

SAFETY AND STABILITY



The safety and stability of the overall financial system require robust arrangements for clearing and settlement of transactions. Payment systems, securities clearing and settlement systems, and foreign exchange settlement arrangements each have unique safety issues. Recognising this, policy makers have developed separate high-level standards to assist in assessing the safety and stability of these arrangements.

For payment systems, the internationally accepted minimum standards are set out in *Core principles for systemically important payment systems* released in 2001 by the Bank for International Settlements (BIS). For securities clearing and settlement facilities, the BIS published *Recommendations for securities settlement systems* in 2001 (a joint paper by the BIS's Committee on Payment and Settlement Systems and the International Organization of Securities Commissions); international work in this area is ongoing. In contrast, there are no standards set out for settlement of foreign exchange transactions. Instead, the focus of policy makers has been to draw market participants' attention to the risks involved and encourage participants to address these risks both on an individual basis and as a group. The most important industry response, Continuous Linked Settlement (CLS) Bank, was launched in September 2002.

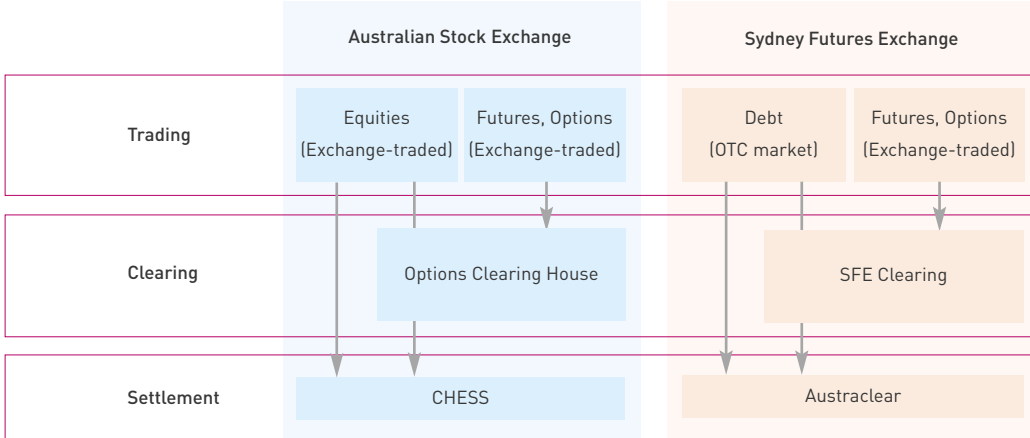
During 2002/03, the Board's interest in the area of safety and stability was focused mainly on the second and third of these areas: financial stability standards for securities clearing and settlement systems, and CLS Bank and its effect on foreign exchange settlement risk.

CLEARING AND SETTLEMENT FACILITIES

The Reserve Bank has a longstanding interest in clearing and settlement of financial instruments in Australia. Until recently, the Bank owned the settlement system for Commonwealth Government securities. The Bank provides access to Exchange Settlement Accounts for the interbank settlement of payments associated with financial market transactions. Organisations that facilitate the clearing and settlement of these financial market transactions, known as clearing and settlement facilities, are critical to Australia's financial architecture, and their smooth and secure operation is one of the Board's key interests. To this end, the Bank has been given powers under the *Corporations Act 2001* to set financial stability standards for these facilities.

Clearing and settlement take place after market participants have entered into a transaction in a financial instrument. *Clearing* is the process of transmitting and reconciling instructions following the transaction, and calculating the obligations to be settled. It may involve the netting of obligations and also the replacement, or "novation", of the original contract between the buyer and seller with two separate contracts – one between the buyer and the central counterparty, and the other between the central counterparty and the seller. *Settlement* is where the

Australia's Clearing and Settlement Facilities for Financial Instruments



obligations of parties to the transactions are discharged. In a securities transaction, this typically involves the delivery of a security in return for payment; in a derivatives transaction, it usually involves only a one-way payment.

The principal clearing and settlement facilities in Australia are owned by:

- the Australian Stock Exchange (ASX), which operates the Options Clearing House (OCH) and the ASX Settlement and Transfer Corporation (ASTC – the operator of the Clearing House Electronic Subregister System, CHESS); and

- the Sydney Futures Exchange (SFE), which operates the SFE Clearing Corporation (SFECC) and Austraclear.

