Payments System Board Annual Report

2023

RESERVE BANK OF AUSTRALIA

Payments System Board Annual Report

2023

Contents

The graphs in this publication were generated using Mathematica.

ISSN 1442–939X (Print)
ISSN 1448–532X (Online)

Governor's Foreword

The Australian payments system is changing rapidly with new technologies and participants providing more payment options to consumers and businesses. This is providing Australians with a wider range of payment methods and greater convenience. The Payments System Board continues to focus on fostering innovation in a regulatory environment that supports the continued safety and security of the Australian payments system.

There has been a continued shift from cash to card payments, and a rapid uptake of mobile wallets offered by large technology companies. Use of the New Payments Platform (NPP) – Australia's fast payments system – has also continued to grow since its launch five years ago. The Board has a close interest in the capability of the NPP, especially in the development and introduction of new functionality to meet the evolving needs of end users.

The Reserve Bank has been working with the Australian Government on reforms to enhance the regulatory framework for the payments system. This includes modernising the *Payment Systems (Regulation) Act 1998*, developing the government's strategic plan for the payments system and putting in place a tiered licensing framework for payment service providers (PSPs). Another focus area has been the government's regulatory reforms for financial market infrastructures. These reforms will be critical to ensuring that the Bank and other regulators have the capabilities required to appropriately supervise market infrastructures into the future.

Globally, central banks, including the Reserve Bank, are investigating the potential use and implications of central bank digital currencies (CBDCs). Over the past year, the Bank's staff worked with the Digital Finance Cooperative Research Centre on a pilot study, exploring the potential ways in which an Australian CBDC could be used to improve the functioning of the financial system. The results of this project will help to inform future work on assessing the policy case for issuing a CBDC in Australia.

The oversight of clearing and settlement facilities (CS facilities) is an important area of the Board's work. Over the past year, there has been significant focus on ASX's governance and operational arrangements, given the pausing of the CHESS replacement project. It is important that the ASX prioritises the development of a new plan to deliver safe and reliable clearing and settlement infrastructure. The Bank expects ASX to maintain the current CHESS so that it continues to operate reliably and support confidence in Australia's cash equity markets.

The Bank's high-value settlement system – the Reserve Bank Information and Transfer System (RITS) – is a critical part of Australia's payments infrastructure. Following a major technical outage in October 2022, the Board requested the Bank commission an external review and a targeted assessment of RITS against the

Principles for Financial Market Infrastructures (PFMI). The Bank is committed to implementing the recommendations in the review and the assessment. Given the increasing reliance of Australians on electronic payments, the Board also plans to extend its oversight to include payments systems where an outage could cause significant economic disruption and damage confidence in the financial system.

The Reserve Bank's staff have carried out their work with professionalism and provided excellent support to the Board throughout the year. The Payments System Board joins me in thanking the staff for their work and for their ongoing contribution to the efficiency, competitiveness and safety of Australia's payments system.

Philip Lowe
Governor and Chair,
Payments System Board
15 September 2023

1. About the Payments System Board

Our role

The Reserve Bank is responsible for ensuring the stability, efficiency and competitiveness of the payments system through the Payments System Board. As set out in the *Reserve Bank Act 1959*, it is the duty of the Payments System Board to ensure that the Bank's payments system policy is directed to the greatest advantage of the people of Australia, and to ensure that the powers of the Bank under the *Payment Systems (Regulation) Act 1998* and the *Payment Systems and Netting Act 1998* are exercised in a way that, in the Board's opinion, will best contribute to:

- controlling risk in the financial system
- promoting the efficiency of the payments system
- promoting competition in the market for payment services, consistent with the overall stability of the financial system.

Under the Payment Systems (Regulation) Act, the Bank has the power to designate payment systems and to set standards and access regimes for designated systems. The Payment Systems and Netting Act provides the Bank with the power to give legal certainty to certain settlement arrangements in order to minimise the risks of systemic disruptions from payment systems.

