactions are deemed irrevocable and unconditional. This guarantees settlement finality.

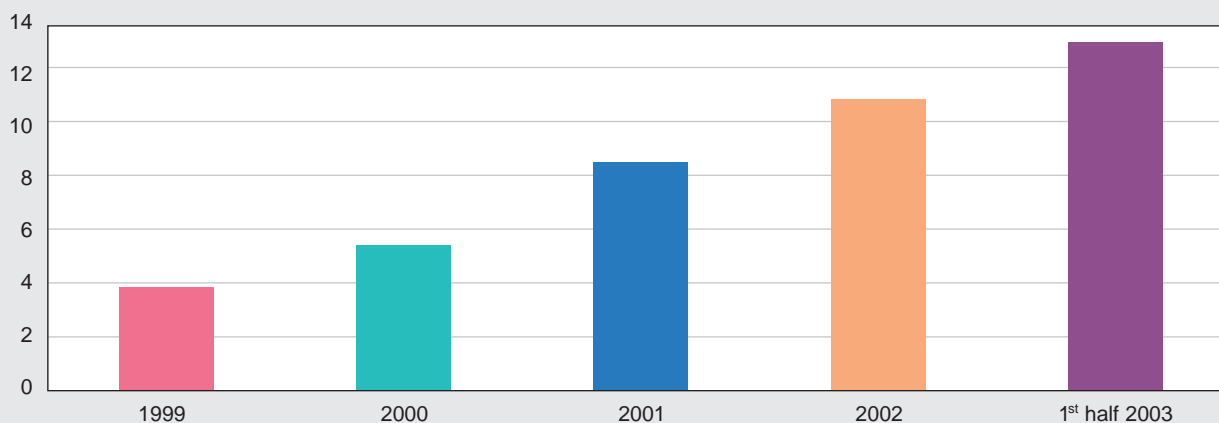
NB: For a description of SIT, see also the article entitled "The French Retail Payment System" published in the April 2003 edition of the Digest of the Banque de France's monthly bulletin.

Box 2**Relit as it currently operates**

On 12 June 2001, Euroclear France, which replaced Sicovam SA in January of the same year following its merger with Euroclear Bank, launched a new delivery-versus-payment system for financial instruments called RGV 2, comprising a revocable channel (Relit) and an irrevocable channel (RGV). Relit is, according to the relevant international terminology, a delivery-versus-payment system of the Model 2 type, i.e. one in which trades on the securities side are settled on a gross basis ¹, while transactions on the cash side are settled on a net basis. It is used for transactions that do not require immediate irrevocability, that is, mainly equity transactions originating on the regulated markets of Euronext Paris and over-the-counter transactions between participants that have expressly chosen this channel to settle their transactions. This channel operates according to the principle of deferred irrevocability, cash payments taking place via TBF on a net basis three times during the day, with cash debtor balances of an average daily value of around EUR 13 billion.

Average daily amount of Relit cash debtor balances settled in TBF

(EUR billions)



¹ Transaction by transaction.

1|1 Operational features of SIT and Relit

Both SIT and Relit display two essential features that are traditionally associated with particular potential risks: they are systems that operate on the basis of multilateral netting of payment orders and in which the settlement of participants' net obligations is deferred relative to the processing of underlying unit payments.

Multilateral netting is a method of offsetting obligations which is based on the replacement ¹ of unit payments between participants by a multilateral net balance of each participant *vis-à-vis* all the other participants.

Deferred settlement means that there is a time lag between the recording and processing of unit payment orders and the calculation by the system of net cash balances on the one hand, and on the other hand, the settlement of these net balances on the books of the

¹ By means of novation or, depending on the jurisdiction, by any comparable legal provision that ensures the offsetting of a number of underlying obligations by a single payment.

Box 3

The two types of multilateral netting

Traditionally two types of multilateral netting are distinguished, that which is carried out via a central counterparty and that in which no central counterparty is involved.

In both SIT and Relit, multilateral netting takes place without a central counterparty, which means that the operators of the two systems, GSIT and Euroclear France respectively, have the role of calculation agents, the technical operators of each system, but at no time act as counterparties or guarantors of the transactions processed. In the case of Relit, a large proportion of the transactions derive from the regulated market and benefit upstream from the delivery-versus-payment system and the guarantee of Clearnet, the clearing house of the Euronext markets. However, this guarantee obeys its own rules and does not cover the timely settlement of balances in the Relit system. Moreover, the Relit cash balance of each participant is a total figure, with no distinction made in terms of the transaction channel involved (i.e. regulated market, over-the-counter). Thus, in the event of the settlement failure of a participant, it would not be possible to distinguish between instructions coming from the regulated market and covered upstream by the guarantee provided by Clearnet (through its sub-system Inter-Sociétés de Bourse) and other transactions.

settlement agent, which alone gives a definitive character to the different underlying payment instructions (the concept of “settlement finality”).

