Oversight of Clearing and Settlement Facilities

The *Corporations Act 2001* assigns to the Reserve Bank a number of powers and functions related to the oversight of clearing and settlement (CS) facilities. Under the *Reserve Bank Act 1959*, it is the responsibility of the Payments System Board to ensure that these are exercised in a way that 'will best contribute to the overall stability of the financial system'.

Under the Corporations Act, CS facility licensees that operate in Australia are required to comply with the Financial Stability Standards (FSS) set by the Bank and to do all other things necessary to reduce systemic risk. Four domestic Australian CS facility licensees, all owned by the ASX Group, are currently required to meet the FSS:

- ASX Clear Pty Limited (ASX Clear), which provides central counterparty (CCP) services for a range of financial products traded on the ASX and Chi-X Australia Pty Ltd (Chi-X) markets, including cash equities, pooled investment products, warrants, certain debt products and equity-related derivatives.
- ASX Clear (Futures) Pty Limited (ASX Clear (Futures)), which provides CCP services for derivatives traded on the ASX 24 market, including futures and options on interest rate, equities, energy and commodity products. In July 2013, ASX Clear (Futures) began offering a clearing service for Australian dollar-denominated over-the-counter (OTC) interest rate derivatives (see below).
- ASX Settlement Pty Limited (ASX Settlement), which provides for the settlement of cash equities, debt products and warrants traded on the ASX and Chi-X markets. ASX Settlement also provides a settlement service for non-ASX listed securities.
- Austraclear Limited (Austraclear), which offers securities settlement services for trades in debt securities, including government bonds and repurchase agreements (repos).

While oversight is ongoing throughout the year, the Board conducts a formal assessment of each CS facility licensee's compliance with the FSS once a year. The assessments covering the 2011/12 financial year were published in September 2012.[28]

In April 2013, LCH.Clearnet Limited (LCH.C), a London-based central counterparty, was granted a CS facility licence to clear trades executed on a new derivatives exchange to be operated by FEX Global Pty Ltd (FEX). In July 2013, LCH.C's licence was varied to permit LCH.C to offer its SwapClear clearing service for OTC interest rate derivatives directly to Australian participants. Under the Corporations Act, LCH.C is similarly required to comply with the FSS and to do all other things necessary to reduce systemic risk. In assessing LCH.C's compliance with

28 The *2011/12 Assessment of Clearing and Settlement Facilities in Australia* is available at <http://www.rba.gov.au/payments-system/clearing-settlement/assessments/2011-2012/index.html>.

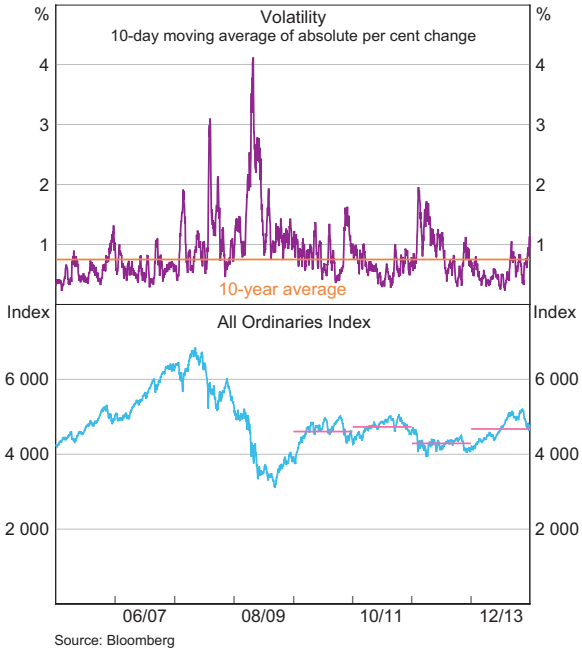
these obligations, the Reserve Bank will place appropriate reliance on information and reports from LCH.C's home regulator, the Bank of England.[29]

Domestic Clearing and Settlement Facilities

Activity in the domestic licensed CS facilities

In 2012/13, price volatility was generally lower than in the previous year for markets cleared and settled by the ASX CS facilities. Daily average values for cash-equity trades cleared by ASX Clear and debt securities settled by Austraclear fell, while the number of derivative contracts traded on ASX 24 continued to grow.

