Supervision of Clearing and Settlement Facilities

The Reserve Bank holds powers related to the supervision and oversight of clearing and settlement facilities and sets regulatory priorities for each facility. Currently, four domestic clearing and settlement facility licensees and two offshore licensees are required to meet Financial Stability Standards set by the Bank.

Overview

The *Corporations Act 2001* assigns to the Reserve Bank a number of powers and functions related to the supervision and oversight of clearing and settlement (CS) facilities. Under the *Reserve Bank Act 1959*, the Payments System Board is responsible for ensuring that these powers and functions 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 (the Standards) set by the Bank and to do all other things necessary to reduce systemic risk.

Four domestic CS facility licensees, all part of ASX Group, and two offshore licensees are currently required to meet the Standards:[11]

- ASX Clear Pty Limited (ASX Clear) provides central counterparty (CCP) services for ASX-quoted cash equities, debt products and warrants traded on the Australian Securities Exchange (ASX) and Chi-X Australia markets, and equity-related derivatives traded on the ASX market.
- ASX Clear (Futures) Pty Limited (ASX Clear (Futures)) provides CCP services for futures and options on interest rate, equity, energy and commodity products, as well as Australian dollar-denominated over-the-counter (OTC) interest rate derivatives (IRD).
- ASX Settlement Pty Limited (ASX Settlement) provides securities settlement facility (SSF) services for ASX-quoted cash equities, debt products and warrants traded on the ASX and Chi-X markets; ASX Settlement also provides SSF services for non-ASX listed securities quoted on the National Stock Exchange of Australia and Asia Pacific Stock Exchange.
- Austraclear Limited (Austraclear) provides SSF services for trades in debt securities, including government bonds and repurchase agreements.
- LCH.Clearnet Limited (LCH.C Ltd) provides CCP services for OTC IRD and is licensed to clear trades executed on the Financial and Energy Exchange derivatives market when this becomes operational. LCH.C Ltd was granted a variation to its Australian CS facility licence to permit it to offer clearing services for inflation rate derivatives to its Australian clearing participants through the SwapClear service in July 2015.
- Chicago Mercantile Exchange Inc. (CME) is licensed to provide CCP services for OTC IRD, and non-Australian dollar-denominated IRD traded on the CME market or the Chicago Board of Trade market for which CME permits portfolio margining with OTC IRD.

11 In addition, IMB Limited, a building society, operates a market for trading in its own shares by its members, and an associated securities settlement facility (SSF) to settle these trades. IMB Limited's SSF is currently exempt from the the Standards owing to its small size.

While supervision and oversight is ongoing throughout the year, the Bank also carries out and publishes formal assessments of CS facility licensees' compliance with the Standards. Under the Bank's policy on the *Frequency of Regulatory Assessments of Licensed Clearing and Settlement Facilities*, the frequency of assessments is determined with reference to the systemic importance of a CS facility to the Australian financial system and the strength of a CS facility's domestic connection. In accordance with this policy, the Bank has committed to conducting annual assessments of the ASX CS facilities and LCH.C Ltd's SwapClear service, while, based on its current activity, assessments of CME will be carried out less frequently. These assessments establish recommendations and regulatory priorities for each CS facility. During the year, Bank staff have monitored each CS facility's progress towards meeting these priorities, reporting quarterly to the Bank's Financial Market Infrastructures (FMIs) Oversight Committee and, as appropriate, the Board.

This chapter summaries the Bank's 2014/15 regulatory priorities for each facility. The chapter also summarises activity since mid 2014 for all six CS facilities, as well as other material developments, including each facility's progress towards meeting the stated regulatory priorities.[12]

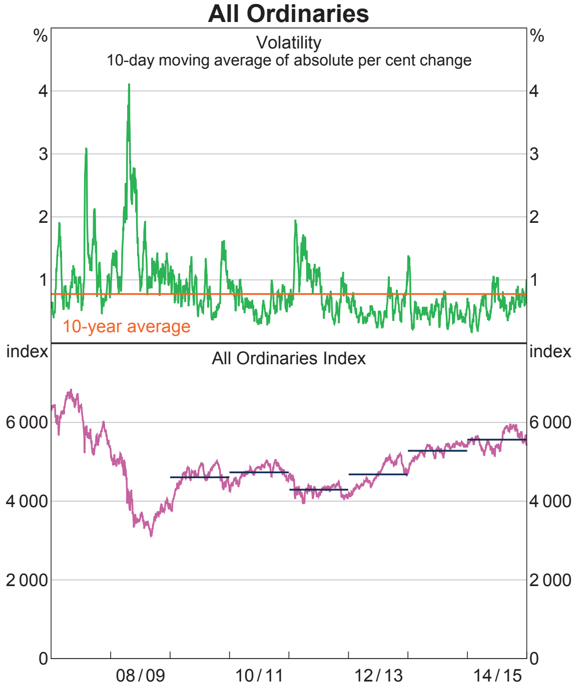
Domestic Clearing and Settlement Facilities

Activity in the domestic CS facilities

In 2014/15, average price volatility in the markets cleared and settled by the ASX CS facilities was generally below the 10-year average (which includes spikes in volatility associated with the global financial crisis). There were increases in the volume of trading of cash equities cleared by ASX Clear and in the main futures contracts cleared by ASX Clear (Futures), and a significant increase in the notional value of OTC IRD cleared by ASX Clear (Futures). In contrast, the volume of trades in equity options continued to decline. The daily average value of debt securities settled in Austraclear also declined compared with the previous year.