A payment system can operate on the basis of multilateral netting without requiring deferred payment. Payment systems, especially for large-value payments, increasingly provide netting facilities combined with continuous settlement with immediate finality. The fact that Relit and SIT use deferred settlement can mainly be explained by the fact that they are retail systems that are designed to process a very large volume of transactions of small or medium unit value (see Boxes 1 and 2). For technical reasons, it is therefore necessary to allow a sufficient lapse of time, extending overnight, to enter and process the different instructions that provide the basis for the calculation of the different participants' net payment obligations.

For SIT, the operating day starts at 3 p.m. on T for a settlement that will only take place on T+1 at 3.15 p.m.; for Relit, it starts at 8.00 p.m., for settlement on T+1 at 11.00 a.m. In addition, Relit has also two other later settlement sessions – “*déversements*” (overspill) – in the afternoon, making it possible to recycle unsettled outstanding transactions from the morning and to unwind same-day value transactions, which account for roughly 10 % of the total volume of transactions.

In both systems, finality for all transactions is achieved when net cash balances are settled in central bank money on participants' accounts (or those of their authorised representatives, known as “settlement participants”), held with and handled by the RTGS system (TBF) managed by the Banque de France.

1|2 Risks generated by these systems in the event of a participant's failure

The advantages and risks inherent in multilateral netting combined with deferred settlement have been studied by central banks². The use of this system of offsetting obligations brings about a significant reduction in payment flows and liquidity needs compared to other methods of offsetting obligations (bilateral netting and settlement on a gross basis). On the other hand, multilateral netting creates interdependence among all of the participants in the system concerned, since the settlement failure of a single participant with a net debtor position prevents the settlement of the balances of all of the participants – according to a principle of “all or nothing” – and consequently of all the underlying transactions processed by the system. This situation exposes non-defaulting

² Reports by the Bank for International Settlements on netting systems (the Angell Report – February 1989) and on the interbank netting systems of the central banks of the G10 countries (Lamfalussy Report – November 1990).

participants to considerable risks: principal risk, liquidity risk, replacement cost risk, as well as secondary risks (*i.e.* those without a direct financial impact), which may be borne by players other than the participants (*i.e.* system operators, the central bank).

This enumeration of the risks inherent in deferred net settlement systems makes it possible to identify the risks associated with participation in SIT and Relit. It is useful in this regard to distinguish between the situations of temporary failure and ultimate failure.

Principal risk can be defined as the risk of losing the entire value of a payment as the result of settlement failure in the system. This, notably in securities settlement systems, is the situation in which a participant has payment obligations to meet, but, owing to the failure of its counterparty, does not receive the settlement of the corresponding reciprocal obligation. In Relit, which is a delivery-versus-payment

system, this risk is non-existent since, in the event the buyer failing to settle the price, the seller's securities will not be delivered. As far as SIT is concerned, the procedure of revocation of exchanges in the event of settlement failure (a procedure that consists in recalculating participants' net balances after the defaulter's transactions have been removed) should also eliminate principal risk with regard to interbank settlement. However, principal risk may remain if non-defaulting participants do not also suspend payments with their customers that result from transactions with the defaulters' customers. If this measure is not taken, non-defaulters risk paying their clients without having received the corresponding interbank settlement.

However, participants in SIT and Relit are exposed to other types of risk that are specific to multilateral netting systems in the event of failure: liquidity risk, cost replacement risk and non-financial risk.

Box 4

Temporary failure and ultimate failure

Temporary failure is the situation in which a participant with a debtor balance arising from SIT or Relit is unable to meet its obligations within the time frame set by TBF's rules (the "settlement period" in TBF terminology) for a localised reason (i.e. a technical problem at the credit institution, human error leading to late settlement or failure by a participant to anticipate its liquidity situation).

This situation makes it impossible to settle the balances in the system and leads to the rejection by the Banque de France of book entries, which are returned to the operator concerned. Having ensured that the defaulting participant has taken the necessary measures to cover its balance, a new settlement "window" is opened in TBF for the system concerned, in agreement with the Banque de France, the Centre for Interbank Funds Transfers and the system operator in question. This situation is liable to disrupt the smooth running of TBF, as a result of the impact on the timing of its operations and the cash management of non-defaulting institutions, which will experience a lag in their anticipated liquidity position. It is for this reason that the defaulter is subject to financial penalties, and, in the event of a repeat occurrence, is liable to be barred from the TBF system by the Banque de France.

Ultimate settlement failure describes the situation in which a defaulter is unable, for reasons of durable insolvency or illiquidity, to cover its balance on the day of value. This is an extreme scenario which, unlike temporary failure, has never occurred either in SIT or in Relit, but whose impact would be potentially considerable.

Ultimate settlement failure is likely to expose other participants to substantial, liquidity and replacement cost risks, as well as residual principal risk (in the case of SIT).