The values cleared and settled each day in Australia are large, underlining the importance of clearing and settlement facilities to Australia’s financial infrastructure. A disruption in these systems – such as a major operational problem, the default of a participant, or a liquidity or solvency crisis within the facility itself – could result in the disruption being transmitted to other parts of the financial system (such as the financial markets, or to financial institutions not originally involved in the disruption).

Turnover and Settlement Values in Wholesale Markets average daily turnover 2002/03 (A\$)

	OCH	ASTC	SFECC	Austraclear
Notional Turnover ^(a)	828m	–	51b	–
Transaction Value	–	2b	–	18b
Settlement Value	27m	208m	41m	16b

(a) The OCH and SFECC data represent the notional values of derivatives contracts traded, and are not comparable with the values of debt and equities securities trades.

Sources: Australian Stock Exchange; Reserve Bank of Australia; Sydney Futures Exchange.

Where an organisation in Australia provides a regular mechanism for parties involved in financial market transactions to meet their obligations to each other, it is deemed to be a "clearing and settlement facility" and is required to hold a clearing and settlement facility licence under the *Corporations Act 2001*. Licences have been granted to the ASTC, OCH and SFECC. Under transitional arrangements, Austraclear has until 11 March 2004 to obtain a licence.

Under the regulatory framework, licensed facilities are required to comply with financial stability standards set by the Reserve Bank. Before determining financial stability standards, the Reserve Bank is required, under subsection 827D(3) of the *Corporations Act 2001*, to consult with the Australian Securities and Investments Commission (ASIC) and with the clearing and settlement facility licensees that will be required to comply with the standard. The Bank released two draft standards for public comment in November 2002. The Bank considered all submissions and the draft standards were modified in light of these submissions. Prior to the public consultation period, the Bank held informal discussions with relevant clearing and settlement facilities and with ASIC.

The Board approved the standards in May 2003 and they came into force on 30 May 2003. Transitional arrangements apply for the ASTC and OCH and for Austraclear, until such time as it obtains a licence.

The standards take the form of high-level prudential obligations, supplemented by a series of measures which the Reserve Bank considers relevant for the purposes of meeting the standard. The measures are further complemented by guidance notes which provide greater detail and examples of how, in the Reserve Bank's view, the measures could be satisfied. However, it is open to clearing and settlement facilities to meet the objective test set out in the standard by other means.

These standards, measures and guidance aim to ensure that each licensed facility identifies and properly controls the risks associated with its operation; they proceed from the premise that the primary responsibility for risk management lies with the board and senior management of the facility. Due to the differences in the risks to which they are exposed, separate standards have been determined for central counterparties and securities settlement systems.

Standard for central counterparties

Central counterparties interpose themselves between the two parties to a trade and become the buyer to every seller and the seller to every buyer. As such, they become parties to trades and take on the same risks as any other market participant. If a party cannot meet its obligations to a central counterparty, the central counterparty could face liquidity pressures and eventual losses; if such difficulties were to threaten the solvency of the central counterparty itself, the consequences for financial stability could be severe.

Because it centralises risk management, a central counterparty concentrates risks within the financial system. If these risks are not managed prudently, a central counterparty may be a source of systemic risk in the event of shocks to financial markets or to the economy more broadly. A summary of the Bank's standard for central counterparties, along with the minimum measures which in its opinion are relevant for the purposes of meeting the standard, is set out on the next page.

Standard for securities settlement systems

Securities settlement or "scorecard" systems maintain a record of title to securities and ensure that title changes take place according to instructions from the seller of the securities. Their main purpose is to record changes in ownership; in contrast to central counterparties, the systems do not become a counterparty to the trades they record.