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 0.6 per cent in 2014/15 (Graph 9). Although volatility picked up modestly from the previous year, it remained below the 10-year average for much of 2014/15. These developments are broadly in line with trends in major international equity markets (Graph 10).

Graph 9
All Ordinaries

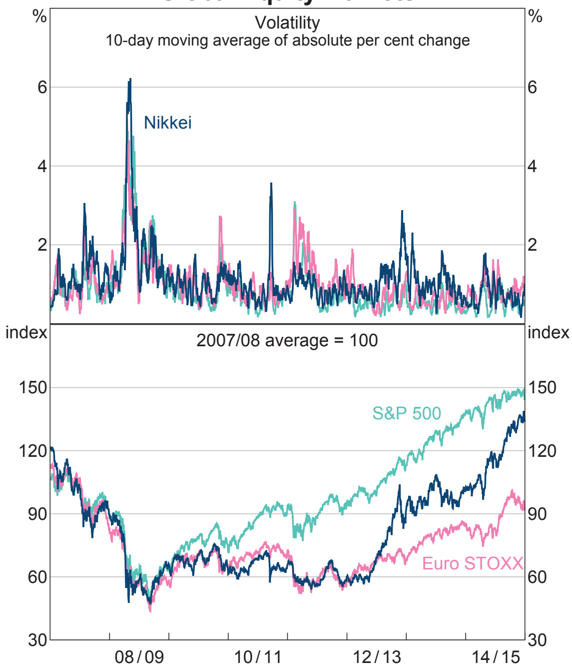


Source: Bloomberg

The daily average value and volume of cash equity trades increased by 10 per cent and 4 per cent, respectively, in 2014/15 (Graph 11). Following a run of years in which the average transaction size has fallen (a trend associated with the growth in algorithmic trading), average size rose by 5 per cent in 2014/15.

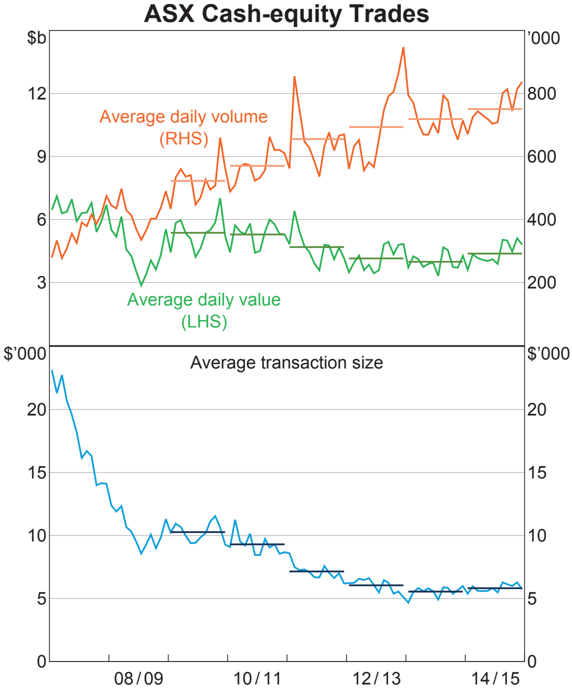
12 Further detail can be found in the Bank's published Assessments of the ASX facilities, the LCH.C Ltd SwapClear facility and CME, available at <http://www.rba.gov.au/payments-system/index.html>.

Graph 10
Global Equity Markets



Source: Bloomberg

Graph 11
ASX Cash-equity Trades

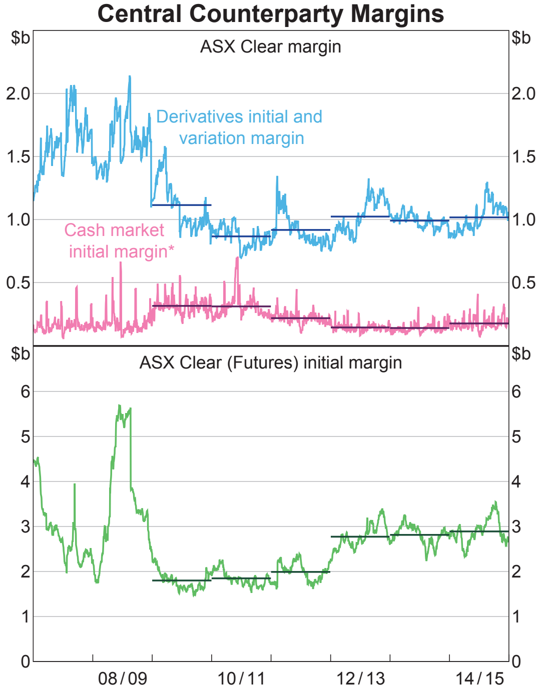


Source: ASX

In line with the increase in trading activity, average daily initial margin held by ASX Clear against unsettled cash equity transactions increased by 27 per cent during 2014/15 (Graph 12, top panel).