¹ Which in this context provides a technical connection service between ancillary systems and TBF.

Liquidity risk arises from an unforeseen change in the liquidity position of the different participants, particularly those that are creditors in the system, when the system cannot settle in due time. This situation would force them to seek other funding resources, which could give rise to strains on the interbank market, with potential repercussions on the conduct of the Eurosystem's monetary policy. Given the amounts processed by both Relit and SIT, the consequences could be serious. They would become systemic in character if, by a spillover effect, the inability of an institution to settle its net balance in one of the systems concerned brought about the failure in other systems of non-defaulting SIT or Relit participants. The scale of this risk for SIT and Relit can be illustrated by measuring the largest net debtor position displayed by one participant. We can note that on average it amounts to EUR 1 billion for SIT and EUR 400 million for Relit, with atypical points that rise to as much as EUR 3.5 billion for SIT and EUR 2 billion for Relit.

Replacement cost risk is specific to the Relit system. Settlement failure in the cash part of the system would obstruct the delivery of securities on the correct value date, as Relit is a delivery-versus-payment system in which the payment of the price is the necessary counterparty for the transfer of securities. If they do not receive these securities, the buyer institutions – particularly those that are supposed to deliver securities to customers or re-deliver them within another securities settlement system – would have to obtain them, potentially at a higher price than what should have been settled in Relit.

Settlement failure may also give rise to secondary risks of a non-financial nature.

In the absence of an adequate risk control mechanism, settlement failure in SIT or Relit that creates significant disruption in the functioning of TBF and the system concerned could lead to risk in terms of reputation, above all for the operators of these systems but also for the Paris financial centre and its post-market infrastructures as a whole.

Regarding SIT, which processes retail payments, a major settlement failure that has a visible impact on bank customers (delays in the settlement of transactions) could go as far as to undermine public confidence in payment media and the currency.

It is important to underline that the Banque de France, as the operator of TBF and the settlement agent for

SIT and Relit, is not liable for financial risk in the event of settlement failure in these systems. It is not, anymore than are the operators of the systems in question, a counterparty or guarantor of transactions. In accordance with TBF's operating rules, in the event of insufficient funds at the end of the allotted time period, the Banque de France confines itself to recording that the balances deriving from the system cannot be settled and returning the book entries to the operator concerned; the latter is responsible for resolving the problem within the framework of its own failure management rules.

However, as the Lamfalussy Report sets out, a central bank, that facilitates the settlement on its books of a net payment system that is not equipped with an appropriate settlement risk prevention and management mechanism, exposes itself to the risk ("moral hazard") that this is understood – wrongly so – by participants or third parties as an implicit settlement guarantee by virtue of its role as lender of last resort. In order to avoid this hazard, it is important that the Banque de France, as the oversight authority, encourages the parties concerned to take appropriate measures to protect SIT and Relit against settlement risk, and assesses the appropriateness of the proposed mechanisms.

1|3 Growth of risks within SIT and Relit

During the past few years, the risks to which SIT and Relit are exposed have become more substantial, particularly in the light of developments in post-market and payment infrastructures at the European level.

Since 1999 and Stage Three of EMU, the TBF system has become the French component of TARGET. This development reinforces the importance of adhering to TBF's operating hours, in particular to ensure the settlement within the allotted timeframe of systems such as Relit and SIT. The balances in these systems must be finally settled in central bank money in participants' accounts held in TBF (these systems are described in TBF terminology as "ancillary"). Any delay within TBF would be liable to entail a time lag across the whole of the TARGET system.

With the creation of the pan-European stock market Euronext, the transactions of which are cleared by a single central counterparty, Clearnet, the risks linked to the Relit system, which notably handles the delivery-versus-payment trades executed on

Euronext Paris, go beyond the confines of a purely domestic context. This process of European integration is expected to result in the development of a growing number of transfers of securities between the different components of the Euroclear group. In the absence of a satisfactory level of settlement failure prevention, the Relit system could therefore export its risks to other parts of the Euroclear group.

In 2002, with the setting-up of the Truncated Cheque Exchange and the closure of the clearing houses, SIT became the sole retail payment settlement system in France and the largest in Europe, both in terms of the volume and the value of the transactions processed. This structural development in SIT's activity resulted in an increase from less than 30 million daily transactions processed in 2001 to nearly 45 million in 2002, and from less than EUR 10 billion in 2001 to nearly EUR 19 billion in 2002 in terms of the daily value of settlements.

1|4 Inadequacy of existing failure management mechanisms

Currently – in the absence of an appropriate risk prevention mechanism – ultimate settlement failure in SIT or Relit could only be dealt with in one of two ways: either by the recalculation of participants' balances after revocation of the defaulter's transactions, or by postponing the settlement to a later date.

