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 assigns to the Bank a number of powers and functions related to the supervision and oversight of CS facilities. Under the Reserve Bank Act, 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:[17]

- ASX Clear Pty Limited (ASX Clear) provides CCP services for ASX-quoted cash equities, debt products and warrants traded on the Australian Securities Exchange (ASX) and Chi-X Australia (Chi-X) markets, equity-related derivatives traded on the ASX market and Chi-X-quoted warrants traded on Chi-X.
- 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 (AUD) denominated 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, SIM Venture Securities Exchange Limited and the Sydney Stock Exchange Limited.
- 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.

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

- Chicago Mercantile Exchange Inc. (CME) is licensed to provide CCP services for OTC IRD, and non-AUD IRD traded on the CME market or the Chicago Board of Trade market for which CME permits portfolio margining with OTC IRD.

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 and Scope of Regulatory Assessments of Licensed Clearing and Settlement Facilities*, the frequency and scope 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 detailed annual assessments of the ASX CS facilities and LCH.C Ltd's SwapClear service; based on its current activity, assessments of CME will focus only on progress against the Bank's regulatory priorities. The Bank's 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 FMI Oversight Committee and, as appropriate, the Board.

This chapter summarises the Bank's 2015/16 regulatory priorities for each facility. The chapter also summarises activity since mid 2015 for all six CS facilities, as well as other material developments, including each facility's progress towards meeting the stated regulatory priorities.[18]

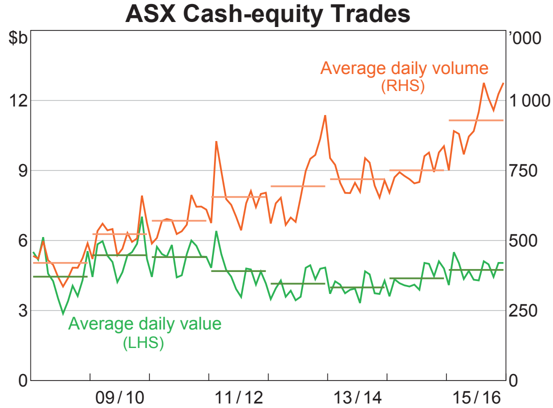
18 Further detail can be found in the Bank's published assessments of the ASX facilities, the LCH.C Ltd SwapClear facility and CME, available at <http://www.rba.gov.au/payments-and-infrastructure/financial-market-infrastructure/clearing-and-settlement-facilities/assessments.html>.

Domestic Clearing and Settlement Facilities

Activity in the domestic CS facilities

Activity in the ASX CS facilities increased for the most part. The average daily volume of cash equity trades increased by 24 per cent in 2015/16; average daily value also increased by 8 per cent (Graph 10). By contrast, the average daily number of equity options contracts traded on the ASX market declined significantly in 2015/16, falling by 16 per cent. Average daily trading volume on the ASX 24 market increased by 8 per cent in 2015/16, to around 530 000 trades per day (Graph 11). This was driven by strong growth in the average turnover of 10-year Treasury bond futures, which increased by 22 per cent. Increases in the average turnover of SPI 200 equity index futures and 90-day bank bill futures of 17 per cent and 3 per cent, respectively, also contributed to overall growth. The notional value outstanding of OTC IRD positions increased significantly, to $1 600 billion at the end of June 2016, from $441 billion at the end of the previous period.