The daily average value of cash equity settlements in ASX Settlement increased by 3 per cent in 2014/15 to $8.5 billion; trends in net settlement values can deviate from trends in gross trading values, since the latter do not include non-market transactions and netting efficiency can change over time. The average daily value of debt securities settled in Austraclear decreased by around 1 per cent, to $40 billion. This includes the value of securities under repurchase agreements (other than intraday repurchase agreements with the Bank).

Graph 12
Central Counterparty Margins



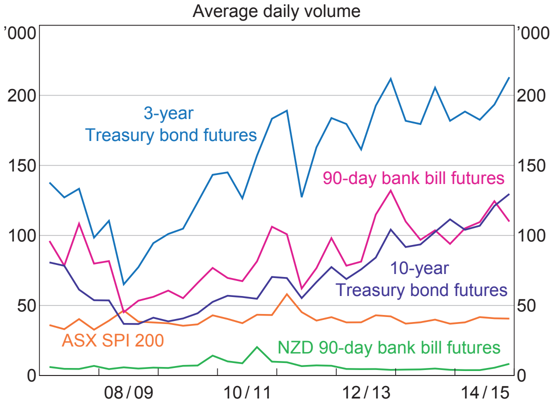
* Notional amount until 7 June 2013; Real Risk methodology used until 18 July 2012, Cash Market Margining used thereafter

Source: ASX

The average daily number of equity options contracts traded on the ASX market continued to decline in 2014/15, falling by 4 per cent. In response to these declining volumes, ASX has continued to implement changes in the exchange-traded options market, in consultation with an advisory panel comprising participants and end users. These changes are aimed at tailoring the scope of ASX's equity options to market demand by consolidating inactive listings and providing more flexible alternatives, for example by broadening the range of exchange-traded option products and offering central clearing of OTC equity options. Average daily margin held by ASX Clear against equity derivatives was 3 per cent higher in 2014/15, with lower open interest at least partly offset by an increase in volatility (Graph 12, top panel).

The average daily trading volume on the ASX 24 market, by contrast, increased by 7 per cent in 2014/15, to around 490 000 trades per day (Graph 13). This was driven by increases in the average turnover of 10-year Treasury bond futures (up 16 per cent) and 90-day bank bill futures (up 11 per cent). Daily average volumes for SPI 200 equity index futures increased by around 6 per cent, while trading of 3-year Treasury bond futures increased by around 4 per cent compared with 2013/14. Traded volumes in the most actively traded New Zealand dollar contract (90-day bank bill futures) increased by around 20 per cent compared with 2013/14. Overall positions in New Zealand dollar futures, together with agricultural and energy contracts, remained small relative to positions in the four major contracts.

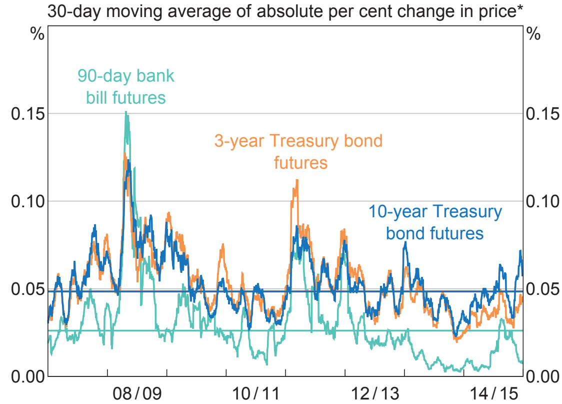
Graph 13
ASX 24 Derivatives Trades



Source: ASX

Average daily initial margin held by ASX Clear (Futures) rose by 3 per cent in 2014/15 (Graph 12, bottom panel). This is consistent with increases in the margin rate for the SPI 200 contract, associated with increased volatility in equity prices, as well as an increase in participants' open positions. Volatility in interest rate futures prices on the ASX 24 market also picked up slightly over 2014/15, albeit from a relatively low base (Graph 14).

Graph 14
Volatility of Interest Rate Contracts on the ASX 24 Market



* Horizontal lines indicate the 10-year average for each series

Source: Bloomberg

There was also a significant increase in initial margin held against OTC IRD positions, although this remains small relative to overall margin held by ASX Clear (Futures). The notional value outstanding of OTC IRD positions increased to $441 billion during 2014/15, from $124 billion at the end of June 2014. ASX Clear (Futures) currently has eight OTC derivatives clearing participants, although some of these have only recently begun actively clearing OTC derivatives trades via ASX Clear (Futures).