In addition, the Payments System Board has a duty to ensure that the powers and functions of the Bank under Part 7.3 of the *Corporations Act 2001* are exercised in a way that, in the Board's opinion, will best contribute to the overall stability of the financial system. These powers and functions relate to the supervision of central counterparties (CCPs) and securities settlement facilities (SSFs), which are key infrastructure supporting the clearing and settlement of transactions in financial markets. The Bank's Payments Policy Department also acts as overseer of Australia's high-value payments system, RITS.

Payments System Board 2023 • **STRATEGIC PRIORITIES**

- Strengthen the **resilience of payments and market infrastructures**
- Advance and implement **reforms for payments and market infrastructures**
- Promote **competitive, cost effective and accessible electronic payments**
- Enhance **cross-border payments**
- Shape the **future of money in Australia**

Strategic priorities

The Payments System Board periodically sets priorities to guide the Reserve Bank's payments policy work. When updating these priorities at its August 2023 meeting, the Board focused on developments in the payments system that could have significant implications for competition, efficiency and safety over the next few years. The Board also considered issues affecting payments and market infrastructures and their implications for financial stability. The Bank's work agenda is focused on these strategic priorities. The Board will periodically review the strategic priorities as the payments landscape evolves.

Strengthen the **resilience of payments and market infrastructures**

Payments and market infrastructures play a crucial role in facilitating payments and financial risk management. The reliance of the economy and financial system on their services means that disruptions can have wide-reaching effects. The Bank will focus on ensuring these risks to payments and market infrastructures are managed appropriately. To achieve this, the Bank will:

- require market infrastructures to prioritise the management of aging infrastructure and adopt replacements and upgrades in a safe manner
- establish a risk-based framework for the oversight of key retail payment systems
- develop a policy position and guidance on outsourcing and vendor management for payments and market infrastructures
- require payments and market infrastructures to further uplift their cyber resilience with clearly defined cyber strategies and rigorous cyber-testing programs.

Advance and implement **reforms for payments and market infrastructures**

The Australian Government is modernising the regulatory frameworks for payments and market infrastructures. The Bank will assist the government with developing legislation to implement these reforms. The Bank will then focus on implementing any new regulatory responsibilities and assessing policy issues within its regulatory perimeter. To achieve this, the Bank will:

- assist the government with developing legislation for regulating payments and market infrastructures
- develop frameworks for using new supervisory and resolution powers for market infrastructures
- conduct a comprehensive review of retail payments regulation under a modernised Payment Systems (Regulation) Act.

Promote **competitive, cost-effective and accessible electronic payments**

Consumers and businesses are relying on electronic means of payment more than ever before. The Bank has an important role to play in promoting a payments system that delivers competitive, cost-effective and accessible electronic payments for consumers and businesses. To achieve this, the Bank will:

- reduce payment costs for small businesses by requiring industry to deliver merchant choice of debit card network
- encourage industry to deliver and promote additional fast payment capabilities to end users
- modernise the retail payments statistics collected and published by the Bank to account for new technologies and business models.

Enhance **cross-border payments**

The Bank is supporting international work under the G20 to make cross-border payments cheaper, faster, more transparent and more inclusive. The Bank has a key role to play in promoting priority initiatives in the Australian market that will, over time, help deliver better outcomes for Australian customers. To achieve this, the Bank will:

- contribute to implementing the G20 roadmap to enhance cross-border payments
- explore interlinking the NPP to fast payment systems in other jurisdictions.

Shape the **future of money in Australia**

Australians need safe, efficient and cost-effective payment options, both now and in the future. As the payments landscape changes, the Bank will help shape the future of money in Australia by exploring the case for new digital forms of currency, and by ensuring cash remains a viable means of payment for those who need or want it. To achieve this, the Bank will:

- determine whether a policy case for a CBDC exists
- support innovation and resilience in wholesale digital payments
- support access to physical cash.

Payments System Board members (August 2023)

The Board comprises up to eight members: the Governor; a representative of the Reserve Bank (currently, the Deputy Governor); a representative of the Australian Prudential Regulation Authority (APRA) (currently the Chair); and up to five other non-executive members appointed by the Treasurer. Members of the Board during 2022/23 and details of their qualifications and experience are shown below.