Graph 17
All Ordinaries



Source: Bloomberg

The average volatility in equity prices, as measured by the average of absolute daily percentage changes in the S&P ASX All Ordinaries Index, was lower in 2012/13 compared with 2011/12, decreasing from 0.9 per cent to 0.5 per cent (Graph 17, top panel). In response to renewed concerns about European sovereign debt, volatility rose above the 10-year average in late February and remained around this level for much of the remainder of the financial year. Peaks in volatility in 2012/13, however, were well below peaks in previous years.

Trends in the growth of the number and value of cash-equity trades continued to diverge over 2012/13. The daily average number of such trades increased by 6 per cent in 2012/13, while the daily average value fell by 11 per cent (Graph 18). The average daily value of securities transactions settled by ASX Settlement decreased by 12 per cent in 2012/13, to $8.2 billion.[30]

As a result of this divergence, which is a continuation of a long-term trend associated with the growth in algorithmic trading, the average size of trades in 2012/13 declined by 16 per cent. Further contributing factors include market fragmentation from the break-up of large orders across trading venues, and the increasing prevalence of automated or semi-automated processing.

The average daily number of equity options contracts traded on the ASX market decreased by 4 per cent in 2012/13. Despite this, and the sizeable reduction in volatility in the equity market in year-average terms, margins held by ASX Clear against equity derivatives increased by 12 per cent in 2012/13 (Graph 19, top panel). This was in part the result of higher share prices, which increase the value of contracts written on equities and, to a lesser extent, the introduction of the CME SPAN margin methodology (see discussion of risk

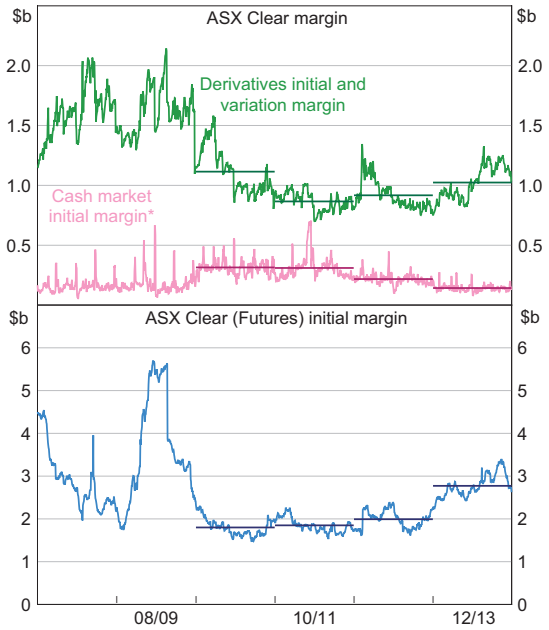
29 The Bank's approach to oversight of both domestic and overseas CS facility licensees is set out in *The Reserve Bank's Approach to Assessing Clearing and Settlement Facility Licensees*, available at <http://www.rba.gov.au/payments-system/clearing-settlement/standards/201212-new-fss-ris/attachment-6.html>. In addition to bilateral engagement with the Bank of England in accordance with a memorandum of understanding, the Bank is also a member of a multilateral cooperative oversight arrangement for LCH.C's SwapClear service.

30 Settlement values differ from trade values because they reflect both market traded and non-market transactions, as well as multilateral netting of participants' obligations.

Graph 18
ASX Cash-equity Trades

Source: ASX

Graph 19
Central Counterparty Margins



* Notional amount until 7 June 2013; Real Risk methodology used until 18 July 2012, Cash Market Margining used thereafter

Source: ASX

management enhancements below). By contrast, notional initial margins calculated by ASX Clear for the cash equity market decreased by 34 per cent in 2012/13, reflecting a number of factors, including lower volatility and smaller net end-of-day positions (on which margin is calculated).