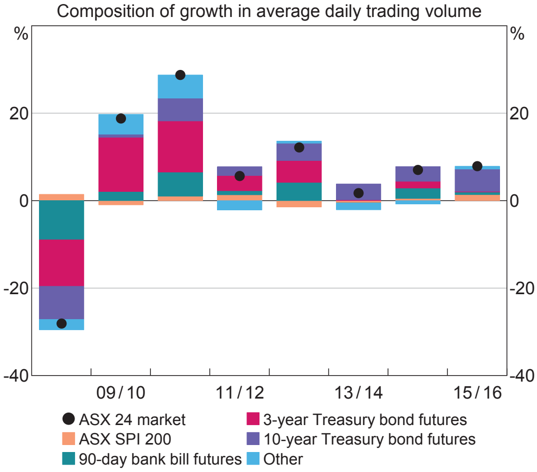
Graph 10
ASX Cash-equity Trades



Source: ASX

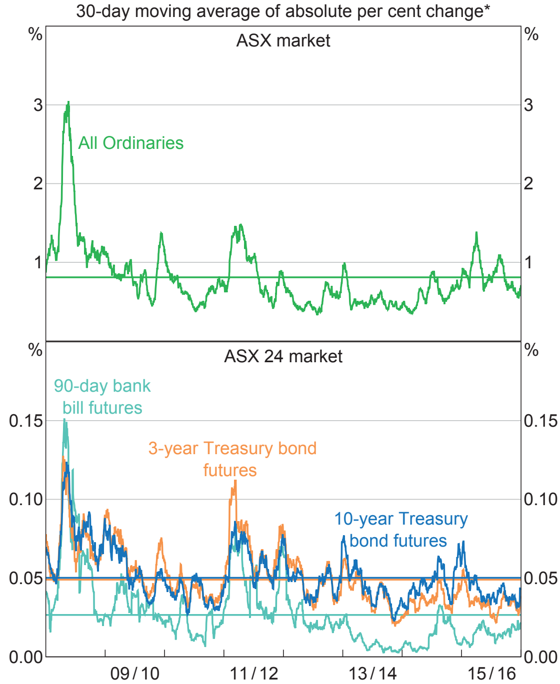
Volatility in markets cleared by the ASX CCPs was mixed over 2015/16. Average volatility in equity prices, as measured by the average of absolute daily percentage changes in the S&P ASX All

Graph 11
ASX 24 Derivatives Trades



Source: ASX

Graph 12
Volatility in Markets Cleared by ASX CCPs



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

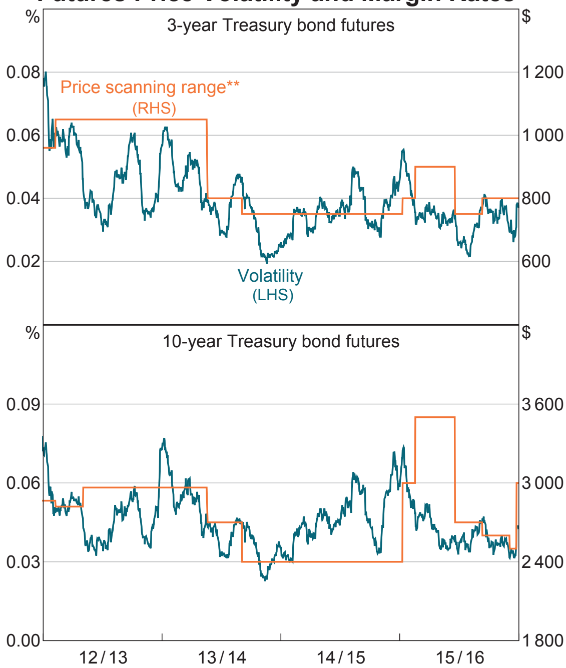
Source: Bloomberg

Ordinaries Index, increased by 0.3 percentage points to be above the 10-year average of 0.8 per cent (Graph 12, top panel). This primarily reflected three periods of heightened volatility: in August and September 2015; January and February 2016; and late June 2016. Higher volatility in the first two periods was mainly due to a combination of falling commodity prices and concerns about China's economy, while volatility in the more recent period was driven by the UK referendum on EU membership. By contrast, average volatility in the prices of IRD contracts edged down in 2015/16 compared with the period before (Graph 12, bottom panel). Volatility remained around or below the 10-year average for most of the period, except for spikes in early July 2015, which were associated with the developments in Greece and the Chinese equity market.

Reflecting the higher average volatility, margin rates in the cash equities market and equity-related derivatives (including the SPI 200 equity index futures contract) were generally higher during the assessment period. Despite lower volatility in the interest rate futures market, average margin rates in these contracts were slightly higher during 2015/16; having risen in mid 2015, margin rates remained elevated during the second half of 2015, even as volatility declined (Graph 13). With volatility remaining low and relatively stable for much of the period, margin rates were lowered gradually. Only at the end of June, as uncertainty rose following the UK referendum on EU membership, did ASX increase margin rates once more.

Margin held by the CCPs against their financial exposures generally rose over 2015/16. Average daily margin held by ASX Clear against equity derivatives was 11 per cent higher in 2015/16. This increase was due to higher margin rates, but was partly offset by lower open interest. By contrast, average daily initial margin held by ASX Clear against unsettled cash equity transactions in 2015/16 was little changed from the previous year despite the increase in trading activity and