A securities settlement system which acts as a scorecard provides a mechanism for counterparties to a securities transaction to meet their obligations to each other. The final settlement of a securities trade involves up to three steps: title of the security needs to be transferred from seller to buyer; funds must be transferred from the buyer's to the seller's deposit account at their respective financial institutions; and, where buyer and seller hold accounts at different financial institutions, funds must be transferred from the buyer's financial institution to that of the seller across Exchange Settlement Accounts at the Reserve Bank. These steps need to be linked to ensure that transfer of securities occurs if, and only if, cash payment occurs. Such "delivery-versus-payment" (DvP) arrangements guarantee that the change in ownership of securities is final and irrevocable,

Standard for Central Counterparties

The standard

A clearing and settlement facility licensee must conduct its affairs in a prudent manner, in accordance with the standards of a reasonable clearing and settlement facility licensee in contributing to the overall stability of the Australian financial system, to the extent that it is reasonably practicable to do so.

The standard is implemented by a series of minimum measures, briefly summarised below, which the Reserve Bank considers relevant in meeting the standard.

Measures

1. Legal framework

A central counterparty must have a well-founded legal basis, with rules that are clear and enforceable.

2. Participation requirements

The participation requirements of a central counterparty must ensure that participants have sufficient resources, both financial and otherwise, to meet obligations arising from participation in the facility.

3. Understanding risks

A central counterparty's rules and procedures must enable participants to understand the risks that they face through participation in the facility. Rules and procedures should be clear, comprehensive and accompanied if necessary by appropriate explanatory material.

4. Novation

The measure requires that the rules and procedures of the central counterparty must clearly identify both the nature and scope of novation and the point in the clearing process at which trades are novated.

5. Settlement

A central counterparty's exposures must be clearly and irrevocably extinguished on settlement. This requires the delivery-versus-payment (DvP) settlement of obligations where the exchange of assets occurs, or real-time settlement of payment obligations arising from derivatives transactions.

6. Default arrangements

A central counterparty's rules and procedures should provide for timely settlement (typically by the end of the settlement day) notwithstanding a default.

7. Risk controls

A central counterparty must have comprehensive risk control arrangements. In particular, it must ensure that, in all but the most extreme circumstances, if the participant with the largest settlement cannot meet its obligations to the central counterparty, the central counterparty will still be able to settle all of its obligations in a timely manner.

8. Governance

A central counterparty must have effective, accountable and transparent governance arrangements, with appropriate expertise and independence.

9. Operational risks

A central counterparty must identify sources of operational risk and minimise these through the development of appropriate systems, controls and procedures.

10. Reporting to the Bank

A central counterparty must report to the Bank such matters as participant defaults and breaches or likely breaches of the standard. It must also provide audited annual accounts and management accounts and results of stress testing at least quarterly.

freeing the buyer of a security to undertake further transactions with that security.

A securities settlement system does not take on credit risk and is not exposed to daily financial market volatility. Nonetheless, such systems do generate risks. DvP arrangements need to be robust in all circumstances so that settlement exposures between participants cannot build up. Systems also face legal

risks that participants do not have clearly defined and enforceable title to securities, and operational risks that arise through the business activities of the facility.

A summary of the Bank's standard for securities settlement facilities, along with the minimum measures which in its opinion are relevant for the purposes of meeting the standard, is set out below.

Standard for Securities Settlement Facilities

The standard

A clearing and settlement facility licensee must conduct its affairs in a prudent manner, in accordance with the standards of a reasonable clearing and settlement facility licensee in contributing to the overall stability of the Australian financial system, to the extent that it is reasonably practicable to do so.

The standard is implemented by a series of minimum measures, briefly summarised below, which the Reserve Bank considers relevant in meeting the standard.

Measures

1. Legal framework

A securities settlement facility must have a well-founded legal basis, with rules that are clear and enforceable.

2. Participation requirements

The participation requirements of a securities settlement facility must ensure that participants have sufficient resources, both financial and otherwise, to meet obligations arising from participation in the facility.

3. Understanding risks

A securities settlement facility's rules and procedures must enable participants to understand the risks that they face through participation in the facility. Rules and procedures should be clear, comprehensive and accompanied if necessary by appropriate explanatory material.

4. Certainty of title

A securities settlement facility licensee should ensure that the facility's participants have proper title to securities held in the facility.

5. Settlement

The securities settlement facility must ensure that settlement occurs on a final and irrevocable

basis, reducing the risk of systemic disturbance by eliminating principal risk. Primarily, this requires the delivery-versus-payment (DvP) settlement of obligations arising from a trade.