The daily average number of derivatives contracts traded on the ASX 24 market rose by 12 per cent in 2012/13. This included significant increases for several major contracts, most notably the 10-year Treasury bond futures (up 24 per cent), 3-year Treasury bond futures (up 12 per cent) and 90-day Bank Bill futures (up 20 per cent). The volume of ASX SPI200 futures contracts traded was, however, down by 13 per cent. Daily initial margin collected increased by 39 per cent, reflecting a higher value of participants' end-of-day exposures, as well as the increase in trading volumes (Graph 19, bottom panel). Despite the recent increases, margins held remain significantly below the levels at the height of the global financial crisis in 2008–09. With the exception of 10-year Treasury bond futures, margin rates were lower for most of 2012/13 than in 2011/12.

In 2012/13, the average daily value of debt securities settled through Austraclear decreased by around 5 per cent to $38 billion. This includes outright purchases and sales of securities, and securities transferred to effect repurchase agreements (other than intraday repurchase agreements with the Bank).

2011/12 Assessment

In September 2012, the Reserve Bank published its 2011/12 Assessment of the four licensed ASX CS facilities against the relevant FSS. The Bank concluded that all four facilities met the relevant standards in the Assessment period.

The 2011/12 Assessment highlighted a number of improvements to the risk and operating frameworks of the two CCPs – ASX Clear and ASX Clear (Futures). In particular, the CCPs made changes in the following areas:

- *CME SPAN*. In 2011/12, ASX introduced the widely used CME SPAN margining system for derivatives at ASX Clear (Futures). As discussed below, in late 2012, ASX also introduced CME SPAN at ASX Clear. These upgrades have consolidated the two CCPs' risk management for derivatives on a common platform, and have facilitated better calibration of the CCPs' exposures to ASX's risk tolerance.
- *Default management*. The ASX CCPs successfully handled the default of the MF Global Holdings Limited subsidiaries in November 2011. Some lessons learned from this event have since been incorporated into ASX's default management framework. ASX continues to regularly review and enhance its default arrangements.
- *Participant monitoring*. ASX improved its participant monitoring processes by refining its participant 'watch list'. In particular, arrangements were put in place to coordinate actions and information sharing between different areas within ASX. ASX also increased its face-to-face engagement with participants, and progressed a number of projects related to monitoring participants' compliance with ASX's rules.
- *Participation requirements*. From 1 January 2012, the minimum 'core capital' requirement for participants offering third-party clearing was increased from $10 million to $20 million.

Also notable in 2011/12 was ASX's progress towards the routine margining of cash equities. The Bank has been strongly supportive of this work, since margining arrangements are an important risk management tool and a key requirement of the new FSS against which the CS facilities have been assessed for the period 2012/13. The new arrangements for cash equity margining were progressively rolled out at ASX Clear in 2012/13, with the final stage of margin collections being introduced in June 2013.

The 2011/12 Assessment also reported on a number of material developments in the two SSFs. ASX Settlement continued to refine its settlement process in accordance with recommendations in the Bank's 2008 *Review of Settlement Practices for Australian Equities*. ASX Settlement also developed two new settlement services: a delivery-versus-payment (DvP) settlement service for non-ASX listed securities, allowing participants in these markets to avoid incurring principal risk during the settlement process; and a payment and unit allocation service for managed funds, potentially improving the efficiency of payment arrangements in this area.[31]

During the 2011/12 Assessment period, ASX completed the move to a new operations centre. This resulted in improved redundancy arrangements for the core systems of all four of ASX's CS facilities. The new operations centre facilitates rapid recovery in the event of an operational incident, and provides an alternative workspace for a significant proportion of ASX staff. ASX also continued work to increase the level of in-house development and support of Austraclear's core system. This work, scheduled for completion in 2014, will simplify the design of the system, which should in turn improve its stability. Furthermore, it will simplify system maintenance and upgrades, and give ASX greater control over future system enhancements.

