Safety and Stability

The safety and stability of the payments system, and systems for clearing and settling securities transactions, are of fundamental importance to overall financial system stability. Design flaws or inadequate risk controls in such systems can allow difficulties facing an individual financial institution, or disturbances in a financial market, to be transmitted throughout the financial system generally. Australia has a very robust payments system, a judgment confirmed by the Board's detailed assessment, in last year's Report, of Australia's compliance with the *Core Principles for Systemically Important Payment Systems*, which were developed by the Committee on Payment and Settlement Systems (CPSS) at the Bank for International Settlements (BIS) and released in final form in 2001. During 2000/01, the Board focussed on two main issues under its safety and stability mandate. The first was the introduction of CLS Bank, a global initiative to reduce foreign exchange settlement risk which has been strongly supported by the Board, but which has been delayed in implementation. The second was the development of financial stability standards for securities clearing and settlement systems, in anticipation of the Board's new regulatory responsibilities in this area.

Foreign exchange settlement risk

The reduction of risks associated with the settlement of foreign exchange transactions has been a continuing priority for the Board. These risks can be substantial. A foreign exchange transaction involves the payment of one currency for another; under current arrangements, the settlement of each leg occurs in the domestic payment system of each country, often in different time zones and commonly using correspondent banks to settle on behalf of banks not represented locally. For these reasons, the settlement processes are not usually co-ordinated and there is a risk that one party could pay out currency it has sold, but not receive currency it has bought, because its counterparty fails to deliver. Even if this failure were due only to short-term operational problems, the party expecting funds remains without these funds and there could be "knock-on" effects if the funds were needed to complete another transaction. The amounts involved in foreign exchange settlements can be very large – exceeding $A100 billion of Australian dollar transactions on some days – so the scope for disruption is substantial. For Australian banks, the time zone dimension is a particular disadvantage: over 90 per cent of Australian dollar trades are against the US

dollar, which is settled in New York some 14 to 16 hours behind Sydney.

Individual banks, including those providing correspondent services, have taken steps to reduce foreign exchange settlement risk by improving back office reconciliation procedures and introducing legally robust netting arrangements. Settlement risk can only be completely removed, however, through a "payment-versus-payment" (PvP) mechanism under which banks pay away currencies only if they are guaranteed to receive the counterpart funds. In 1997, a group of major international banks agreed to develop such a mechanism in the form of a "continuous linked settlement" or CLS Bank.

CLS Bank is a special purpose bank which will link the settlement of both legs of foreign exchange transactions in eligible currencies. Banks using the service will maintain accounts with CLS Bank in each currency and transactions will be settled simultaneously across these accounts. To minimise its exposure to member banks, CLS Bank will settle transactions if, and only if, each member retains an overall positive balance across its currency accounts after each settlement. Individual transactions will be finalised on a gross basis but, to keep liquidity needs in each currency to a minimum, banks will need to pay in, through the relevant domestic RTGS system, only their net short position or will receive from CLS Bank their net long position. Settlements will ordinarily occur during the European morning because that provides the most convenient overlap of time zones around the world. Australian dollar receipts and payments by CLS Bank will therefore be made late afternoon or early evening Sydney time, using an Exchange Settlement Account it will hold with the Reserve Bank. An example of how CLS will settle trades in Australian dollars and US dollars is in the box opposite.

RISK REDUCTION IN CLS BANK

Transaction I.
Bank A buys $A100 from and sells US$50 to Bank B.

Existing arrangements

Bank A receives $A100 from Bank B, via the latter's Australian correspondent bank, at (say) 1.00 pm Sydney summer time.

Bank A delivers, via its US correspondent bank, US$50 to Bank B in New York at (say) 11.00 am New York time (3.00 am the following day Sydney summer time).

Bank B is at risk that it delivers the $A but Bank A fails to deliver the US$.

CLS settlement arrangements

The transaction is submitted to CLS Bank, which settles the buy and sell legs simultaneously during the European morning.

Neither Bank A nor Bank B is at risk to the other because the two currencies are settled simultaneously.

Transaction II.
Bank A sells $A150 to and buys US$75 from Bank C.

Existing arrangements

Bank A delivers $A150 to Bank C, via the latter's Australian correspondent bank, at (say) 11.00 am Sydney summer time.

Bank A receives, via its US correspondent bank, US$75 from Bank C in New York at (say) 1.00 pm New York time (5.00 am the following day Sydney summer time).

Bank A is at risk that it delivers the $A but Bank C fails to deliver the US$.