The first solution, which is called, depending on the system, "revocation of exchanges", "removal/ cancellation", or – in common parlance – "unwinding", consists in recalculating the netting, having identified and eliminated the defaulter's transactions from the system. This procedure may be partial when only some of the transactions are revoked in order to bring the balance of the defaulting institution back within the threshold of what the latter is able to settle. Although theoretically possible, this scenario is extremely unlikely to occur as it requires both having the technical capability to identify the defaulter's different transactions and obtaining the consent of the counterparties involved in the transactions being revoked. If unwinding were to take place, the revocation procedure would therefore be likely to involve all of the defaulter's transactions.

This approach raises various problems and does not appear to be a satisfactory way to manage settlement failure.

First of all, it generates liquidity risk. The balances recalculated after the defaulter's exclusion are liable, especially if the latter is a substantial participant, to be significantly different from those initially entered for settlement. Some participants would see a reversal of their situation, moving from a multilateral net creditor position to a debtor position. This creates liquidity risk, which could produce a domino effect and cause strains on the interbank market. It is for this reason that Euroclear France, which in September 2003 modified its operating rules by introducing a "removal/cancellation" procedure, pending the implementation of a security mechanism, has laid down provisions aimed at containing liquidity risk. Accordingly, each non-defaulting participant is authorised to set the maximum debtor balance it undertakes to settle following the recalculation of the netting, the settlement of potential transactions exceeding this amount being deemed to be pending and postponed till the next day.

Secondly, applied to retail systems like SIT and Relit that process large volumes of transactions on a daily basis, the revocation of exchanges poses substantial problems of technical feasibility. In the absence of an automated procedure, the revocation of exchanges within a time frame compatible with that of the settlement of the relevant system in TBF would be virtually impossible.

Finally, this type of procedure leaves unresolved the question of the defaulter's transactions that have been excluded from the system, which could have potentially serious consequences for its customers.

The second solution set out in the crisis procedures laid down by the Paris financial centre, would consist – once it has been ascertained that the failure cannot be processed during the trading day in question – in postponing the settlement of balances in the system to a later value date. In the case of ultimate failure, this approach may only be regarded as a secondary measure – notably alongside the revocation of exchanges – but cannot alone resolve the problem. Furthermore, as things stand now, this approach would not comply with the international standards applicable, in particular the fourth Core Principle for Systemically Important Payment Systems, which, as a minimum, requires settlement by the end of the day on the appropriate value date.

At present, given that no safety mechanism is in place, the level of protection of the two systems is not adequate to deal with ultimate settlement failure on the part of a participant. Moreover, the lack of

protection of these systems poses a problem in terms of compliance with the international standards applicable, particularly in the light of the most recent developments in this area.

2| The application of international standards to SIT and Relit

2|1 International standards applicable

The above-mentioned Lamfalussy Report laid down back in 1990 the first of the standards applicable to the containment of settlement risk in multilateral netting payment systems. Among the six minimum standards defined for these systems, standard IV stipulates that “multilateral netting systems should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the single largest settlement obligation”.

Building on the Lamfalussy Report, the report on “Core Principles for Systemically Important Payment Systems”³, lays down principles intended to govern the design and operation of payment systems: standard IV from the Lamfalussy Report is taken over as Core Principle Fifth.

The same rule is to be found in recommendation no. 9 of the CPSS-IOSCO⁴ report concerning securities settlement systems, which stipulates that “CSDs (Central Securities Depositories) that extend intraday credit to participants, including CSDs that operate net settlement systems, should institute risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle. The most reliable set of controls is a combination of collateral requirements and limits”.

Draft standards aimed at adapting the CPSS-IOSCO recommendations, which are worldwide in their scope, to the European context were put out for public consultation in summer 2003. These draft proposals were formulated by a joint working group of the ESCB central banks and the CESR (the Committee of

European Securities Regulators), which brings together the European securities markets regulators. One of the proposed standards will take up and develop CPSS-IOSCO recommendation no. 9.

2|2 Scope of international standards

All of these standards derive from the same approach and contain very similar requirements.

The first requirement concerns the aim of the safety mechanism. A mechanism needs to be set in place that, even in the event of a participant's failure, ensures the timely settlement of all of the balances resulting from the multilateral netting of exchanges. This requirement needs to be understood with reference to the standards that stipulate “prompt final settlement”, *i.e.* on the day of value, preferably during the day and at the latest by the end of the day.

The second requirement concerns the level of financial risk the safety mechanism should be able to withstand. The minimum level of built-in protection of the different systems is defined as that needed to withstand the failure of the participant with the largest net settlement obligation in the system.

This second requirement needs further clarification with regard to several points.

First of all, as with all of the standards mentioned above, it is a minimum requirement. Since the Lamfalussy Report of 1990, the system operators and the central banks in charge of their oversight have been encouraged to exceed this minimum standard, as a matter of best practice.