Finally, the 2011/12 Assessment discussed the development of new FSS (see 'New Financial Stability Standards' under 'Regulatory Developments in Financial Market Infrastructures' for more details). Over 2011/12, ASX started to consider the implications of the new FSS in preparation for their introduction in the 2012/13 Assessment period. In conjunction with its work on the new FSS, the 2011/12 Assessment also encouraged ASX to carry out a review of its Treasury Investment policy, in consultation with the Bank. This reflects concerns first raised in the Bank's 2008/09 Assessment, which identified the risks associated with ASX's large concentrated exposures to the major domestic banks under its Treasury Investment policy and encouraged ASX to consider options to reduce this risk.

31 This service will commence operations once ASX has sought and received the necessary regulatory approvals.

Material Developments in 2012/13

The Board approved the Bank's 2012/13 Assessment of the four licensed ASX CS facilities at its August 2013 meeting for publication in September. This was the first assessment against the new FSS (see below) and a number of material developments were reviewed.

Risk management enhancements

In 2012/13, ASX successfully introduced the CME SPAN system for margining of derivatives at ASX Clear. With CME SPAN having been introduced at ASX Clear (Futures) in the 2011/12 Assessment period, both CCPs are now using a consistent approach to the margining of derivatives. Over time, this will permit ASX to improve the consistency of margin reports and margin data.

On 11 June 2013, ASX began routinely to collect margins on unsettled cash equity transactions, consistent with requirements under the revised FSS. ASX collects both initial and mark-to-market margin. A Historical Simulation of Value at Risk (HSVaR) methodology is used for actively traded stocks, which involves calculating potential changes in the value of a portfolio of securities based on observed historical price moves. Where stocks are less liquid, or do not have sufficient historical price information available, ASX applies flat rate margins. Daily initial margin averaged $140 million in June.

Also in June 2013, ASX conducted a capital raising by means of a stock entitlement offer to support changes to the pooled financial resources of ASX Clear and ASX Clear (Futures). ASX raised $533 million, with $250 million used to replace existing resources across the two CCPs previously funded by a commercial bank loan, $20 million replacing participant funds in ASX Clear (Futures), and $180 million used to increase the level of cover of financial resources at ASX Clear (Futures). This increase in resources was in part to support clearing of OTC derivatives (see below). It also anticipated additional financial resource cover requirements arising from the Bank's supplementary interpretation of the FSS issued in the context of a European Union regulatory equivalence assessment (see discussion of cross-border issues below). The remaining funds contributed to an increase in the business risk capital allocated to the CS facilities.

New Products and Services

ASX OTC interest rate derivatives clearing service

On 1 July, ASX launched an interdealer clearing service for Australian dollar-denominated OTC interest rate derivatives. These trades are negotiated bilaterally, and submitted for central clearing to ASX Clear (Futures). Nine banks have become Foundation Customers, and under the terms of the Foundation Customer Program are expected to be admitted as participants by 1 January 2014. In the first phase, ASX clears standardised interest rate swaps (IRS) and overnight indexed swaps. In a second phase, ASX plans to introduce client clearing, and expand its product scope to Australian dollar-denominated IRS indexed to forward rate agreements and New Zealand dollar-denominated OTC interest rate derivatives.

Novation occurs in 'real time', in a similar manner to the process for exchange-traded futures. Participants that clear both futures and OTC products are able to take advantage of cross-margining of exchange-traded and OTC positions, which reduces margin requirements to the extent that positions are risk offsetting.

In addition to the increase in ASX contributions to pooled financial resources described above, ASX has also provided in its rules for an additional $100 million in contributions from OTC participants. Although ASX Clear (Futures) has a single pool of resources to cover any losses from the default of a participant in respect of both

exchange-traded and OTC positions, the order in which losses would be allocated to participants will depend on the defaulter's activity in each type of product. For example, if the defaulter is primarily active in OTC products, a larger share of OTC participant contributions to the pooled resources will be used in the initial loss allocation. To size its resources, ASX's stress-testing regime has been amended to include OTC derivatives related factors.