CLS settlement arrangements

The transaction is submitted to CLS Bank, which settles the buy and sell legs simultaneously during the European morning.

Neither Bank A nor Bank C is at risk to the other because the two currencies are settled simultaneously.

CLS funding arrangements (Transactions I and II)

Netting transactions I and II, Bank A has sold $A50 and bought US$25.

Bank A delivers $A50 to CLS Bank and receives, via its US correspondent, US$25 from CLS Bank progressively between 7.00 am and 10.00 am Central European Time (5.00 pm and 8.00 pm Sydney summer time).

The development of CLS Bank has proven more difficult than originally anticipated and its introduction has been delayed a number of times. Operations are now expected to begin around the middle of 2002. The Board is disappointed that progress has not been more rapid. On a positive note, the delays have allowed for more rigorous testing of CLS systems, and banks proposing to use CLS Bank, as well as central banks and banking supervisors, are now much better prepared for its operation. Support for CLS Bank within the global banking community also remains strong. New shareholders are joining and, in conjunction with the relevant monetary authorities, "in principle" agreements have been reached to add the Singapore dollar, the Swedish krona, the Danish kroner and the Norwegian krone to the original seven currencies (which include the Australian dollar). The New Zealand dollar and Hong Kong dollar are also expected to become eligible currencies in due course.

The CLS project is being overseen by central banks from countries whose currencies and banks are involved. Supervisory arrangements are being co-ordinated through a sub-group of the CPSS chaired by the Federal Reserve Bank of New York (which will supervise CLS Bank itself) and including the Reserve Bank. The focus of supervisory arrangements, and of CLS Bank's own risk management policies, is ensuring that when the new institution commences business it is operationally robust and is protected against the failure of one or more of its settlement members; the success of a centralised settlement system, such as that to be provided by CLS Bank, relies heavily on the confidence of its users that the system is free of risks.

Another issue for central banks is ensuring that the impact on liquidity in the domestic payment systems of currencies settled by CLS Bank is readily manageable. In this context, the Reserve Bank has been working closely with CLS Bank and with banks active in the Australian market to prepare for the inclusion of the Australian dollar. Arrangements for varying the opening hours for Australian payment and securities settlement systems to overlap with the core hours of CLS Bank are well advanced, as are preparations for the management of payment system liquidity during the extended hours. The Payments System Board will be considering an application by CLS Bank for an Exchange Settlement Account. The Reserve Bank will also be asked to approve formally the inclusion of the Australian dollar as an eligible CLS currency. In common with the central banks of the other "first wave" CLS currencies, approval will be based on the minimum standards and principles for central bank oversight set out in the *Report of the Committee on Interbank Netting Schemes* (the Lamfalussy Report), published by the BIS in 1990. These were the standards in place when the development of CLS Bank got under way. In due course, it is anticipated that the *Core Principles for Systemically Important Payment Systems*, which have a somewhat

broader basis, will be applied to CLS Bank. CLS Bank is also seeking protection for its netting arrangements under the *Payment Systems and Netting Act 1998*.

For currencies that will not be settled by CLS Bank, banks are working on other ways of reducing foreign exchange settlement risk. Work aimed at raising banks' awareness of this risk, and promoting best practice in its control and management, has been underway in the East Asia-Pacific region for the past three years, under the auspices of a Working Group of EMEAP central banks and monetary authorities. The Working Group has conducted a survey of the foreign exchange risk management and settlement practices of regional banks and released a report, containing a number of recommendations for central banks and commercial banks, in December 2001. The Reserve Bank co-ordinated this work on behalf of the Working Group.

Securities clearing and settlement

Facilities that clear and settle transactions in securities such as bonds and equities, and in derivative instruments such as options and futures, are a critical part of Australia's financial infrastructure. Once such transactions have been entered into, either on an organised exchange or in an over-the-counter (OTC) market, information about the trade is passed to the relevant clearing and settlement facility, so that details of the trade can be confirmed, titles to securities transferred and relevant payments made. The smooth operation of these "back office" functions is essential to the stability of Australia's financial system. Turnover in wholesale securities and derivatives markets, particularly the bond market, is very high and the failure of transactions to settle on schedule could have serious flow-on effects to other participants.

Turnover in wholesale markets

average daily turnover 2000/2001
($ billion)

Austraclear	22.4
RITS[1]	16.7
CHESS	1.7
OCH[2]	0.5
SFECC[2]	46.5

1 From the end of February 2002, Commonwealth Government securities previously settled in RITS are being settled in Austraclear.