³ Bank for International Settlements (February 2001).

⁴ The Committee on Payment and Settlement Systems, which brings together G10 central banks, and the International Organization of Securities Commissions made up of securities markets regulators; Bank for International Settlements (November 2001).

A comprehensive safety mechanism means one that guarantees *ex ante* the settlement of all of the net debtor positions aggregated in the system. A lower level of protection would only make it possible to reduce but not entirely eliminate the liquidity and replacement cost risks associated with multiple failures exceeding the amount of the collateral held.

The appropriate level of protection is left to the judgement of each system operator and of the authorities charged with its oversight.

The optimum mechanism derives from an assessment of the level of residual risks that is deemed acceptable, one that constitutes a good balance between, on the one hand, the magnitude of the risks to which the system is exposed measured according to both quantitative criteria (the value processed by the system, the netting ratio, concentration of transactions, etc.) and qualitative criteria (the system's importance for the country's economy, the nature of the transactions processed, whether they are cross-border or purely domestic in character), and, on the other hand, the cost of implementing the safety mechanism (opportunity costs associated with locking up of collateral, technical investment, etc.).

It is important to stress that while comprehensive protection against debtor positions makes it possible to eliminate financial risk from deferred net settlement systems, a net system with built-in protection does not have the same legal consequences (in terms of the moment at which payment obligations become final) as a real-time gross settlement system (RTGS). Settlement finality, whatever the scenario, is only achieved when the settlement of net balances actually takes place, whereas a RTGS system facilitates continuous settlement, and makes it possible to reuse the cash and/or securities received for other settlements immediately.

In practical terms, the different standards are not prescriptive regarding the manner in which these safety mechanisms are to be implemented. Nonetheless, what comes out of the various aforementioned reports is that a safety mechanism generally displays three characteristics:

- first characteristic: the posting of collateral. The assets used may vary (account balances at the central bank, committed lines of credit, securities or liquid claims issued by an entity with a high credit rating, notably government securities),

Box 5

International examples of safety mechanisms in multilateral netting systems

Among examples of payment systems that utilise multilateral netting and deferred settlement and that have set in place protection mechanisms to contain settlement risk, the Euro 1 system owned by the Euro Banking Association may be mentioned. This system processes cross-border euro-denominated payments and has two specialised channels for cross-border retail payments, STEP 1 and STEP 2. The whole system is protected against multiple failures by means of a guarantee fund held with the European Central Bank.

On the securities side, recent initiatives have been taken in Europe to increase the level of safety of systems operating on the basis of multilateral netting for cash transactions. Thus, from December 2003, the net channel of the Italian system Express II is to incorporate a liquidity reserve mechanism that guarantees the system's night-time processing. In Germany, since November 2003 the central depository Clearstream Banking Frankfurt has been able to settle night-time transactions up to the level of the funds set aside by participants on their accounts held with the Bundesbank.

[but in all cases they must be sufficiently liquid to be mobilised without delay in the event of a failure and enable the system to take the place of the defaulter within the confines of the trading day. It is common for a central bank to be chosen as a depository for collateral, thus ensuring that it is kept safe and can be liquidated more easily.

There are two main procedures for the posting and use of collateral. Generally, two types of system are distinguished: collective systems ("survivors pay") and individualised systems ("defaulter pays"). The collective system is overall less costly, given that the same guarantee fund serves to cover the potential unit failure of any participant. But it is also riskier, as the collateral provided by each participant is liable to be used to address the failure of a third party, in which case it would be lost definitively. In an individualised system, this risk is eliminated since the assets provided as collateral by a participant are intended to cover its own potential failure, but not that of other participants;

- second characteristic: when the collateral is held wholly or partly in a collective form, a loss sharing mechanism is required that sets out in advance the procedures and sequencing of the different available collateral and the principles governing the allocation of potential losses in the event of the defaulter being unable to reimburse the portion of the guarantee fund that has been used;
- third characteristic: the system should set in place a threshold mechanism that ensures that the processing of each participant's transactions cannot result in a multilateral debtor balance whose amount exceeds the guarantees available, in accordance with the rules laid down for safety mechanisms.

2|3 The Banque de France's role in the application of international standards to SIT and Relit

Article L 141-4 of the Monetary and Financial Code stipulates that, within the framework of the tasks of

the ESCB, the Banque de France is responsible for overseeing the smooth running and security of payment systems and clearing, settlement and delivery-versus payment-systems⁵.

In this context, the Banque de France, acting simultaneously as the TBF operator, the settlement agent for SIT and Relit and in its oversight role, has a major interest in ensuring that these systems are equipped with an appropriate level of protection against settlement risk.

Its oversight role first led the Banque de France to take the step of asking the operators of the systems concerned, GSIT and Euroclear France, to ensure the safety of systems of which they are in charge, in accordance with the international standards applicable.