Prior to its launch, the Bank carried out a detailed assessment of the design of the service against the relevant FSS. The detailed assessment of ASX Clear (Futures) has been incorporated in the Bank's 2012/13 Assessment.

ASX Collateral

Over the past two years, ASX has been working with Clearstream, a Luxembourg-based financial market infrastructure provider, to develop a centralised collateral management service (ASX Collateral) for the Australian market. Impending regulatory changes and other market developments are increasing demands on a limited pool of high-quality collateral, giving market participants a strong incentive to optimise their use of collateral. ASX's new service automates the optimisation and allocation of collateral, with title remaining and settlement continuing to take place in the existing domestic securities settlement facilities. ASX Collateral was launched in late July 2013 for collateral held in Austraclear, with 12 participants having signalled their intention to join the service. There are plans to extend coverage to collateral settled by ASX Settlement in due course.

Key functions of ASX Collateral are that it can automatically optimise the allocation of collateral, substitute collateral as required, and re-use collateral received.

- Optimisation of collateral is a process whereby a collateral provider seeks to meet its obligations by using collateral in the most efficient way. The provider aims to minimise the opportunity cost of providing collateral subject to predetermined constraints, which may include regulatory requirements, the eligibility criteria and haircuts of collateral receivers, alternative uses for collateral-eligible assets, and its own risk preferences.
- Substitution is the process whereby collateral that has been lodged or pledged is replaced by unused collateral of equivalent or greater value – provided that it meets the eligibility criteria set by the collateral receiver. Events that may trigger substitution include the sale of securities by the collateral provider, a corporate event, collateral becoming ineligible (e.g. because of a change to counterparty criteria), or optimisation of the collateral allocation.
- Re-use is the process by which collateral received from another participant can in turn be given as collateral, thereby allowing for the creation of chains of re-use involving many participants. Where a participant in the re-use chain needs to perform a substitution of collateral, a series of substitutions may be required to retrieve the collateral.

Given the potential implications of ASX Collateral for Austraclear's compliance with several FSS, as well as its potential to become a critical piece of financial market infrastructure, the Board has taken a close interest in the development of ASX Collateral. Accordingly, in early 2013, staff carried out a detailed assessment of the interdependencies between Austraclear and ASX Collateral and their implications for Austraclear's continued observance of the FSS for SSFs. The detailed assessment of ASX Collateral in relation to Austraclear's compliance with the FSS for SSFs has been incorporated in the Bank's 2012/13 Assessment.

A retail trading platform for Commonwealth Government Securities

Having received the necessary regulatory approvals, in late May 2013 ASX launched a retail trading, clearing and settlement service for depository interests in Commonwealth Government Securities (CGS). These depository interests are traded on ASX Trade, novated to ASX Clear, and settled in ASX Settlement with a three-day settlement cycle. This is a departure from existing arrangements for wholesale trading in CGS, which occurs on an OTC basis, with no central clearing, and settlement on a gross transaction-by-transaction basis in Austraclear. Since launch, trading activity on the new platform has been limited.

Overseas Licensed Clearing and Settlement Facilities

LCH.Clearnet Limited

On 4 April 2013, LCH.C became the first overseas-based CS facility to be licensed in Australia. LCH.C is a London-based CCP that provides clearing services for OTC derivatives and a number of overseas exchange-traded markets in both equities and derivatives. Initially, the conditions on LCH.C's CS facility licence permitted LCH.C to provide CCP services only for commodity, energy and environmental derivatives traded on the market to be operated by FEX, which was also granted an Australian market licence on 4 April.[32] LCH.C's licence has since been varied to permit LCH.C to also operate its SwapClear service for OTC interest rate derivatives in Australia (see the discussion under 'SwapClear' for more detail).