During the year, Catherine Walter AM, Wayne Byres and Greg Storey retired from the Board. Ross Buckley and Michelle Deaker were appointed to the Board, with effect from 1 August 2023, and Gina Cass-Gottlieb was reappointed to the Board for a further five-year term, with effect from 1 August 2023.

Philip Lowe

BCom (Hons) (UNSW), PhD (MIT)

Governor and Chair

Governor since 18 September 2016
Term ends 17 September 2023

Philip Lowe's appointment as Governor took effect in September 2016. Prior to that, he held various senior positions at the Reserve Bank – including Assistant Governor (Financial System), Assistant Governor (Economic) and, from February 2012, Deputy Governor – where he was responsible for overseeing economic and policy advice to the Governor and Reserve Bank Board. He spent two years at the Bank for International Settlements working on financial stability issues. Mr Lowe has authored numerous papers, including on the linkages between monetary policy and financial stability. He is a signatory to the Banking and Finance Oath.

Other roles

Chair – Reserve Bank Board
Chair – Council of Financial Regulators
Chair – Bank for International Settlements Committee on the Global Financial System
Chair – Financial Markets Foundation for Children
Member – Financial Stability Board
Member – Trans-Tasman Council on Banking Supervision
Director – The Anika Foundation

Michele Bullock

BEc (Hons) (UNE), MSc (LSE)

Deputy Governor and Deputy Chair Appointed Governor-designate on 14 July 2023

Deputy Chair since 29 October 2016

Term as Deputy Governor ends 17 September 2023

Michele Bullock was appointed as Deputy Governor on 2 April 2022. She is Deputy Chair of the Reserve Bank Board and Deputy Chair of the Payments System Board. Prior to this role, Ms Bullock was Assistant Governor (Financial System), responsible for the Bank's work on financial stability and oversight of the payments system. Ms Bullock has also held a variety of senior management positions in the Bank, including Assistant Governor (Business Services), Assistant Governor (Currency), Adviser for the Currency Group and Head of Payments Policy Department. Ms Bullock is a signatory to the Banking and Finance Oath.

Other roles

Deputy Chair – Reserve Bank Board
Member – Bank for International Settlements Committee on Payments and Market Infrastructures
Member – Chief Executive Women
Director – The Anika Foundation

Ross Buckley

B.Econ, LLB (Hons) (UQ), PhD (UNSW), LLD (Melbourne)

Non-executive member

Member since 1 August 2023
Present term ends 31 July 2028

Ross Buckley's key research areas include fintech, regtech, central bank digital currencies and cryptoassets more generally. He has consulted to government departments in over a dozen countries and to three multilateral institutions. Dr Buckley has written six books and over 175 journal articles and book chapters. He has twice been a Fulbright Scholar, at Yale and Duke universities.

Other roles

Australian Research Council Laureate Fellow and Scientia Professor of Law – University of New South Wales
Chair – Digital Finance Advisory Panel, Australian Securities and Investments Commission
Member – Consultative Panel, Australian Securities and Investments Commission
Fellow and Academic Member – European Banking Institute, Frankfurt

Gina Cass-Gottlieb

BEc (Hons), LLB (Hons) (Sydney), LLM (Berkeley)

Non-executive member

Member from 15 July 2013 to 14 July 2018
Reappointed from 1 August 2018
Present term ends 31 July 2028

Gina Cass-Gottlieb has extensive expertise in competition law and economic regulatory advice and in the regulation of payments in

Australia. She was appointed Chair, Australian Competition and Consumer Commission on 21 March 2022. Prior to this, Ms Cass-Gottlieb was a senior partner in Gilbert + Tobin's competition and regulation practice, advising and representing corporations, industry associations, government and non-government agencies. She has over 25 years' experience, including advising in relation to access arrangements in a range of sectors across the economy. Ms Cass-Gottlieb attended the University of California, Berkeley, as a Fulbright Scholar.