2 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.

There are two types of clearing and settlement systems. "Scorecard" systems, such as the Austraclear system for debt securities owned by the SFE Corporation Limited and the Clearing House Electronic Subregister System (CHESS) for equities owned by the Australian Stock Exchange (ASX), maintain a record of title to securities and ensure that title changes take place according to instructions from the seller of the securities. Scorecard systems are not counterparties to the trades they record. In contrast, "central counterparties" such as the

ASX's Options Clearing House (OCH) for options and some futures transactions, and the SFE Clearing Corporation (SFECC) for futures and options and some debt transactions, 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.

In recognition of their importance for financial stability, both types of clearing and settlement facilities have become more closely integrated with Australia's RTGS system for high-value payments. This has allowed the scorecard systems to transfer title to securities on a "delivery-versus-payment" (DvP) basis where transfer of the title, irrevocable payment and interbank settlement occur simultaneously; the risk that participants to a transaction might deliver securities (or make a payment) but not receive funds (or securities) in return is thereby eliminated. For central counterparty systems, settlement of obligations between the central counterparty and its members on an RTGS basis provides greater certainty and security for all parties.

As mentioned earlier in this Report, the Board has been granted formal responsibility for ensuring that clearing and settlement facilities conduct their affairs in a way that is consistent with financial system stability. To this end, clearing and settlement facilities will be required to comply with financial stability standards set by the Reserve Bank. The Board has been overseeing the development of such standards, which will take a separate form for scorecard systems and central counterparties because of the difference in their risk profiles. The standards will reflect international best practice and will be consistent with the CPSS/IOSCO *Recommendations for Securities Settlement Systems*, which were released in November 2001. The standards will emphasise that primary responsibility for maintenance of appropriate risk control measures for a clearing and settlement facility lies with that facility's board and senior management.

Under transitional arrangements announced by the Government, clearing and settlement facilities that are explicitly regulated under the current *Corporations Act* regime have been granted a licence from 11 March 2002 and will have to comply with the Bank's financial stability standards from the date they come into force. CHESS and the SFECC fall into this category. Those not explicitly regulated under the existing regime will have to obtain a licence by the end of a two-year transition period and will then have to comply with the full requirements of the new regime, including the Bank's standards. Austraclear, the OCH in its capacity as a central counterparty to exchange-traded options and the ASX's TSN Clearing, which acts as a central counterparty to equities

trades between brokers, fall into this category.

Draft financial stability standards will be released for public comment after consultations with ASIC and with industry, but the broad approach endorsed by the Board is described below.

Standards for central counterparties

A central counterparty usually provides three core services for its members: calculation of financial obligations arising from trades (ie clearing services); a guarantee that trades will be settled in the event that a counterparty becomes insolvent; and associated risk management services. These services commence when the original contract between the two parties to the trade is replaced, or "novated", with two separate contracts – one between the buyer and the central counterparty, and the other between the central counterparty and the seller.

Well-designed central counterparty arrangements have a number of attractive features for financial market participants. All novated trades are netted, with the result that each member has only a net position in each security against the central counterparty. This can mean substantial savings for members in the value of cash and securities needed to meet their obligations, compared with the alternative of settling bilateral obligations with each of their original counterparties. In addition, a central counterparty takes on the credit risk associated with the trading of its members and manages this risk centrally. This reduces the need for members to monitor the creditworthiness of other market participants and allows them to focus, instead, on monitoring their credit risk against the central counterparty. The role of a central counterparty in managing risk is particularly important in markets where the creditworthiness of participants is variable or difficult to determine.

At the same time, a central counterparty concentrates risks in the financial system. If these risks are not managed prudently, a central counterparty may be the source of systemic risk in the event of financial market instability or shocks to the economy. Central counterparties globally use three main techniques to control their credit risk and the costs of replacing trades in the event of member default:

- membership requirements that ensure that prospective members have sufficient financial substance;
- "margining" techniques that provide the central counterparty with funds to cover possible failures of members during periods of anticipated market volatility; and
- settlement guarantee funds and loss-sharing commitments if market volatility is more extreme than anticipated.

The Bank's financial stability standards will seek to ensure that any central counterparty in Australia conforms with international best practice in each of these three areas. They will

also deal with other matters relevant to risk management including the need for a sound legal framework, the way in which obligations between the central counterparty and its members are settled and procedures to be followed in the event of member default. Operators of such facilities will also need to demonstrate that they have adequate contingency plans to deal with operational difficulties.