6. External administration

A securities settlement facility must be able to suspend or cancel the participation of the party subject to external administration. Any arrangements for dealing with unsettled trades of a participant in external administration must be clear to all participants and must be able to be carried out in a timely manner.

7. Operational risks

A securities settlement facility must identify sources of operational risk and minimise these through the development of appropriate systems, controls and procedures.

8. Reporting to the Bank

A securities settlement facility must report to the Bank such matters as participant defaults and breaches or likely breaches of the standard. It must also provide audited annual accounts and management accounts and results of stress testing at least quarterly.

Implementation

The Bank is required to undertake an assessment, at least once a year, of compliance by each clearing and settlement facility licensee with the standards and its obligation under the *Corporations Act 2001* to do all other things necessary to reduce systemic risk. After conducting an assessment, the Bank is required to provide a written report on the assessment to the Government, with a copy to ASIC. The Bank plans to present its assessment on the Australian Stock Exchange's facilities at the end of November every year; the assessment of the Sydney Futures Exchange's facilities will be presented at the end of May. The reports will be summarised in the Board's Annual Reports.

Under the Act, any enforcement of the standards is carried out by ASIC. ASIC and the Reserve Bank have entered into a Memorandum of Understanding which is designed to facilitate this process, as well as to minimise the regulatory burden on clearing and settlement facility licensees.

FOREIGN EXCHANGE SETTLEMENT RISK

High-value payments are usually settled on a real-time gross settlement (RTGS) basis. As discussed in the previous chapter, this means that final settlement occurs on a transaction-by-transaction basis continuously throughout the operating day. But RTGS by itself does not eliminate all risks. If the payment is made in exchange for another asset, such as a government security or another currency, the party that either first pays, or delivers the asset, is exposed to principal risk. As noted above, for securities settlements, best practice is therefore to ensure that delivery of the security occurs simultaneously with the payment. Foreign exchange transactions also involve making a payment in exchange for an asset (another currency). Traditionally those payments have occurred through the payment system relevant for high-value transactions in each country and no mechanism existed for ensuring simultaneous payment on each side.

This is the essence of foreign exchange settlement risk. It arises when a party to a foreign exchange transaction delivers the currency that has been sold before receiving the currency that has been bought. The risk lasts from the time that the irrevocable instruction is

given to make the payment of one currency until the time when the other currency is received with certainty. This length of time is affected by a number of factors.

First, time zones are important. Traditionally, the settlement of each leg could occur only in the domestic payment system of each country, using correspondent banks to settle on behalf of banks not represented locally. This meant that financial institutions might pay the currencies they had sold before they received the currency they had purchased. For example, in the case of Australian dollar/US dollar foreign exchange transactions, banks would pay Australian dollars when the Australian payment system was open but not receive US dollars in return until some 15 hours later, when (prior to 1997) the US payment system opened.

Second, the practices of the financial institutions have a significant impact on risk. Since settlement risk lasts from the time the irrevocable instruction to pay has been made, procedures that require long lead times in the execution of payment instructions can exacerbate this risk. Similarly, since settlement risk lasts until the funds are confirmed as received, procedures that delay this process also exacerbate risk.

Foreign exchange settlement risk has been a concern for policy makers ever since a European bank failed in 1974 and left its counterparties, who had already met their payment obligations on foreign exchange transactions but had not yet received currency from the bank in return, with losses. These risks were identified and quantified in two BIS reports (*Settlement risk in foreign exchange transactions*, in 1996 and *Reducing foreign exchange settlement risk: a progress report*, in 1998). The Reserve Bank undertook similar surveys of foreign exchange settlement practices, values and duration of exposure, which were published in two reports (*Foreign exchange settlement practices in Australia*, in 1997 and *Reducing foreign exchange settlement risk in Australia: a progress report*, in 1999).

These reports did not set out a specific set of standards to apply to foreign exchange settlement risk. Rather, they firstly encouraged banks to adopt internal measures to control the identified risks. The Basel Committee on Banking Supervision also released supervisory guidance in 2000, aimed at improving banks' practices in managing foreign exchange

settlement risk. Second, central banks encouraged the private sector to work to develop solutions that would reduce foreign exchange settlement risk. The service now provided by CLS Bank is one such solution.