Other roles

Chair – Australian Competition and Consumer Commission

Michelle Deaker

BSc (Hons 1) (Sydney), MSc (Sydney), PhD (UC)

Non-executive member

Member since 1 August 2023
Present term ends 31 July 2028

Michelle Deaker is a Founding Partner and the Managing Director of OneVentures, a venture capital firm that focuses on technology and healthcare sectors. Dr Deaker has over 20 years' experience in the development of high-growth technology companies in Australia and the United States. She has served on the boards of large and small listed and unlisted companies and has a strong background in Australian research and development as well as expertise in global business expansion. Prior to establishing OneVentures in late 2006, Dr Deaker established IT enterprise business Networks Beyond 2000 and later E Com Industries, a leading prepaid card and electronic voucher provider in several countries. Dr Deaker is a member of the Australian Institute of Company Directors and Chief Executive Women.

Other roles

Founding Partner and Managing Director – OneVentures
Director – Employment Hero
Director – Phocas Group
Director – Buildkite

Scott Farrell

BEc (Sydney), LLB (Hons) (Sydney), PhD (UNSW)

Non-executive member

Member since 23 March 2022
Present term ends 22 March 2027

Scott Farrell has more than 25 years' experience in financial markets and financial systems law. In 2016, he was appointed to the Australian Government's FinTech Advisory Group at its formation and in 2018 was appointed its co-Chair. Dr Farrell has led a number of reviews for the Australian Government, including the Review into Open Banking in Australia in 2017, the Inquiry into Future Directions for the Consumer Data Right in 2020 and the Review of the Australian Payments System in 2021.

Other roles

Strategic Counsel – King & Wood Mallesons
Adjunct Professor – School of Private and Commercial Law, University of New South Wales
Chair-elect – International Standards Organisation TC 307 Blockchain and Distributed Ledger Technologies

John Lonsdale

APRA-appointed member

Chair – Australian Prudential Regulation Authority

Member since 1 November 2022

John Lonsdale was appointed as Chair of APRA on 31 October 2022 after joining APRA as Deputy Chair on 8 October 2018. In his Deputy Chair role, Mr Lonsdale was responsible for oversight of Australia's banking sector as well as oversight of APRA's work on culture and remuneration, building APRA's crisis-resolution capability and strengthening APRA's collaboration with peer regulators. Mr Lonsdale worked for the Australian Treasury for over 30 years prior to joining APRA. He was a member of the Treasury's Executive and, in his role as Deputy Secretary for the Markets Group, he had responsibility for financial system, consumer and foreign investment policy. In 2014 he led the Secretariat for the Financial System Inquiry.

Other roles

Member – Council of Financial Regulators
Member – Financial Stability Board Standing Committee on Supervisory and Regulatory Cooperation
Member – Trans-Tasman Council on Banking Supervision

Deborah Ralston

BEc, Dip Fin Mgt, MEc (UNE), PhD (Bond)

Non-executive member

Member since 15 December 2016
Present term ends 14 December 2026

Deborah Ralston has more than 25 years of board-level experience in education, banking, superannuation and fintech sectors. Dr Ralston has held senior leadership and research roles in Australian universities, most recently as the Executive Director of the Centre for Financial Studies. Her expertise in public policy is reflected in appointments to the federal government's Retirement Income Review Panel, the Comprehensive Income Products for Retirement

Framework Advisory Committee and as inaugural Chair of the Australian Securities and Investments Commission's Digital Finance Advisory Board. Dr Ralston is currently a Professorial Fellow at Monash University Business School, with research interests in financial regulation and superannuation and is a Fellow of CPA Australia and the Australian Institute of Company Directors.

Other roles

Professorial Fellow – Monash University
Chair – Advisory Board, Household Capital
Director – SuperEd Pty Ltd
Director – SMSF Association
Member – Advisory Board, Connexus Institute
Member – Future Fund Board of Guardians

Retirements from the Payments System Board

Catherine Walter retired from the Payments System Board on 2 September 2022.