Standards for settlement (scorecard) systems

A securities settlement system which acts as a scorecard provides a mechanism for counterparties to meet their obligations to each other. Typically, final settlement of a securities trade requires 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 central bank funds must be transferred from the buyer's to the seller's financial institution across accounts held at the central bank.

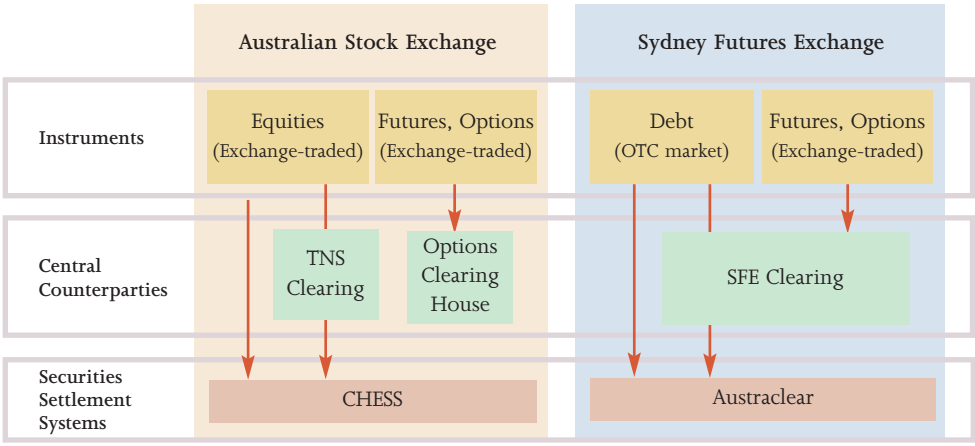
The Bank's financial stability standards will emphasise that the regulations and operational procedures of any such securities settlement system should have sound legal underpinnings and that members have certainty of title to securities in all circumstances. The standards will also be designed to ensure that transfer of title to securities occurs if, and only if, cash payment occurs and that the operations of a system do not give rise to a build-up of settlement exposures between members. Securities settlement systems will need to have sound risk management practices, including procedures to deal with member insolvency and adequate contingency plans.

The Bank's standards for clearing and settlement facilities are being developed against the background of an industry undergoing considerable rationalisation. As noted in last year's Report, the Board is keen to support initiatives to improve the efficiency of Australia's clearing and settlement arrangements, particularly given the prospect of competition from large overseas operators. The past year has seen some important steps in this direction.

In September 2000, the SFE and Austraclear announced a proposed merger, which was completed in December 2000 after regulatory approval. Further rationalisation took place in February 2002, with the transfer of Commonwealth Government securities from the Reserve Bank Information and Transfer System (RITS) to the SFE's Austraclear system. These developments have reduced the number of clearing and settlement system operators in Australia from four to two.

Following consultation with ASIC and the Reserve Bank, the SFECC introduced central counterparty clearing for trades in Commonwealth and state government securities in September 2001, through its Bond and Repo Clear (BRC) service. The SFECC already acted as a central counterparty for futures contracts traded on the SFE and the New Zealand Futures and Options Exchange. This

Australia's Clearing and Settlement Facilities



service will encourage a more standardised approach to credit risk management across the industry and enable users to reduce their liquidity needs by being able to settle securities and cash positions on a net basis against a single counterparty. Central counterparty clearing services for debt securities are also offered in the United States and the United Kingdom and in a number of other countries.

Approval under the *Payment Systems and Netting Act 1998*

Under the *Payment Systems and Netting Act 1998*, the Board is able to grant protection to transactions in approved RTGS systems from a possible "zero hour" ruling. Under this rule, a court may date the bankruptcy of an institution from the midnight before the bankruptcy order was made; transactions settled between midnight and the time of the bankruptcy order would be void. The application of this rule would threaten the irrevocable nature of RTGS transactions. Before approval is granted to a system, the Reserve Bank must ensure that the regulations of the system are consistent with the conditions set out in the Act and do not allow participants to misuse the protection extended to them.

In November 2000, the Board declared CHESS to be an approved RTGS system in terms of the Act. With the introduction of an RTGS facility in CHESS, CHESS members now have the option of settling high-value or time-critical equities transactions on an RTGS basis rather than on a net deferred basis. The Bank has previously issued similar approvals to RITS and Austraclear under the Act. The approval for CHESS means that individual trades in both debt securities and equities can now be settled on an RTGS basis under the protection of the Act.