Graph 13
Futures Price Volatility and Margin Rates*

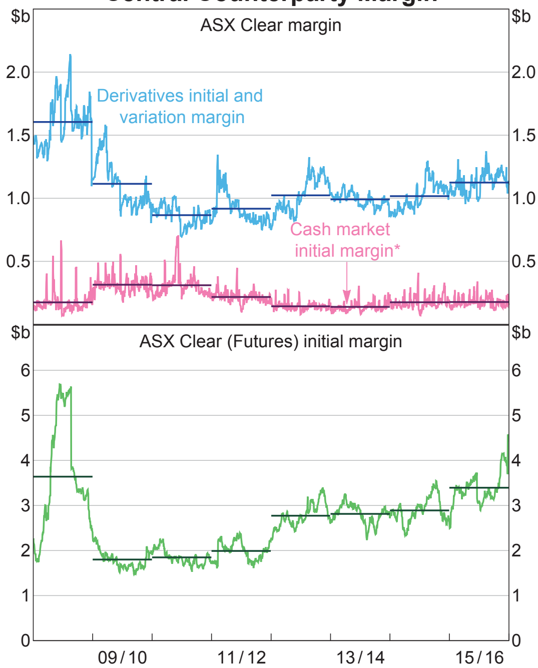


* Volatility measured as 30-day moving average of absolute per cent change

** Price scanning range is a key input parameter for margin rates

Sources: ASX; Bloomberg

Graph 14
Central Counterparty Margin



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

Source: ASX

higher volatility (Graph 14, top panel). This is partly explained by the transition to a shorter settlement cycle in March 2016; the average daily initial margin held after the transition was 4 per cent lower than in 2014/15. Average daily initial margin held by ASX Clear (Futures) rose by 17 per cent in 2015/16 (Graph 14, bottom panel). This reflected increases in average margin rates across three of the four major futures contracts, as well as an increase in participants' open positions in the same contracts.

The daily average value of cash equity settlements in ASX Settlement increased by 6 per cent in 2015/16 to $9 billion.[19] The average daily value of debt securities settled in Austraclear increased by 7 per cent, to $43 billion. This includes the value of securities under repurchase agreements (other than intraday repurchase agreements with the Bank).

2014/15 Assessment of ASX CS Facilities

In August 2015, the Board approved the publication of the Bank's 2014/15 assessment of the four licensed ASX CS facilities.[20] This assessment, published in September 2015, 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.

19 This increase was consistent with the increase in trading activity, although 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.

20 The Bank's *2014/15 Assessment of the ASX CS Facilities* is available at <http://www.rba.gov.au/payments-and-infrastructure/financial-market-infrastructure/clearing-and-settlement-facilities/assessments/2014-2015/index.html>.

Together, these formed the Bank's regulatory priorities for the 2015/16 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 2015/16 assessment of the ASX CS facilities, which was approved by the Board in August and published in September 2016.[21]

Recovery and replenishment

The Bank's 2014/15 assessment recommended that ASX carry out further work to enhance arrangements for the replenishment of the CCPs' financial resources in the event that these were drawn down following a participant default. Following market consultation, ASX implemented enhancements to these arrangements in June 2016. The enhancements aim to provide for the CCPs to promptly return to full financial cover following a participant default while also mitigating the potential for procyclicality. The Bank has also considered the reliability of ASX's arrangements to fund its replenishment obligations in stressed circumstances.

The 2014/15 assessment also recommended that ASX update the documentation of its recovery plan. This update was completed in August and reflects the expanded set of recovery tools introduced in October 2015, as well as the new replenishment arrangements and recapitalisation plans. As part of this update, ASX has developed some information management tools to support decision-making in a recovery scenario. ASX has also integrated the testing and review of the recovery plan into its broader framework for testing and review of risk and default management policies and processes. The first test of ASX's enhanced recovery arrangements took place in June 2016, in the context of ASX's default management fire drill for exchange-traded products.

The recovery plan identifies scenarios that could threaten the ASX CS facilities' ongoing provision of critical clearing services, describes events that would trigger the activation of the recovery plan, and sets out how ASX would respond to such scenarios. It also describes the suite of tools available to the CS facilities in recovery and covers the governance arrangements both for the use of these tools and for review of the recovery planning framework.

Follow-up actions from BBY Limited default

A key area of focus in the 2014/15 assessment was the default of BBY Limited (BBY) – an ASX Clear, ASX Settlement and Austraclear participant – with a particular emphasis on the default management actions taken by ASX Clear. In line with the Bank's 2014/15 recommendations, ASX has set out a plan for implementing a number of enhancements to its risk and default management arrangements. This plan includes:

- changes to ASX Clear participants' core capital and liquidity risk management requirements
- a review of how the CCPs' margin and stress test models could better take into account liquidity, spread and concentration risks
- changes to improve portability arrangements and the close-out process
- education and communication initiatives, including updates to participant disclosures on ASX's default management arrangements.

ASX intends to implement the elements of the plan during 2016/17.

21 The Bank's *2015/16 Assessment of the ASX Clearing and Settlement Facilities* is available at <http://www.rba.gov.au/payments-and-infrastructure/financial-market-infrastructure/clearing-and-settlement-facilities/assessments/2015-2016/>.