2014/15 Assessment of ASX CS Facilities

In August 2014, the Board approved the publication of the Reserve Bank's 2013/14 Assessment of the four licensed ASX CS facilities.[13] This Assessment,

13 The Bank's 2013/14 Assessment of the ASX CS Facilities is available at <http://www.rba.gov.au/payments-system/clearing-settlement/assessments/2013-2014/index.html>.

published in September 2014, concluded that all four ASX facilities either observed or broadly observed the relevant standards in the Assessment period. The Assessment identified a number of recommended actions and noted other matters that the Bank would follow up with ASX. Together, these formed the Bank's regulatory priorities for the 2014/15 assessment period. The key priorities and steps taken by ASX to address these are set out below, together with other material developments discussed in the Bank's 2014/15 Assessment of the ASX CS facilities, which was published in September 2015.[14]

Model validation and stress testing

In its 2013/14 Assessment, the Bank noted a number of enhancements made by ASX to its model validation framework, including enhancements to the backtesting and sensitivity analysis of its margin models, as well as the introduction of reverse stress testing.[15] The Bank recommended that ASX further refine and integrate model validation into its risk management framework. This included the engagement of an external expert to undertake a comprehensive validation of all key risk models. The external validations of credit and liquidity stress-testing models, as well as margin models for exchange-traded and OTC derivatives, were completed during the 2014/15 assessment period. ASX's response to the credit stress-testing validation formed a key focus for the Bank's 2014/15 Assessment. ASX implemented a series of enhancements to its stress-testing models in July 2015, while a second phase of enhancements will be implemented over time. The Bank will continue to work with ASX on the implementation of this second phase during the 2015/16 assessment period; this will be partly informed by the outcomes of work on stress testing by the Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO) (see 'Liaison Activity').

Recovery planning

In order to meet emerging international standards, the Bank's 2013/14 Assessment recommended that ASX take steps to enhance the recovery plans of its CS facilities; that is, their arrangements to return to viability in the event of an extreme financial shock. The recommendation noted that ASX should develop its recovery arrangements with regard to forthcoming CPMI-IOSCO guidance, which was ultimately published in October 2014.[16] In response, in late 2014 and early 2015, ASX consulted on changes to its CCPs' Operating Rules to enhance their ability to address fully any uncovered credit losses, restore a matched book and replenish financial resources following a participant default, as well as meet any liquidity shortfall and address non-default related losses.[17] The Bank has worked closely with ASX in the development of its enhanced recovery arrangements, which are due to come into effect in October 2015. The Bank has recommended further enhancements to ASX's replenishment arrangements and will continue to discuss these with ASX over the 2015/16 assessment period.

Investment risks

The Reserve Bank has engaged with ASX over the past year on changes to its policy governing the treasury investments of its CCPs, to address the concern that the ASX CCPs' treasury investment policy allowed relatively large and concentrated unsecured exposures to a small number of

14 The Bank's 2014/15 Assessment of the ASX CS Facilities is available at <http://www.rba.gov.au/payments-system/clearing-settlement/assessments/2014-2015/index.html>.

15 ASX's reverse stress tests build on the standard stress-testing approach of the CCPs to examine scenarios under which prefunded financial resources would be exhausted. In particular, in its reverse stress tests, ASX considers more extreme market price assumptions, and allows the number of defaulting participants and the size of participant positions to vary.

16 See CPMI-IOSCO (2014) *Recovery of Financial Market Infrastructures*, available at <http://www.bis.org/cpmi/publ/d121.htm>.

17 A CCP generally operates with a matched book – any long trades that it clears correspond to offsetting short trades, ensuring that it is not exposed to market risk. The default of a participant alters this balance, exposing the CCP to potential loss until the CCP can successfully close out the defaulted participant's trades. If normal closeout processes fail, a CCP may need alternative tools to restore a matched book, such as the ability to terminate contracts with non-defaulting participants.

domestic banks. While ASX had already taken initial steps to address this issue prior to 2014/15, ASX has now endorsed further staged revisions to its treasury investment policy designed to meet the Bank's expectations for the credit and liquidity risk profile of ASX treasury investments by end 2016/17. Individual unsecured exposures to non-government related issuers or counterparties would be limited to the level of business risk capital held across the two CCPs (currently $75 million), meaning that ASX could absorb losses arising from the default of any single investment counterparty or issuer. In the unlikely event that further losses arose (for example, due to the default of more than one investment counterparty), ASX's enhanced recovery arrangements provide for the allocation of these losses to participants (see above).

Cyber resilience

The Bank noted in its 2013/14 Assessment the increasing focus, both internationally and domestically, on the cyber resilience practices of FMIs and other key participants in the financial system. Given the highly disruptive impact that could result from an interruption to critical clearing and settlement services or a degradation of data integrity at an FMI, the Bank has continued a dialogue with ASX on cyber resilience matters during the 2014/15 assessment period, in collaboration with Australian Securities and Investments Commission (ASIC). As part of this, the Bank requested that ASX carry out a self-assessment against the United States National Institute of Standards and Technology (NIST) Cybersecurity Framework.[18] This high-level self-assessment concluded that ASX's cyber security practices generally aligned with the upper tier of maturity levels described under the framework. CPMI and IOSCO are in the process of developing guidance on cyber resilience practices for FMIs, which will inform the Bank's future engagement with ASX on this issue.

18 The NIST Cybersecurity Framework is used widely by critical infrastructure providers and other organisations in a number of jurisdictions internationally.

Other material developments

In addition to matters arising from recommendations and priorities arising in the Bank's 2013/14 Assessment, there were a number of additional material developments during the period. Perhaps the most significant of these was ASX Clear's management of the default of the broker, BBY Limited (BBY).