Wayne Byres retired from the Payments System Board on 30 October 2022.

Greg Storey retired from the Payments System Board on 31 July 2023.

Catherine Walter AM

LLB (Hons), LLM, MBA (Melbourne)

Non-executive member

Member from 3 September 2007 to 2 September 2022

Catherine Walter brings substantial experience and expertise in financial services and corporate governance across many industry sectors, including banking, insurance, funds management, health services, medical research, education, telecommunications and resources. Mrs Walter is a solicitor and company director, who practised banking and corporate law in major city law firms, culminating in a term as Managing Partner of Clayton Utz, Melbourne. She was a Commissioner of the City of Melbourne and for more than 20 years has been a non-executive director of a range of listed companies, government entities and not-for-profit organisations. Mrs Walter was awarded a Centenary Medal in 2001 for her service to Australian society in business leadership. In the 2003 Australia Day Honours, she was awarded a Member of the Order of Australia for her service to business, particularly as a director of a range of public companies, to the arts, to the law, and to the community through the Melbourne City Council. Mrs Walter is a Fellow of the Australian Institute of Company Directors.

Other roles

Chair – Helen Macpherson Smith Trust
Chair – Melbourne Genomics Health Alliance
Director – Australian Foundation Investment Company
Director – Barristers' Chambers Limited
Non-executive Member – Export Finance Australia

Resolution passed by the Payments System Board – 25 August 2022

On the occasion of Catherine Walter's final meeting on the Board, having served three terms covering 15 years, members paid tribute to her outstanding contribution to the Board's work. Mrs Walter's active questioning and probing role as a Board member, based on her wide experience in the legal and financial sectors, greatly contributed to the development of payments policy in Australia. On behalf of all members, the Governor expressed appreciation of Mrs Walter's clear insights on policy and governance matters, her strong interest in innovation, her ability to distil the essence of complex issues and her strong support for the work of the Bank's staff. Members wished her well in the future.

Wayne Byres

BEc (Hons), MAppFin (Macquarie)

APRA-appointed member

Chair, Australian Prudential Regulation Authority

Member from 9 July 2014 to 30 October 2022, upon resignation as Chair of APRA.

Wayne Byres has a wealth of experience and knowledge of prudential supervision and banking practices. He was appointed as a Member and Chair of APRA from 1 July 2014 for a five-year term, and was subsequently reappointed on 1 July 2019 for a further five-year term. His early career was at the Reserve Bank, which he joined in 1984. He transferred to APRA on its establishment in 1998 and held a number of senior executive positions in the policy and supervisory divisions. In 2004, Mr Byres was appointed Executive General Manager, Diversified Institutions Division, with responsibility for the supervision of Australia's largest and most complex financial groups. He held this role until the end of 2011, when he was appointed as Secretary General of the Basel Committee on Banking Supervision, based at the Bank for International Settlements in Basel. Mr Byres is a Senior Fellow of the Financial Services Institute of Australia and is a signatory to the Banking and Finance Oath.

Other roles

Member – Basel Committee on Banking Supervision
Member – Bank for International Settlements Group of Governors and Heads of Supervision
Member – Council of Financial Regulators
Member – Trans-Tasman Council on Banking Supervision

Resolution passed by the Payments System Board – 25 August 2022

On the occasion of Wayne Byres' final meeting on the Board, having served eight years, members recorded their appreciation of his valuable contribution to payments policy in Australia. On behalf of all members, the Governor paid tribute to Mr Byres' professionalism and dedication, his constructive and collegiate style and his strong support for the work of the Bank in the payments area. Members recorded their appreciation of Mr Byres' dedication to public policy in Australia in a career spanning more than three decades, thanked him for his service to the nation and wished him well in the future.