Default management

Prompted, in part, by the default of BBY, the Bank conducted a detailed assessment of the ASX CS facilities' default management arrangements against the relevant requirements in the Financial Stability Standards. Overall, the Bank assessed that all the CS facilities observed the standard on default management rules and procedures, and that ASX has a well-established framework for managing the default of a participant. The Bank has nevertheless made a number of recommendations outlining some additional steps the ASX CS facilities should take to fully meet expectations, particularly in relation to documentation and disclosure, as well as recommendations to enhance their approaches in the spirit of continuous improvement. Many of these recommendations are consistent with ASX's own plans to implement further enhancements to its default management framework.[22]

Stress testing

Based on a 'deep dive' review of ASX's credit stress test framework, the 2014/15 assessment made several detailed recommendations in this area. Consistent with these recommendations, several enhancements have been made, including the addition of several 'for-information' scenarios that extend beyond ASX's interpretation of 'extreme but plausible'. These scenarios are used by ASX management alongside the results of reverse stress test analysis to challenge the sizing of the CCPs' financial resources. ASX has also modified the CCPs' stress test framework to incorporate peak intraday price changes, and has carried out additional sensitivity analysis on the assumed shape of the yield curve in its stress test scenarios for ASX Clear (Futures). A few elements of the Bank's 2014/15 recommendations nevertheless remain outstanding. These are expected to be implemented in conjunction with enhancements to ASX's risk management system. In the meantime, ASX has put in place interim arrangements to partly address the outstanding recommendations.

Treasury investment policy

The Bank has engaged extensively with ASX in recent years to address the concern that the ASX CCPs' Treasury investment policy allowed relatively large and concentrated unsecured exposures to a small number of domestic banks. The 2014/15 assessment clarified the Bank's expectations for the credit and liquidity risk profile of ASX's Treasury investments, with an implementation date of end June 2017. In May 2016, ASX endorsed further changes to its Treasury investment policy for the 2016/17 financial year to meet the Bank's expectations. These changes build on changes to the policy over the past few years to decrease the concentration of its unsecured exposure to domestic banks.

Once the changes are implemented, individual unsecured exposures to non-government-related issuers or counterparties will be limited to the level of business risk capital held across the two CCPs (currently $75 million). In the highly unlikely event that investment losses were incurred that exceeded this amount, ASX's enhanced recovery arrangements provide for the allocation of these losses to participants. In April 2016, ASX published guidance for participants on how to calculate their contingent exposure to the allocation of investment losses in excess of the CCPs' business risk capital.

22 The Bank's assessment and full set of recommendations is set out in Chapter 4 of the 2015/16 Assessment of ASX CS Facilities. Available at <http://www.rba.gov.au/payments-and-infrastructure/financial-market-infrastructure/clearing-and-settlement-facilities/assessments/2015-2016/>.

Cyber resilience

In light of the growing threat of cyber attacks, the Bank has made cyber resilience a key priority in its supervision of ASX's CS facilities, as well as other FMIs. Consistent with recommendations in its 2014/15 assessment, the Bank has continued a dialogue with ASX on cyber resilience matters during the assessment period, in collaboration with ASIC.

Separately, CPMI and IOSCO published guidance on cyber resilience for FMIs in late June (see 'Accountability and Communication'). While most aspects of the guidance apply with immediate effect, the guidance recognises that it may take time for FMIs to meet the expectation that they be able to recover critical operations within two hours following an extreme cyber attack. This guidance will form the basis for the Bank's future regulatory engagement with ASX in the area of cyber resilience.

Other material developments

In addition to matters arising from recommendations and priorities arising in the Bank's 2014/15 assessment, there were a number of additional material developments during the period.

Change in ASX CEO

On 21 March ASX announced that its managing director and chief executive officer (CEO), Elmer Funke Kupper, had resigned. ASX announced in August that a new managing director and CEO, Dominic Stevens, had been appointed. During the interim period, the ASX Chairman, Rick Holliday-Smith, provided oversight and board-level input to the Deputy CEO and Group General Counsel, who together had assumed the day-to-day running of the company. Under these interim arrangements, the Chairman did not have day-to-day responsibilities within ASX, but served as a point of contact for senior external stakeholders, including regulators. Before the new CEO was appointed, the Bank discussed the effectiveness of the interim governance arrangements with the Chairman, including to understand how conflicts of interest are managed.

Risk management system renewal

ASX continued to progress its group-wide technology transformation project during the assessment period. This project aims to upgrade all of ASX's major trading and post-trading systems and rationalise its core technology onto a single services platform.