Default management

In May 2015, ASX Clear employed its default management procedures to address the appointment of an external administrator to a participant, BBY. Earlier in the month, BBY had been unable to meet a margin call triggered by a downward restatement of its capital position.[19] ASX did not declare an immediate default, instead taking steps to limit ASX Clear's immediate exposure to BBY and engaging with the participant on a plan to achieve an orderly exit from its derivatives clearing business. BBY was placed into voluntary administration a little under two weeks later, activating ASX Clear's default management process. ASX managed BBY's default through a combination of client transfers and the close out of remaining positions. Overall, the close out proceeded without any evident market impact and all losses arising from the close-out process were sufficiently covered by margin held by ASX. The default management process nevertheless highlighted several matters relevant to ASX's risk management and default management arrangements that are worthy of further consideration. The Bank has encouraged ASX to complete its review of experiences gained from the BBY default, and to update its default management arrangements and risk management approach as appropriate.

International recognition

In April 2015, ASX was advised by the European Securities and Markets Authority (ESMA) that both ASX Clear and ASX Clear (Futures) had been recognised as third-country CCPs under the European

19 ASX calls additional initial margin from participants if the positions that they clear are large relative to their capital position.

Market Infrastructure Regulation. Consistent with the Bank's supplementary interpretation of the Financial Stability Standards issued in the context of ESMA's regulatory equivalence assessment (see 'Regulatory Developments in Financial Market Infrastructures'), ASX Clear has now transitioned to testing the adequacy of its credit and liquidity resources to cover the default of the two participants that generate the greatest joint exposure for the CCP ('Cover 2').[20] While ASX Clear's pre-funded financial resources were already sufficient to meet the new Cover 2 requirement for credit exposures, ASX sourced an additional $100 million in committed liquidity. Also in accordance with the supplementary interpretation, ASX Clear established a participant risk consultative committee, which held its first meeting in March 2015.

On 18 August 2015, ASX Clear (Futures) was granted an exemption from the requirement to register as a derivatives clearing organisation (DCO) in the US by the US Commodity Futures Trading Commission (CFTC). The exemption allows ASX Clear (Futures) to continue to provide OTC IRD clearing services to US-based participants without the need to submit to the full range of regulatory requirements applicable to a DCO under US law.

Code of Practice

In response to the recommendations made by the Council of Financial Regulators (CFR) in its 2012 review of competition in clearing cash equities, ASX released its *Code of Practice for Clearing and Settlement of Cash Equities in Australia* (the Code of Practice) in August 2013. The Code of Practice commits ASX to engage with users via an advisory Forum and a supporting Business Committee, and to maintain transparent and non-discriminatory pricing of, and terms of access to, its cash equity clearing and settlement services.

The Forum and Business Committee continued to provide input on the development of ASX's clearing and settlement services and infrastructure during 2014/15. One of the key strategic initiatives progressed by the Forum and Business Committee during the past year was a move to a two-day settlement cycle for cash equities from the current three-day cycle; this is scheduled to be implemented in March 2016. ASX also continued to publish management accounts for its cash market clearing and settlement businesses, and made enhancements to its arrangements for handling confidential information received from unaffiliated market operators. In addition to its commitments under the Code of Practice, ASX has also been working with Chi-X Australia to extend the existing clearing and settlement access arrangements to certain non-ASX listed securities.

In December 2014, ASX consulted on a number of operational improvements to the Code of Practice, including to give greater prominence to the Business Committee. ASX has advised that consultation feedback was supportive of the proposed amendments, but the changes will be reviewed in light of the government's response to the CFR's 2015 review of competition in the clearing of cash equities (see 'Competition in Clearing Australian Cash Equities' in the chapter on 'Regulatory Developments in Financial Market Infrastructures'). As part of this review, the CFR evaluated the performance of the Code of Practice.

Technology transformation

In February 2015, ASX announced a technology transformation project to upgrade all of its major trading and post-trading systems over the next three to four years. The project is intended to rationalise ASX's core technology onto a single services platform, removing interdependencies that currently exist between unrelated systems. The first stage of the project will upgrade ASX's trading, risk management and market monitoring systems. The new risk management system is expected to deliver the ability for ASX to calculate exposures and margin requirements in real time; an initial release was used to support ASX's OTC derivatives default management 'fire drill' in July.

20 ASX Clear (Futures) has sized its financial resources on a Cover 2 basis since 2013.

A subsequent phase of the technology transformation project will focus on ASX's clearing and settlement platforms. This includes the consolidation of derivatives clearing onto a common platform and the replacement of the CHESS clearing and settlement system for cash equities. The Bank is examining prioritisation decisions, resourcing challenges, interdependencies with day-to-day business-as-usual processes, and potential change-management issues associated with ASX's technology transformation project. This includes ensuring that investment in the replacement of CHESS is appropriately prioritised.

Business strategy and financials

The continued profitability of the ASX Group provides an important mitigant against general business risk for the ASX CS facilities. ASX Limited's statutory profit after tax for 2014/15 financial year was $397.8 million, up 3.8 per cent from 2013/14. This was largely due to higher operating revenue, driven by an increase in listings, as well as income from cash market trading, clearing and settlement services. Operating expenses were up 4.2 per cent over the period, due to an increase in staff costs.