Within this role, it also falls to the Banque de France to assess *ex ante* compliance with the principles concerning the protection mechanisms chosen and *ex post* their actual implementation. This assessment is part of the more general evaluation that the Banque de France has undertaken to carry out by the end of 2003: on the one hand of SIT's compliance with the Core Principles for Systemically Important Payment Systems⁶, and on the other of Euroclear France's system RGV2, of which Relit is one of the channels, in the light of the CPSS-IOSCO recommendations for securities settlement systems.

The definition of the safety mechanisms, their principles and practical arrangements is the responsibility of the operators of and participants in the respective systems. Accordingly, the discussions on safety mechanisms for the SIT and Relit systems have been conducted in France by task forces bringing together the different parties involved, including the operators and representatives of the participants, under the aegis of the French Banking Federation, whose decision-making authorities have approved the task forces' conclusions. The Banque de France has taken part in these task forces as an observer, in particular to clarify the scope of the applicable international standards.

⁵ Without prejudice to the competence of the Financial Markets Council and the Commission Bancaire with regard to clearing, settlement and delivery-versus-payment systems.

⁶ Adopted officially by the Eurosystem as the basis for its oversight policy for payment systems in January 2001.

3| Principles governing SIT and Relit's safety mechanisms

The safety mechanisms selected for both SIT and Relit are based on similar principles: protection against the failure of the participant with the largest single settlement obligation, the establishment of a permanent mutual fund for each of the systems, supplemented as necessary by individual collateral, and the setting of upper limits for the transactions exchanged. Collateral takes solely the form of central bank money holdings, the use of other types of assets being ruled out for reasons of management cost and speed of mobilisation.

3|1 Permanent common guarantee fund

The contributions deposited in the permanent guarantee fund of each of the systems are allocated to the participants as a whole and may be realised to cover the payment failure of a debtor balance in the system of one or several participants.

The total amount to be paid into the permanent mutual fund is determined on the basis of the debtor balances recorded in the system in the period preceding the provisioning of the fund (from six to twelve months). It is thus set up so that it covers the bulk (between 85% and 95%) of the debtor balances recorded, in order to limit the use made of individual collateral.

Each participant's contribution to the permanent mutual fund is calculated either on the basis of the debtor balances alone (in the case of Relit), or on the basis of the debtor and creditor balances it recorded during the period preceding the provisioning of the fund (in the case of SIT). Regarding SIT, some participants are systematically in a creditor position and the level of their contribution to the fund is justified by the reduction of the risk that their transactions will not be settled.

The total amount and contributions to the fund are to be adjusted at regular intervals to take account of developments in participants' debtor balances.

3|2 Complementary individual collateral

Relit and SIT's safety mechanisms provide for the posting of complementary individual and temporary collateral for participants whose transactions are liable to be suspended on the grounds that they would result in a debtor balance that is greater than the total amount of the permanent mutual fund.

This individual collateral is deposited by the participant, either intraday or overnight, in accordance with its expected turnover within the system.

The amounts that are remitted as complementary individual collateral by a participant may only be realised in order to cover the participant's failure to settle its debtor balance in the system, and may not be used to cover another participant's debtor balance or for any other purpose.

Complementary individual collateral is to be used for the settlement of the balance of the participant posting the collateral within the system; in the case of Relit, they may also be returned – under certain conditions – at the request of the participants between two settlement cycles.