A particular area of focus for the Bank has been the planned enhancements to ASX's risk management systems. Initial phases of this project, completed in 2015/16, included enhancements to ASX's OTC derivatives default management capabilities and the development of functionality to optimise margin requirements for clearing participants with both OTC derivatives and futures positions.

ASX is working with its technology vendor to finalise the business requirements for a replacement risk management system that would deliver improved stress testing and margining capabilities, including the ability to calculate exposures and margin requirements in close to real time. Once these changes are implemented, the project will move on to enhancing and automating the CCPs' default management capabilities for exchange-traded products, creating a global view of all ASX exposures, and harmonising pre- and post-trade risk management capabilities.

Distributed ledger technology

Another important component of the technology transformation project is the replacement of the CHESS clearing and settlement system. This replacement is an important element of ensuring that ASX's core clearing and settlement infrastructure for cash equities meets international best practice, and that its performance, resilience, security and functionality continue to meet the needs of its users. ASX announced in January 2016 that it had selected a vendor, Digital Asset Holdings (DAH), to develop a potential CHESS replacement based on a private 'permissioned' distributed ledger technology (DLT) system. As part of the partnership, ASX initially acquired a 5 per cent equity interest in DAH, increasing this to 8.5 per cent in June 2016.

Working with DAH, ASX has developed a working prototype of the DLT system. This prototype will be developed further over the coming 12–18 months, in consultation with stakeholders. ASX intends to make a final decision on whether to implement the replacement system towards the end of 2017. The Bank will continue to engage closely with ASX throughout the forthcoming period, also keeping the Board updated on developments.

Shorter settlement cycle for cash equities

On 7 March 2016, ASX successfully transitioned from a three-day to a two-day settlement cycle for cash equities. This was identified as a key priority by a forum of participants and other industry stakeholders in 2013/14, and mirrors similar developments in a number of overseas jurisdictions. ASX kept market participants engaged throughout the transition period, ensuring that the industry would be ready for the change. There have not been any material operational issues since the transition, and the proportion of equity transactions that has failed to settle has fallen below historical observations.

Alongside the changes in the Australian cash equities market, the Australian Financial Markets Association endorsed the transition from a three-day to a two-day settlement convention for wholesale debt securities and NZX Limited similarly transitioned to a two-day cash equities settlement cycle. These changes also took effect on 7 March.

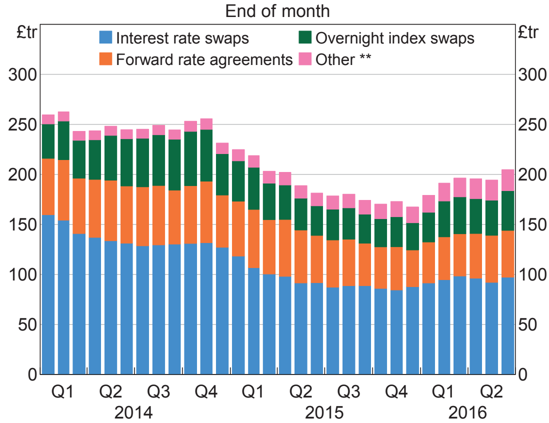
Overseas Licensed Clearing and Settlement Facilities

LCH.Clearnet Limited

Activity in LCH.Clearnet Limited

SwapClear clears seven types of IRD products with three accounting for 90 per cent of the notional value outstanding: interest rate swaps (IRS, 48 per cent), forward rate agreements (FRA, 23 per cent) and overnight index swaps (OIS, 19 per cent) (Graph 15).

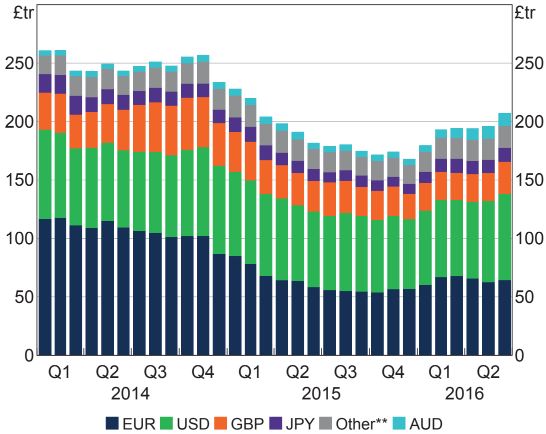
Graph 15
SwapClear: Notional Value Outstanding, by Type (Stock)*
End of month



* Data counts two sides of each trade
** Includes basis swaps, inflation swaps, variable notional swaps and zero-coupon swaps
Source: LCH.C Ltd

SwapClear clears products denominated in 17 currencies, with the vast majority of activity in a few major currencies (Graph 16). Of the notional value outstanding in SwapClear at end June 2016, around 31 per cent was denominated in euro (EUR), 36 per cent in US dollars (USD) and 13 per cent in pound sterling (GBP). Around 5 per cent was denominated in Australian dollars.