During 2014, ASX implemented fee reductions for both its electricity and interest rate futures products. The impact of these changes over the year to June 2015 was $17.8 million, which was partly offset by the removal of other rebates. Growth in derivatives and OTC trading also offset some of this loss in revenue. ASX has also invested heavily in upgrading its trading platforms and post-trade services; capital expenditure was $44.4 million in 2014/15, and is expected to be $45–50 million in the following year (see 'Technology transformation' above).

Overseas Licensed Clearing and Settlement Facilities

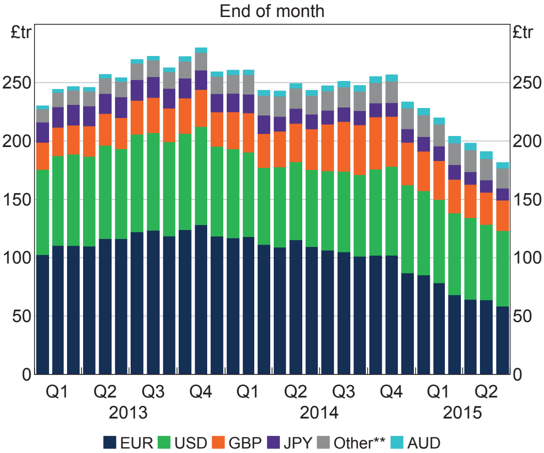
LCH.Clearnet Limited

Activity in LCH.Clearnet Limited

SwapClear clears six types of IRD products: interest rate swaps, zero-coupon swaps, basis swaps, forward rate agreements, overnight index swaps and variable notional swaps. In addition, SwapClear started clearing inflation rate derivatives in March 2015 and LCH.C Ltd was granted a variation to its Australian CS facility licence to permit it to offer clearing services for inflation rate derivatives to its Australian clearing participants through the SwapClear service in July 2015.

SwapClear clears products denominated in 17 currencies and has clearing participants from the United Kingdom (UK), many other Western European countries, the United States (US), Canada, Australia and Hong Kong. A few major currencies comprise the vast majority of activity in SwapClear (Graph 15). Of the notional value outstanding in SwapClear at end June 2015, around 32 per cent was denominated in euro, 36 per cent in US dollars, 14 per cent in pound sterling and 18 per cent in other currencies. Around 3 per cent was in Australian dollars.

Graph 15
SwapClear: Notional Value Outstanding, by Currency (Stock)*
End of month



* Data counts two sides of each trade
** Includes CAD, CHF, CZK, DKK, HKD, HUF, NOK, NZD, PLN, SEK, SGD, ZAR
Source: LCH.C Ltd

The recent decline in notional value outstanding, visible in Graph 15, largely reflects trade compression activity. Compression is the practice of identifying offsetting trades in participants' portfolios and terminating them, while leaving those participants' market-facing exposures unchanged (within a stated tolerance). Compression reduces the operational overhead and operational risk of managing a large volume of redundant trades. It also simplifies default management processes, reducing the volume of trades that would need to be priced and auctioned in the event of a participant default. During 2014/15, £183 trillion of notional value outstanding was compressed in the SwapClear service.

Since early 2012, the major Australian banks have centrally cleared a significant proportion of their OTC IRD trades indirectly, as clients of other clearing participants. In July 2013, the Minister varied LCH.C Ltd's CS facility licence to allow SwapClear to admit Australian entities as direct clearing participants. All four major Australian banks are now direct clearing participants of SwapClear.

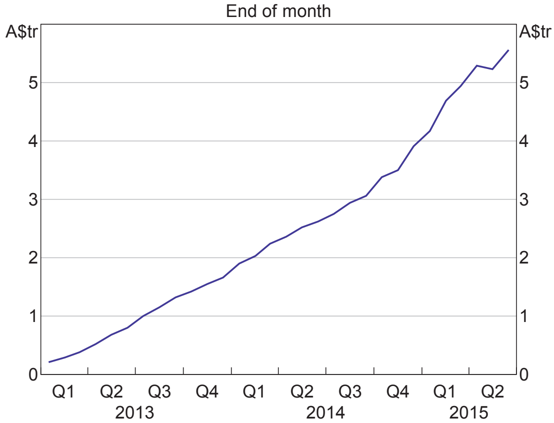
An estimated 91 per cent of the notional value outstanding of all centrally cleared Australian dollar-denominated OTC IRD trades is cleared via SwapClear. The total notional value outstanding of Australian dollar-denominated OTC IRD cleared via SwapClear has grown from A$7.8 trillion at end June 2014 to A$10.0 trillion at end June 2015.[21] The total notional value outstanding of Australian banks, initially clearing as clients of other clearing participants, has increased strongly since late 2012 (Graph 16). Nonetheless, while all of the Australian banks' eligible new trades are now centrally cleared, not all of the stock of outstanding trades has yet been submitted for central clearing.