Greg Storey

Non-executive member

Member from 1 August 2018 to 31 July 2023

Greg Storey is an experienced cards and payments industry professional, with specialist knowledge in the evolution and operation of debit cards, credit cards and payments systems. He was Vice-President and Head of Visa Checkout, Asia Pacific from 2012 to 2016. Mr Storey had over 20 years' experience with Visa, spanning the rollout of numerous VisaNet-related solutions and services, product and strategy, micropayments solution (Payclick) and Visa Checkout (and V.me) products across the Asia-Pacific region. Prior to his roles at Visa, Mr Storey worked at St. George Bank in various cards and payments roles, as CIO of an independent payment solution provider, and established and oversaw merchant point of sale and ATM switching operations.

Resolution passed by the Payments System Board – 25 May 2023

On the occasion of Greg Storey's final meeting, members paid tribute to his professionalism and dedication during his term as a member of the Board. On behalf of all members, the Governor expressed appreciation for Mr Storey's contribution to the formulation of payments policy, drawing on his extensive experience in the payments industry. He thanked Mr Storey for his constructive approach and strong support for the work of the Bank in the payments area during his term. Members thanked Mr Storey for his service to the Bank and the nation and wished him well in the future.

Meetings of the Payments System Board

The Board met four times in 2022/23. Meetings were held at the Bank's Head Office in Sydney.

Table 1.1: Board Meetings in 2022/23

Attendance by members

	Attended	Eligible
Philip Lowe (Governor)	4	4
Michele Bullock (RBA)	4	4
Wayne Byres (APRA)[(a)]	1	1
John Lonsdale (APRA)[(b)]	3	3
Gina Cass-Gottlieb	4	4
Scott Farrell	4	4
Deborah Ralston	4	4
Greg Storey[(c)]	4	4
Catherine Walter[(d)]	1	1

(a) Wayne Byres' term on the Board ended on 30 October 2022.

(b) John Lonsdale's term on the Board commenced on 1 November 2022.

(c) Greg Storey's term on the Board ended on 31 July 2023.

(d) Catherine Walter's term on the Board ended on 2 September 2022.

The Payments System Board with members of staff at its meeting in August 2023. (Clockwise from centre) Board members: Governor Philip Lowe, Deputy Governor Michele Bullock, Anthony Dickman (Reserve Bank Secretary), Ross Buckley, John Lonsdale, Deborah Ralston, Scott Farrell, Michelle Deaker. Staff members: Bradley Jones (Assistant Governor, Financial System), Ellis Connolly (Head Payments Policy Department).

Conflicts of interest

The Bank has a number of distinct areas of responsibility in the Australian payments system: it operates and participates in Australia's real-time gross settlement (RTGS) system, RITS; it provides transactional banking services to the Australian Government and its agencies; and it is principal regulator of the payments system through the Board. This combination of functions is conventional internationally, and the Board has formally adopted a policy on the management of actual or perceived conflicts of interests arising from the Bank's different roles.

The policy is published on the Bank's website and focuses on interactions between the Bank's Payments Policy Department and Banking Department.[1] Details of the steps taken to achieve compliance with the policy, including the minutes of informal meetings between departments, are audited every three years by the Bank's Audit Department, with the results presented to the Board. The most recent audit was conducted in March 2022.

In the case of the Bank's oversight of RITS, the Board plays a governance role in managing conflicts of interest. While an internal Financial Market Infrastructure Review Committee has the formal responsibility to review and approve assessments of other payments and market infrastructures, the Board retains primary responsibility for approving the staff's periodic assessments of RITS.

Accountability and communication

The Payments System Board seeks to ensure a high degree of transparency and accountability around its actions through regular reporting to the Australian Government and through the Bank's communication program.

[1] See RBA, 'Managing Potential Conflicts of Interest Arising from the Bank's Commercial Activities'.

Accountability

The Bank has a range of reporting obligations that serve to ensure the accountability of the Board. Under the *Reserve Bank Act 1959*, the Payments System Board is required to:

- inform the Government, from time to time, of the Bank's payments system policy (section 11(1)(b))
- prepare and give to the Treasurer a report that covers certain matters relating to the standards that the Bank determines under section 827D of the *Corporations Act 2001* and developments in the clearing and settlement industry that are relevant to Australia's financial stability (section 25M(1)).