LCH.C's licence was granted under section 824B(2) of the Corporations Act, which provides an alternative licensing route for any overseas-based CS facility that is subject to requirements and supervision in its home country that are considered to be sufficiently equivalent to those in Australia. When deciding whether to grant a CS facility licence, the Corporations Act requires the Minister to have regard to advice received from the Reserve Bank and the Australian Securities and Investments Commission (ASIC). The Bank's advice to the Minister, which was approved by the Board, was provided in February 2013. Among other things, the advice included an assessment of the sufficient equivalence of the oversight of CCPs in the United Kingdom in relation to protection from systemic risk; ASIC's advice on the sufficient equivalence of the UK regime also considered sufficient equivalence in terms of the effectiveness and fairness of services that the regime achieves. Consistent with its stated approach, the Bank's sufficient equivalence assessment considered:[33]

- the clarity and coverage of stability-related principles applied by the overseas regulator relative to the stability-related principles applied by the Bank
- the nature and intensity of the overseas regulator's oversight process, including direct comparison with the regime applied by the Bank
- observed outcomes relative to those in Australia, as reflected in an initial assessment of the facility against applicable standards in the Australian regime.[34]

32 The FEX market is not yet operational.

33 The Bank's approach to assessing the sufficient equivalence of an overseas regulatory regime is available at <http://www.rba.gov.au/payments-system/clearing-settlement/standards/overseas-equivalence.html>.

34 This assessment was published following the Minister's decision to grant a CS facility licence to LCH.C. It is available at <http://www.rba.gov.au/payments-system/clearing-settlement/assessments/lch/2013/lch-assess-2013-02.html>.

SwapClear

A variation to LCH.C's licence was granted on 1 July 2013, permitting LCH.C also to offer its SwapClear service for OTC interest rate derivatives directly to Australian entities. SwapClear is the world's largest central clearing service for interest rate swaps in terms of cleared notional amounts outstanding. It clears swaps in 17 currencies (including the Australian dollar), and has over 80 clearing participants. Previously, Australian banks had participated in SwapClear indirectly through client clearing arrangements, with volumes and values of derivatives transactions submitted to SwapClear via these arrangements increasing markedly during 2012 and 2013.[35]

As with the initial granting of a CS facility licence, the Minister must also have regard to relevant advice from the Bank and ASIC when considering a variation to a licence. The Reserve Bank's advice included an updated assessment of the sufficient equivalence of the UK regime in terms of protection from systemic risk, following three major changes to the Australian and UK regulatory regimes during the first half of 2013:

- The coming into force of new European Union-wide requirements for CCPs under *Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories* (EMIR) on 15 March.
- The coming into force of the Bank's new FSS on 29 March (see the discussion under 'New Financial Stability Standards' for more details).
- The transfer of responsibility for the oversight of CCPs in the United Kingdom from the Financial Services Authority to the Bank of England on 1 April.

The Reserve Bank's updated sufficient equivalence assessment acknowledged that the UK regime was in a state of transition, with the provisions of EMIR and associated technical standards not binding on UK-based CCPs until a 'reauthorisation' process is completed under EMIR. Accordingly, in considering the clarity and coverage of the stability-related principles, the updated assessment compared the requirements of both the pre- and post-EMIR states of the UK regime with the Bank's new FSS for CCPs. The observed outcomes component of the assessment took the form of a high-level assessment of LCH.C and its SwapClear service against the FSS for CCPs.[36]

35 Volumes and values of transactions submitted to LCH.C's SwapClear service are discussed in APRA, ASIC and RBA (2013), *Report on the Australian OTC Derivatives Market*, July, available at <http://www.cfr.gov.au/publications/cfr-publications/2013/report-on-the-australian-otc-derivatives-market-july/index.html>.

36 This assessment was published following the Minister's decision to grant LCH.C a variation to its CS facility licence. It is available at <http://www.rba.gov.au/payments-system/clearing-settlement/assessments/lch/2013/lch-assess-2013-06.html>.