Graph 16
SwapClear: Notional Value Outstanding, by Currency (Stock)*
End of month



* Data counts two sides of each trade

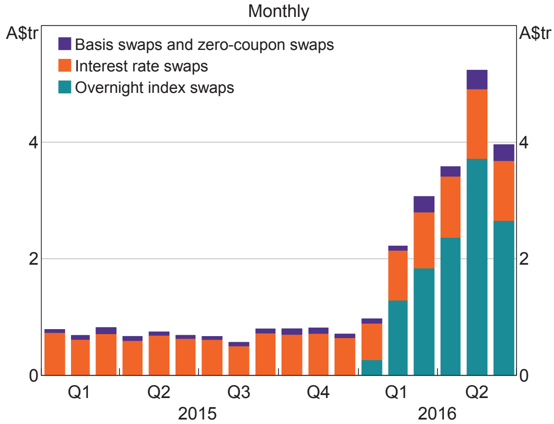
** Includes CAD, CHF, CZK, DKK, HKD, HUF, NOK, NZD, PLN, SEK, SGD, ZAR

Source: LCH.C Ltd

The notional value outstanding at SwapClear at end June 2016 was around £200 trillion, up moderately from end June 2015 but down considerably since end June 2014. The decline in notional value outstanding through 2015 largely reflected trade compression activity (Graph 15; Graph 16). Compression involves identifying offsetting trades in participants' portfolios and terminating them, while leaving those participants' market-facing exposures unchanged or 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 2015/16, £230 trillion of notional value outstanding was compressed in the SwapClear service.

An estimated 90 per cent of the notional value outstanding of all centrally cleared AUD OTC IRD trades is cleared via SwapClear. AUD activity at LCH.C Ltd increased significantly after it began clearing AUD OIS in January (Graph 17). In June, AUD OIS accounted for around two-thirds, by value, of LCH.C Ltd's total AUD IRD registered in flow terms. However, given the longer average tenor of IRS compared with OIS, AUD OIS only accounted for around one-third of LCH.C Ltd's total stock of AUD IRD outstanding by notional value (Graph 18).

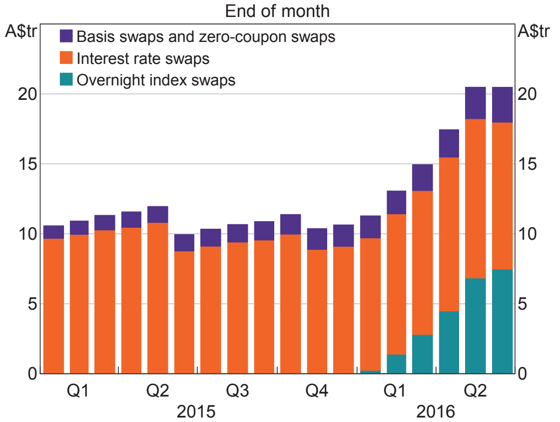
Graph 17
SwapClear: Notional Value of LCH.C Ltd AUD Interest Rate Derivatives Registered (Flow)*
Monthly



* Data counts two sides of each trade

Source: LCH.C Ltd

Graph 18
SwapClear: Notional Value Outstanding of LCH.C Ltd AUD Interest Rate Derivatives (Stock)*
End of month

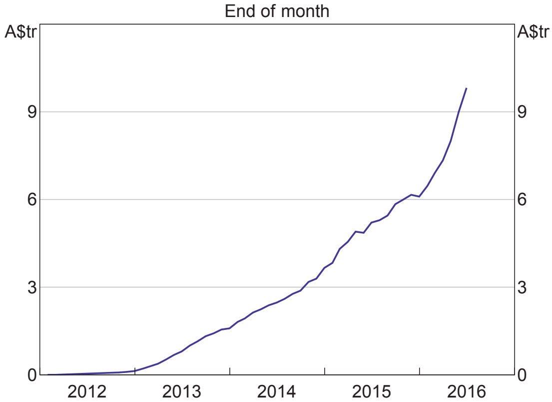


* Data counts two sides of each trade

Source: LCH.C Ltd

At end June SwapClear had five Australian direct clearing participants. The four major Australian banks all became direct participants during 2013/14 and 2014/15, with an Australian subsidiary of Goldman Sachs joining during 2015/16. The major Australian banks have also centrally cleared OTC IRD trades indirectly, as clients of other clearing participants, since early 2012. The total notional value outstanding of Australian banks has increased strongly since then (Graph 19).