CLS Bank eliminates foreign exchange settlement risk in transactions it settles by providing a bridge between individual countries' payment systems. Previous Annual Reports of the Board have described CLS Bank in some detail. It ensures that the two sides of a foreign exchange transaction are settled simultaneously and cannot later be unwound or separated. Each country's payment system used by CLS Bank needs to meet a number of prerequisites. Some of these prerequisites relate to technical issues but others relate to whether payment system design and legal arrangements provide for settlement finality.

CLS Bank commenced operations on 9 September 2002. The Australian dollar was one of seven "first wave" currencies (together with the Canadian dollar, euro, Japanese yen, pound sterling, Swiss franc and US dollar). Most Australian banks active in foreign exchange settlement services offer settlement through CLS Bank. The four Australian major banks are shareholders in CLS Bank; other banks have overseas parents that are shareholders.

Over the next few years, the number of currencies that can be settled through CLS Bank will be expanded. The Danish krone, Norwegian krone, Swedish krona and the Singapore dollar were added to the currencies that can be settled through CLS Bank in September 2003. The Hong Kong and New Zealand dollars, which have been endorsed in principle, are expected to be added in 2004. In August 2003, CLS Bank also endorsed in principle the inclusion of the Korean won.

Since it commenced operations, transactions settled in CLS Bank have grown strongly. Taking all eligible currencies together, around 85 000 transactions are settled each day with a total value of US\$900 billion. Settlement of the Australian dollar leg of transactions accounts for around 3 per cent of transactions valued at around A\$45 billion. This represents roughly 30 per cent of foreign exchange trading involving the Australian dollar that is eligible for settlement and results in a significant reduction in foreign exchange settlement risk for those involved in Australian dollar transactions.

While finality of payment (and elimination of foreign exchange settlement risk) in CLS Bank is achieved by settlement of transactions individually on a real-time gross basis, liquidity requirements are determined by participants' net obligations. On a typical day, Australian dollar "pay-ins" to CLS (the liquidity required to settle net obligations in the Australian dollar) are around A\$3 billion. In other words, the netting benefit of CLS Bank is over 90 per cent of the underlying gross foreign exchange settlement obligations.

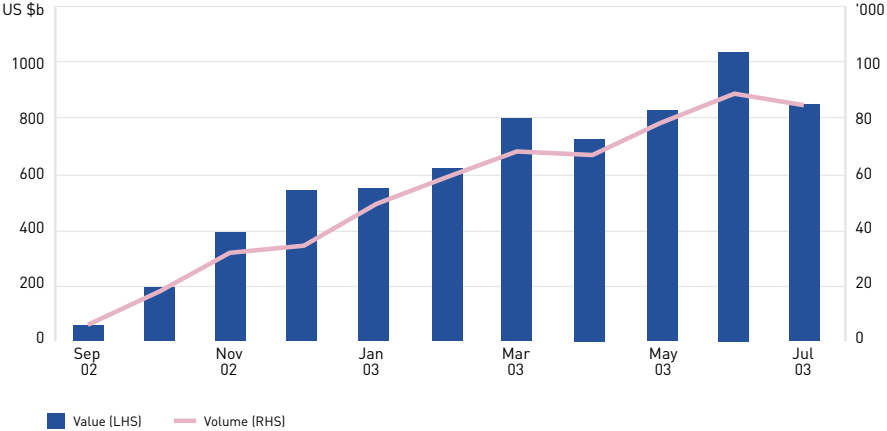
The introduction of CLS Bank has therefore significantly reduced foreign exchange settlement risk, but it has not eliminated it from the financial system entirely. The inclusion of new currencies will increase the share of trades being settled through CLS Bank, but there is also a need for more financial institutions that are not members to consider the benefits of settling their trades through CLS Bank.

Furthermore, CLS Bank is only one plank, albeit a large one, in the efforts to reduce foreign exchange settlement risk. The 1996 BIS report on *Settlement risk in foreign exchange transactions* identified a three-track strategy to address foreign exchange settlement risk. This involves action by:

- individual banks to control their foreign exchange settlement exposures;
- industry groups to provide risk-reducing multi-currency services; and
- central banks to induce rapid private sector progress.