Regulatory priorities

In assessing LCH.C Ltd's application to vary its CS facility licence to offer its SwapClear service in 2013, the Reserve Bank took the view that the service could rapidly become systemically important in Australia. Accordingly, the Bank determined a set of regulatory priorities for LCH.C Ltd to ensure that its operational and governance arrangements promoted stability in the Australian

21 These values count two sides of each trade.

Graph 16
SwapClear: Notional Value Outstanding of Australian Banks (Stock)*



* Data is aggregate of Australian banks' trade sides; trades between two Australian banks will be counted twice

Source: LCH.C Ltd

financial system. These priorities reflected expectations set out by the CFR in July 2012 in its policy *Ensuring Appropriate Influence for Australian Regulators over Cross-border Clearing and Settlement Facilities* (the Regulatory Influence Policy) and implemented in the Standards.

The Bank's regulatory priorities for LCH.C Ltd for 2014/15 were published in the Bank's 2013/14 Assessment of LCH.C Ltd's SwapClear Service. LCH.C Ltd's progress towards meeting these priorities will be discussed more fully in the Bank's 2014/15 Assessment of LCH.C Ltd's SwapClear Service, which will be published in late 2015.

Provision of services to the Australian market

A number of the Bank's regulatory priorities for LCH.C Ltd relate specifically to the provision of its services to the Australian market.

- LCH.C Ltd was encouraged to continue its work to extend the operating hours of SwapClear and the provision of operational support to the Australian time zone. The operating hours of the SwapClear service (currently 06:00 to 00:00 UK time) are such that trades executed during the Australian business day when the SwapClear service is closed are not novated to LCH.C Ltd until the Australian evening when the

SwapClear service reopens. Similarly, the Bank stated that it expected LCH.C Ltd to provide appropriate operational support to participants in the Australian time zone.

- The Bank requested that LCH.C Ltd finalise its application for an Exchange Settlement Account (ESA) with the Bank, and develop and implement arrangements for the settlement of Australian dollar obligations through its ESA. LCH.C Ltd's ESA went live in March 2015. LCH.C Ltd was also encouraged to develop and implement arrangements to manage its Australian dollar liquidity risk, utilising its ESA. LCH.C Ltd now holds securities eligible for repurchase with the Reserve Bank in an account in Austraclear to support the management of its Australian dollar liquidity risk.
- The Bank recommended that LCH.C Ltd consider accepting Australian dollar cash as initial margin.

Default management

Consistent with the Standards, the Reserve Bank set an expectation that LCH.C Ltd's crisis management arrangements take appropriate account of Australian stability interests. The Bank's particular focus has been to better understand how LCH.C Ltd would manage the default of an Australian-based clearing participant, or any participant with a large Australian dollar-denominated portfolio. LCH.C Ltd conducts regular 'fire drills' for its SwapClear service, which are exercises conducted to simulate a clearing participant default and to test whether the CCP and its clearing participants have the operational capacity to deal with such a default. During 2014/15, LCH.C Ltd ran a default 'fire drill' that for the first time included an Australian dollar-denominated portfolio.

Liquidity stress testing

During 2013/14, LCH.C Ltd implemented a reverse stress-testing framework, which seeks to identify the range of market conditions in which its access to liquid resources would be insufficient to meet its obligations. The Bank stated that it expected LCH.C Ltd to continue to enhance this framework and set a priority that LCH.C Ltd should, with reference to reverse stress-testing outcomes, demonstrate that its liquidity stress-testing framework captured a sufficient range of extreme but plausible scenarios.

Appropriate representation of Australian membership in governance

The Bank set an expectation in 2013 for LCH.C Ltd to establish appropriate governance mechanisms to reflect the views of Australian clearing participants. As noted in the Bank's 2013/14 Assessment of the SwapClear Service, LCH.C Ltd met this priority by forming the Australian Member User Group (AMUG) in March 2014. The AMUG provides a means for LCH.C Ltd to seek input from Australian participants on proposed changes to policy and risk management procedures and to provide timely updates on material changes. It also provides an opportunity for Australian participants to propose to LCH.C Ltd policy changes that should be developed or prioritised. The Bank committed in its 2013/14 assessment to monitor the effectiveness of LCH.C Ltd's arrangements. LCH.C Ltd's four Australian clearing participants have reported to the Bank that they are happy with the current arrangements and find the AMUG a useful forum in which to exchange views.

Chicago Mercantile Exchange Inc.

In September 2014, the Minister granted a CS facility licence to CME. CME is a Chicago-based CCP that provides clearing services for exchange-traded futures and options on futures, as well as for OTC derivatives transactions. CME's CS facility licence permits it to offer clearing services to Australian-based institutions as direct clearing participants, to clear OTC IRD and certain exchange-traded futures.

CME made its licence application under section 824B(2) of the Corporations Act. Under this section, an overseas-based CS facility may be licensed in Australia if the operation of the facility in its home country is subject to requirements and supervision that are sufficiently equivalent to those in the Australian regime. When deciding whether to grant a CS facility licence, the Corporations Act requires the Minister to have regard to advice from the Bank and ASIC.

The Bank's advice to the Minster included an assessment of the sufficient equivalence of the US regime for systemically important CCPs in relation to protection from systemic risk; ASIC's advice on the sufficient equivalence of the US regime also considered the effectiveness and fairness of services that the regime achieves. CME is primarily regulated in the US by the CFTC. Consistent with its stated approach, the Bank's sufficient equivalence assessment considered:[22]

- the clarity and coverage of stability-related principles applied by the CFTC relative to the Standards
- the nature and intensity of the CFTC's oversight process, including direct comparison with the Bank's regime
- observed outcomes relative to those in Australia, as reflected in an initial assessment of the facility against the Standards.