Graph 19
SwapClear: Notional Value Outstanding of Australian Banks (Stock)*
End of month



* Data is aggregate of Australian banks' trade sides; trades between two Australian banks will be counted twice
Source: LCH.C Ltd

2014/15 Assessment of LCH.C Ltd's SwapClear Service

In November the Board approved the publication of the Bank's *2014/15 Assessment of LCH.C Ltd's SwapClear Service*.[23] This assessment was published in December and concluded that LCH.C Ltd had conducted its affairs in a manner that causes, or promotes, overall stability in the Australian financial system. The assessment identified a number of recommended actions and noted other matters that the Bank would follow up with LCH.C Ltd, which formed the Bank's regulatory priorities for LCH.C Ltd for the 2015/16 assessment period. The SwapClear service is systemically important in Australia and some of these regulatory priorities were determined to ensure that SwapClear's operational and governance arrangements would promote stability in the Australian financial system. The Bank's other regulatory priorities for LCH.C Ltd were set with reference to SwapClear's broader policies and operations. The key priorities and steps taken so far by LCH.C Ltd to address these are set out below, together with other material developments. LCH.C Ltd's progress towards meeting these priorities will be discussed more fully in the Bank's 2015/16 assessment, which will be published in late 2016.

Operating hours in Australia

LCH.C Ltd was encouraged to continue its work to extend the operating hours of the SwapClear service, while ensuring the safety and resilience of its operations. Currently, the SwapClear service is closed for much of the Australian business day, and trades executed during that time are not cleared by SwapClear until the Australian evening when the SwapClear service reopens. LCH.C Ltd incorporated a number of technical changes to its start and end-of-day processes in October 2015; since then it has monitored the stability of its systems closely in order to assess the appropriate approach to further extending its operating hours. LCH.C Ltd has discussed with the Bank a number of options for achieving this, including both shorter-term transitional arrangements and a permanent solution.

Protected Payments System arrangements in Australia

The Bank requested that LCH.C Ltd complete its implementation of its Protected Payments System (PPS) arrangements in Australia to

23 The Bank's *2014/15 Assessment of LCH.C Ltd's SwapClear Service* is available at <http://www.rba.gov.au/payments-and-infrastructure/financial-market-infrastructure/clearing-and-settlement-facilities/assessments/lch/2015/pdf/lch-assess-2015-12.pdf>.

facilitate payments to and from its clearing participants. LCH.C Ltd operates similar arrangements in the UK and US. LCH.C Ltd is finalising the relevant legal agreements with the clearing participants that will become PPS banks and is putting in place the necessary changes to its operating rules. LCH.C Ltd is also liaising with the Bank's Payments Settlements department to discuss the operational arrangements for implementing the PPS.

Australian dollar cash as initial margin

The Bank has recommended that LCH.C Ltd proceed with its plans to accept AUD cash as initial margin. LCH.C Ltd has received approval from its internal risk governance process and is now seeking regulatory approval from relevant regulators. LCH.C Ltd has already implemented the necessary technical changes needed to accept AUD cash as initial margin. LCH.C Ltd's acceptance of AUD cash as initial margin is contingent on the establishment of the Australian PPS arrangements.

Operational and cyber risk

The Bank recommended that LCH.C Ltd continue to work to enhance its operational resilience and operational risk management and continue to implement recommendations arising from recent internal and external operational risk reviews. LCH.C Ltd was also encouraged to continue its dialogue with the Bank on its cyber risk management arrangements and to review these arrangements in light of CPMI-IOSCO guidance on cyber resilience for FMIs, once published. The Bank noted that it expected to engage actively with the Bank of England (BoE) on these priorities, given that the BoE had identified operational and cyber risks as supervisory priorities across all FMIs it supervises.

Client clearing

LCH.C Ltd was encouraged to continue its dialogue with the Bank on its broader client clearing arrangements, including its approach to monitoring risks from tiered participation and its ongoing testing and review of arrangements to support the porting of client positions in the event of a participant default. LCH.C Ltd is planning a series of workshops with clearing participants and their clients to review the porting process and is considering making changes to the default management process to make it easier for clients to port their positions.

Other material developments

Portfolio margining

LCH.C Ltd began offering portfolio margining, which allows clearing participants to take advantage of margin offsets between OTC IRD and listed short term interest rate futures, in May. The implementation of portfolio margining required material changes to LCH.C Ltd's risk management procedures, including the creation of a common default management process for its SwapClear and Listed Rates services. Formal approval of the proposal was based on the results of independent risk assessments by the BoE and European supervisory authorities. The Bank had an opportunity to input into the process via the Global Supervisory College. Portfolio margining is not currently available to Australian clearing participants.