The development of CLS Bank has addressed the second of the three tracks. With CLS Bank now operational and increasing in scale, central banks, including the Reserve Bank, are starting to look again at further steps in the first and third tracks. In particular, there is still a large amount of foreign exchange turnover that is not being settled through CLS Bank. The Board will be monitoring this and encouraging further risk reduction where appropriate, both by encouraging movement of settlement into CLS and further improvement in risk management practices in individual banks.

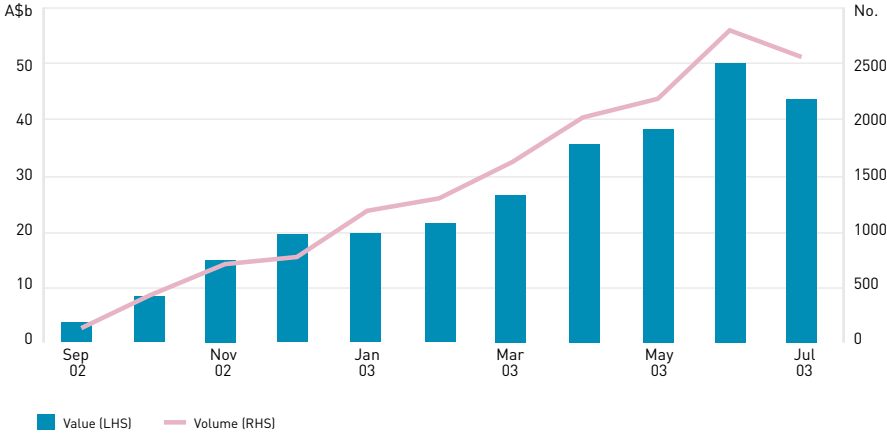
CLS Settlements : All Currencies daily average



Source: CLS Bank

In measuring total settlements, CLS Bank records both sides of each trade settled. The sale of A\$10 million for US\$5.5 million, for example, is counted as a settlement with a combined value of US\$11 million.

CLS Settlements : Australian Dollars daily average



Source: CLS Bank

In measuring settlements in individual currencies, CLS Bank counts only the relevant side of each trade settled. The sale of A\$10 million for US\$5.5 million, for example, would be measured as an A\$ settlement with a value of A\$10 million.

AGENCY ARRANGEMENTS FOR RTGS

Prior to June 1998, when real-time gross settlement (RTGS) commenced in Australia, virtually all payments in Australia were settled on a net deferred basis. As payments exchanged each day amount to roughly 20 per cent of Australia's GDP, there was potential for considerable systemic disruption should a participant be unable to settle its obligations. The introduction of RTGS for high-value transactions had the potential to remove this risk if most high-value transactions were settled in the new system. However, if most banks chose to continue to settle their high-value transactions using the net deferred system, or by continuing to settle through other commercial banks as they did for cheques, the benefits of RTGS could have been limited. To ensure that the risk reduction benefits of RTGS were maximised and to prevent undue concentration of RTGS activity among a few institutions, the Bank required all banks to settle their RTGS transactions directly through their Exchange Settlement Accounts at the Reserve Bank.

Since 1998 the number of banks in Australia has grown, and many smaller banks and other authorised deposit-taking institutions (ADIs) specialise in banking activities that do not require extensive use of RTGS. For these ADIs, the Board recognises that, in some cases, it is more efficient to settle their small volume of RTGS transactions through other ADIs offering to provide such a service. The Board accepts that there is scope for small ADIs to enter into agency arrangements without compromising the risk reduction benefits of RTGS. As a result, in March 2003, the Bank announced a new policy on agency arrangements, whereby ADIs whose RTGS payments account for less than 0.25 per cent of the value of RTGS transactions can enter into agency arrangements with other institutions to settle their RTGS payments. Both ADIs entering into agency arrangements and ADIs offering such services need to satisfy the Australian Prudential Regulation Authority of the adequacy of their risk management practices. In addition, an ADI using an agency arrangement must maintain a back-up Exchange Settlement Account at the Reserve Bank for use in a contingency.