The Corporations Act also requires the Minister to consider whether adequate arrangements exist for cooperation between ASIC, the Bank and the authorities that are responsible for the supervision of the facility in its primary place of business. To this end, a joint Memorandum of Understanding between ASIC, the Bank and the CFTC was concluded in June 2014.[23]

Finally, prior to granting a licence, the Minister must be satisfied that the applicant has undertaken to cooperate with the Bank (and ASIC) by sharing information and in other ways. To meet this requirement, the Bank has negotiated a cooperation letter with CME, which forms a binding commitment.

The Bank's initial assessment and its regulatory priorities for CME have been published on the Bank's website.[24]

Activity in CME Inc.

CME clears five types of OTC IRD products: interest rate swaps, zero-coupon swaps, basis swaps, forward rate agreements and overnight index swaps. The notional value of OTC IRD transactions outstanding with CME has increased substantially since 2013, and was estimated to be about US$50 trillion at end June 2015.[25] CME clears OTC IRD denominated in 18 currencies, including Australian dollars. US dollar-denominated OTC IRD account for around 70 per cent of transactions cleared by CME. Australian dollar-denominated IRD account for less than 1 per cent of the total notional value of OTC IRD outstanding with CME.

CME offers three clearing services: an OTC IRD clearing service; a 'Base' clearing service; and an OTC credit default swaps clearing service. Each service is covered by a separate default waterfall. In addition to OTC IRD, CME is licensed to clear non-AUD-denominated IRD traded on the CME market or the Chicago Board of Trade market, which fall within the Base clearing service. The Base service accounts for the majority of CME's total clearing activity; as well as exchange-traded IRD, the Base service also covers foreign exchange, equity, soft commodity, energy and metal futures.

At end September 2015, CME did not have any direct Australian-based clearing participants. However, a number of Australian-based banks, superannuation funds and other institutional investors clear products through CME indirectly as customers of direct clearing participants.

22 Available at <http://www.rba.gov.au/payments-system/clearing-settlement/standards/overseas-equivalence.html>.

23 Available at <http://www.rba.gov.au/payments-system/legal-framework/pdf/memorandum-20140606.pdf>.

24 Available at <http://www.rba.gov.au/payments-system/clearing-settlement/assessments/chicago-mercantile-exchange/2014/cme-assess-2014-09.html>.

25 This estimate counts both sides of each trade and was calculated by doubling the value on CME's website.

Regulatory priorities

At the time of CME's licensing, the Bank determined a set of initial regulatory priorities for CME to ensure that, once it has material direct Australian-based participation, its operational and governance arrangements promote stability in the Australian financial system. These priorities reflect expectations set out by the CFR in its Regulatory Influence Policy and implemented in the Standards. Since CME does not currently have any direct Australian-based clearing participants, the Bank has not expected CME to make substantial progress on regulatory priorities related to the provision of its CCP services in Australia. The Bank also set additional expectations relating to CME's observance of the Standards more broadly.

The Bank's initial regulatory priorities for CME were:

- *To ensure appropriate representation of Australian participants in governance:* CME has in place governance arrangements to take account of the interests of clearing participants. The Bank will engage with CME to assess whether these arrangements appropriately reflect the scale and nature of Australian participation.
- *To ensure that local market practices are accommodated, including considering accepting Australian government bonds as initial margin:* CME began accepting Australian government bonds as initial margin in late July 2015.
- *Appropriate representation of Australian membership and regulators in default management:* The Bank will engage with CME and the CFTC on how it is envisaged that the default of an Australian-based participant, or any participant with a large AUD-denominated portfolio, would be managed.
- *To provide adequate operational support to Australian participants:* The Bank expects CME to provide adequate operational support to Australian participants, particularly during Australian market hours.
- *To implement an appropriate recovery and wind-down plan*: CME is currently finalising its recovery and wind-down plan.
- *Credit risk model testing and validation:* The Bank expects CME to finalise and implement model testing and validation for its margin, haircut and stress-testing models.
- *Acceptance of letters of credit as collateral:* Prior to licensing, CME implemented changes to its collateral policy to reduce the scope of its acceptance of letters of credit as collateral. The Bank continues to monitor these arrangements.
- *Liquidity risk:* The Bank expects CME to continue to enhance its liquidity risk framework, and will continue to engage with CME as it develops its formal framework.
- *Management of counterparty concentration risk in CME's investment portfolio:* At the time of licensing, CME informed the Bank that it was working to diversify the number of counterparties for its investment of cash collateral and to make such investments on a secured basis. The Bank will continue to monitor CME's planned diversification program.
- *FMI links:* The Bank will monitor CME's risk management of links, including its acceptance of letters of credit to cover exposures across its link with Singapore Exchange Limited, with a view to re-visiting this issue if there is a material increase in exposures. The Bank expects that CME will not permit letters of credit as acceptable collateral for any future links.

The Bank expects to publish a report of CME's progress towards these priorities during the first half of 2016.