Formation of LCH.C Ltd Crisis Management Group

The BoE established the CMG in its capacity as resolution authority for CCPs in the UK. The CMG met for the first time in October 2015. The CMG will ultimately be responsible for developing a resolution plan for LCH.C Ltd. It will also serve as a point of coordination and communication during any crisis affecting LCH.C Ltd. The Reserve Bank is a member of the CMG.

Merger between London Stock Exchange Group and Deutsche Börse

London Stock Exchange Group (LSEG) and the German exchange operator Deutsche Börse announced in March they had reached agreement on the terms of an all-share merger of equals. The merger, which, if successful, would create the world's largest exchange by revenue, was approved by LSEG and Deutsche Börse shareholders in July. To proceed, LSEG and Deutsche Börse would also require approval from regulators in a number of jurisdictions.

Client clearing

ASIC and the Bank jointly informed LCH.C Ltd in October that they had no objection to LCH.C Ltd allowing its Australian SwapClear clearing participants to offer clearing services to their clients. This did not require a variation to LCH.C Ltd's CS facility licence. However, at the time that the SwapClear service was licensed in Australia, LCH.C Ltd agreed it would not offer such services until ASIC and the Bank had conducted due diligence. The Bank's analysis focused on the ability of LCH.C Ltd to enforce its default rules in the event of the default of an Australian clearing participant that offered clearing for clients. One Australian clearing participant subsequently began clearing for a client in November.

Chicago Mercantile Exchange Inc.

Activity in CME Inc.

CME offers three clearing services: an OTC IRD clearing service; a 'Base' clearing service; and an OTC credit default swaps (CDS) clearing service. Each service is covered by a separate default waterfall. CME is licensed to clear OTC IRD as well as non-AUD-denominated IRD that are traded on the CME market or the Chicago Board of Trade market and 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.

CME clears five types of OTC IRD products: IRS, zero-coupon swaps, basis swaps, FRAs and OISs. In addition, CME launched a swaptions service in April 2016. CME clears OTC IRD denominated in 19 currencies, including Australian dollars. In the financial year, USD OTC IRD accounted for around 75 per cent of transactions cleared by CME. AUD IRD continue to account for around 1 per cent of the total notional value of OTC IRD outstanding with CME. The notional value of OTC IRD transactions outstanding with CME was estimated to be about US$33 trillion at end June 2016, a decline from about US$50 trillion in June 2015.[24] The decline in OTC IRD transactions outstanding largely reflects trade compression activity in USD and EUR transactions.

At end June 2016, 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.

2014/15 Assessment of CME

When CME was granted a CS facility licence in September 2014, the Bank determined a set of initial regulatory priorities for CME to ensure that its operational and governance arrangements promote stability in the Australian financial system. The Bank does not expect CME to make substantial progress against these regulatory priorities until it has material direct

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

Australian-based clearing participation or until there is a material increase in CME's provision of services in Australian-related products. The Bank also set additional priorities relating to CME's observance of the Financial Stability Standards more broadly. In February, the Bank published its 2014/2015 Assessment of CME, in which it assessed CME's progress against these priorities, and determined CME's regulatory priorities for 2016.[25]

The Bank's regulatory priorities in 2016 effectively carry over the Bank's initial regulatory priorities for CME. The key priorities and steps taken by CME to address these are set out below, in addition to other material developments discussed in the 2014/15 assessment.

Recovery and wind-down plan

The Bank's initial assessment recommended that CME should implement appropriate recovery and wind-down plans. The 2014/15 assessment noted that, in response to this priority, CME had proposed plans for its three clearing services, and that CME was working to implement rule changes required to give effect to these plans. It was therefore recommended that CME finalise its recovery and wind-down plans. Once this is completed, the Bank expects to engage with CME regarding how its recovery and wind-down plans meet the requirements of the CCP Standard and the guidance on recovery planning set out by CPMI-IOSCO.

Management of counterparty concentration risk in its investment portfolio

The 2014/15 assessment noted that CME had made progress in addressing this priority including adding additional investment counterparties and taking steps to open accounts with the US Federal Reserve and two other central banks. In light of this, the Bank noted in its 2014/15 assessment that it expected CME to continue to reduce the size and concentration of unsecured investments of cash collateral with non-government obligors. The Bank will also engage with CME to understand governance arrangements regarding its investment exposures.

The Bank expects to publish its next assessment of CME's progress towards its priorities in March 2017.

25 The 2014/15 Assessment of CME between October 2014 and December 2015 is available at <http://www.rba.gov.au/payments-and-infrastructure/financial-market-infrastructure/clearing-and-settlement-facilities/assessments/chicago-mercantile-exchange/2016/pdf/cme-assessment-2016-03.pdf>.