3|3 Legal regime covering collateral

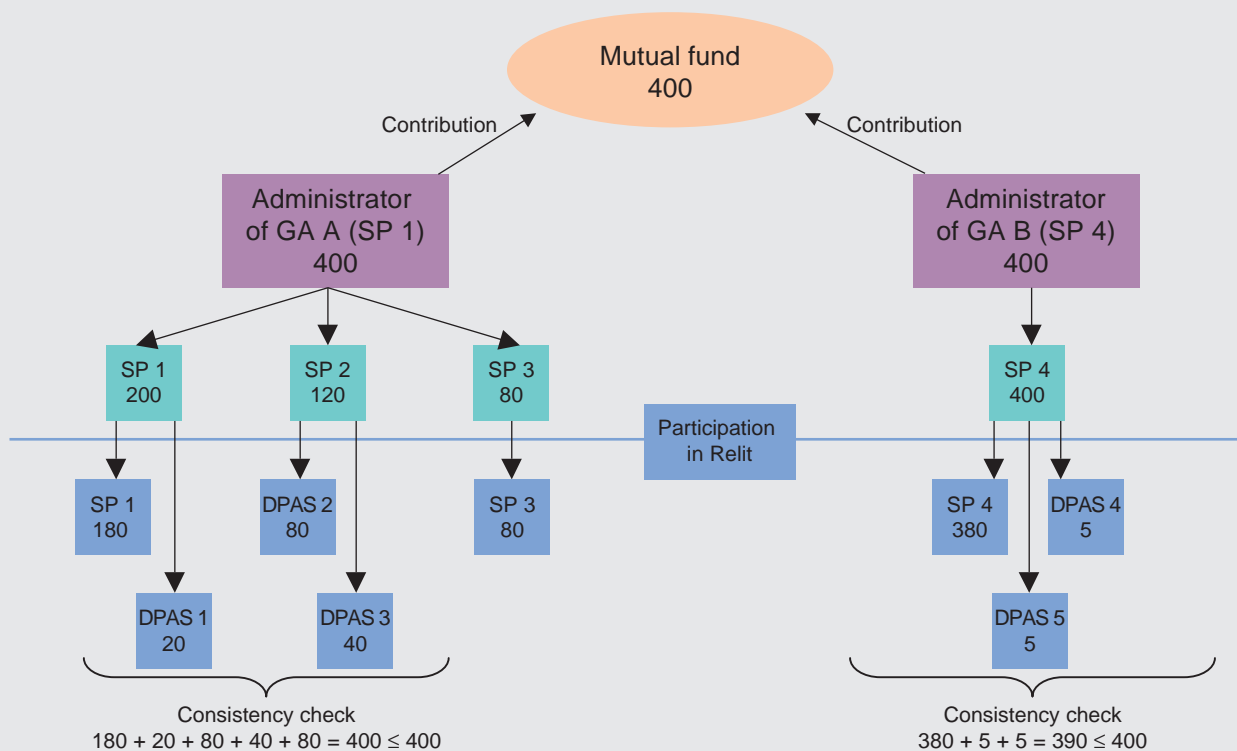
The legal framework covering collateral held on behalf of payment and securities delivery-versus-payment systems provides a high level of security under French law. Assets are submitted, with the transfer of full ownership rights in the form of collateral, by the participant to the administrator of the collateral, the latter acting as an authorised representative for all the other participants, in accordance with article L.330-2 of the Monetary and Financial Code. These remittances can without further formality be raised against the participants' and administrator's creditors. RGV2's operating rules and the charter governing SIT will need to be modified accordingly.

Box 6

Operating procedures adopted for Relit

Making the Relit system secure entails a change in the operating perimeter of the system. Thus, participants will be invited to redirect their largest transactions to the irrevocable channel of the delivery-versus-payment system (RGV), where they will benefit from real-time gross settlement in central bank money, which will permit them to reduce their debtor balances to be guaranteed in Relit accordingly. As the settlement of securities transactions (coupons, redemptions, etc.) is not the counterparty of securities delivery, these transactions are excluded from the security perimeter and will be settled separately in TBF.

Relit's safety mechanism will be based on a compulsory mutual fund supplemented by individual collateral posted on a voluntary basis. TBF's structure makes it possible for several participants in the same banking group to share a "Group of Accounts", which is used to assess the liquidity available for the settlement of any transaction. As a consequence, each of the Group of Accounts administrators in TBF will be responsible for setting net long positions (NLP) in Relit for the participants that settle their positions via the Group of Accounts, i.e. compulsory upper limits for the debtor cash balances they are liable to generate via their transactions in Relit. The total amount of NLPs of the Group of Accounts administrator and those of the participants that settle their positions via the Group of Accounts may not exceed the amount of the mutual fund.



GA: Group of Accounts

SP: Settlement Participant (settlement agent in TBF for its account and for the account of a third party)

DPAS: Direct Participant in the Ancillary System (Relit cash clearer participant, and thus holder of its own NLP, but without an account in TBF, using the services of a SP to settle of its balances).

A participant's debtor position in Relit may not exceed its overall NLP, calculated as the sum of its NLP based on the collective fund and its individual collateral if posted. Euroclear France plans to introduce a system of upper limits in order to suspend the settlement of transactions liable to lead to these overall NLPs being exceeded. Individual guarantees will be held by the GA administrators according to the needs of the Relit participants that settle their positions via them. Thus, individual collateral of 100 held by GA A on behalf of DPAS 2 would allow the latter to raise its overall NLP from 80 to 180.

3|4 Use of the permanent guarantee fund in the event of a participant's failure

A participant's failure will remain defined in the same terms as at present as the situation in which a participant is unable (either temporarily or definitively) to settle its debtor balance in the system (after taking account of the amount of the complementary individual collateral that it may have deposited), because there are insufficient funds in the TBF Group of Accounts *via* which it settles its positions, at the end of the settlement period set within TBF.

In order to address a failure and facilitate the settlement of the system's balances in TBF, the fund administrator, acting as an authorised representative for all of the participants, debits the cash corresponding to the amount to be covered from the permanent guarantee fund. The sum deducted is taken in the first instance from the defaulting participant's contribution and then, if need be, from the other participants' contributions to the fund.

Each non-defaulting participant thus has a claim on the defaulting participant corresponding to its share in the permanent guarantee fund. In order to safeguard against abuses, use of the fund will be heavily penalised. The defaulting participant may only participate again in the system once it has settled its debt and the relevant penalties. If it is unable to do so, the non-defaulting participants will be obliged to make contributions in order to restore the total amount of the permanent guarantee fund.

The protection mechanisms for the French systems in question have been the subject of in-depth discussions with the banking profession and in the end constitute a combination of the "survivors pay" and "defaulters pay" principles, making it possible both to limit the costs involved in securing the systems and to provide a degree of flexibility. However, this combination does not preclude the eventuality of a cancellation of the transactions exchanged in the system. Thus, it is not required of each participant that it covers *a priori* and on an individual basis all of the risks to which it exposes the system ("defaulter pays"), nor that all of the participants undertake to honour defaulting participants' settlements, whatever the amount of the sums to be covered ("survivors pay"). In the event of the simultaneous failure of several participants,

it therefore cannot be ruled out that the amount of the collateral held might be insufficient to pay their debtor balances. In this scenario, which is however an extremely unlikely one, the settlement agent would reject all of the balances in the system, leaving it to the latter to "unwind" the corresponding transactions and to carry out a fresh netting operation in which the defaulting participants' transactions are rejected.

3|5 The role of the different players in implementing safety mechanisms

The setting in place of safety mechanisms for SIT and Relit will involve several players, whose roles are complementary and will evolve relative to the current situation. They comprise the participants, the guarantee fund administrator, the depository for collateral, and market infrastructures.

The participants will have to deposit their contributions to the permanent mutual fund when the fund is established. If all or part of it is utilised, they will be obliged to make fresh contributions within a very short space of time. In addition, the level of contributions will be assessed on a regular basis in order to take account of developments in each participant's risk profile. Moreover, participants liable to record a debtor balance greater than the amount held in the permanent mutual fund will be obliged to set in place a monitoring procedure for their position in order to determine the amount of individual collateral required to ensure the smoothness of their transactions.

Responsibility for administering the guarantee mechanism will be assigned to the relevant system operator: Euroclear France for Relit and GSIT for SIT. They will thus be in charge of calculating the level of contributions to the mutual fund using predetermined calculation rules, ensuring that no debtor balance of any participant in the system exceeds the total amount of collateral held; reimbursing individual collateral automatically or at the participant's request; and lastly, making available to the system's settlement agent the assets deposited in the fund in the event of an institution's failure involving an amount that exceeds the latter's individual collateral. Participants will give the administrator express authorisation to open the account for the permanent guarantee fund and the

accounts for the complementary individual collateral on the books of the depository for collateral. The administrator alone will be authorised to debit the account of the permanent guarantee fund and the accounts for the complementary individual collateral. As a result, participants will not be able to carry out any transaction on any of these accounts, apart from the remittance of collateral.

As the system's settlement agent, the Banque de France will apply the rules concerning the settlement of balance files of the systems concerned and will call on the guarantee fund administrator in the event of the failure of one of the participants. The Banque de France was chosen by the participants to be the depository of the guarantee funds and the individual collateral and, in this capacity, will hold these sums on its books. In addition to the absence of default risk, the choice of the Banque de France as depository was based on operational considerations (speed of liquidation of collateral facilitated by the close link between its functions as settlement agent and depository).

These safety principles will be added to each system's rules. In addition, all of these responsibilities will be set out in a tripartite convention between the system operator, the participant and the Banque de France. Each participant in the system will be obliged to sign this convention and to submit its contribution to the permanent mutual fund.

Specific settlement rules will also need to be added for the new types of system that these secure net systems will become and the contractual agreements between the participants in TBF and the Banque de France (the central settlement account agreement) will need to be modified accordingly. Moreover, the daily settlement timetable, which stipulates the settlement hours of each system in TBF, will need to be reviewed in order to take account of these new provisions. Thus, for example, settlement periods will be reduced in order to create the lapse of time necessary in the event of the fund being mobilised.

The Banque de France has brought to the attention of the French banking community the need for French net systems to comply with international standards as quickly as possible. Guidelines have already been adopted with a view to implementing the safety mechanisms. In the case of Relit, implementation is scheduled for the first quarter of 2004. As regards SIT, application of the principles laid down requires substantial changes to the system's architecture. Consequently, and in accordance with the Eurosystem's declaration of July 2003 concerning the oversight framework with regard to retail payment systems¹, SIT's built-in protection mechanism will be put in place as part of the progressive renovation of the system currently under review. An essential step for the security and competitiveness of the Paris financial centre will then have been taken and the French risk prevention programme will be complete. French systems and their participants will then be in a favourable position vis-à-vis the restructuring under way in Europe, both in the areas of securities and retail payments.

¹ See the Banque de France's website: www.banque-france.fr, under the section Banking and Financial Information/Oversight of payment instruments, payment systems and securities settlement systems.