This annual report addresses these requirements and is the primary accountability vehicle for the Bank's payments system responsibilities. The House of Representatives Economics Committee holds twice-yearly public hearings at which the Bank presents an opening statement on the economy, financial markets and other matters – including payments system matters – related to the Bank's operations, and responds to questions from Committee members. These hearings may include discussion of developments in the payments system and the Bank's payments system policy.

The broader accountability of the Bank includes its obligations under the *Public Governance, Performance and Accountability Act 2013*. The Bank's annual report, including the annual performance statement, covers the Bank's role in the payments system.

Communications

The Bank regularly communicates on payments system issues and its regulatory and oversight work through media releases, speeches, research publications, the Bank's website, and community and industry liaison. The Bank also engages in various international forums relating to payments and market infrastructures.

Media releases around Board decisions

The Bank publishes a media release in the afternoon immediately following each quarterly Board meeting, outlining matters that were discussed by the Board and foreshadowing any forthcoming documents to be released by the Bank. Media releases also accompany any major announcements following decisions taken by the Board.

Speeches

During 2022/23, senior Bank staff gave a number of public speeches and participated in discussion panels on various payments system-related topics, including developments in real-time payments in Australia, policy issues associated with the shift to electronic payments, and innovations in the payments system such as stablecoins and CBDCs. Audio files and transcripts of speeches are published on the Bank's website.

Submissions and parliamentary appearances

Where appropriate, the Bank makes submissions to parliamentary and federal government committees and inquiries on payments and market infrastructure-related topics. During 2022/23, the Bank made submissions to the Senate Economics Legislation Committee on the Inquiry into the Digital Assets (Market Regulation) Bill 2023 and to the Australian Competition and Consumer Commission on the proposed merger of the two largest cash-in-transit operators. The Bank also appeared before hearings regarding ASX's CHESS replacement program. Copies of the Bank's submissions can be found on the Bank's website.[2]

Research and statistics

To support the Bank's research and policy work, statistics on retail payments are collected by the Bank on a monthly basis from financial institutions, card companies and other payments system participants. Data on debit and credit cards, ATM transactions, merchant fees, bulk electronic transfers, NPP transactions and cheques provide insights on how individuals and businesses make and receive payments. These aggregated data are published as part of the statistical tables on the Bank's website.[3] In 2022/23, the Bank also started publishing system availability statistics for RITS.

The Bank also conducted its sixth triennial survey of consumer payments between October and early December 2022. The results from the Consumer Payments Survey (CPS) were published in two *Bulletin* articles in 2023.[4] The survey provided the first comprehensive snapshot of consumer payments since the COVID-19 pandemic and showed an accelerated shift away from cash for transactional purposes. Consumers are instead using electronic and convenient newer payment methods. A research discussion paper with more comprehensive results will be released later in 2023.

Liaison activity

The Bank engages with a wide range of stakeholders in Australia and overseas.

Domestic liaison

The Bank engaged with a range of participants in the payments industry to discuss policy issues and market developments. During 2022/23, a key focus of this stakeholder engagement continued to be on implementing various policy actions from the Bank's comprehensive Review of Retail Payments Regulation, which concluded in 2021. In particular, Bank staff engaged with a wide range of payment system participants and users in relation to the Bank's expectations on

[2] See RBA, 'Submissions – Payments System'.

[3] See RBA, 'Payments Data'.

[4] See Nguyen T and B Watson (2023), 'Consumer Payment Behaviour in Australia', *RBA Bulletin*, June and Livermore T and J Mulqueeney (2023), 'Cash Use and Attitudes in Australia', RBA *Bulletin*, June.

least-cost routing (LCR) of debit transactions, especially the extension of LCR to mobile wallet transactions. Bank staff also continued to engage with stakeholders on progress in meeting the Bank's expectations on the issuance of dual-network debit cards (DNDCs) and the reporting of data on scheme fees.

Outside of the Review, the Bank's meetings with stakeholders on retail payments issues over the past year focused on a wide range of issues, including challenges in cross-border payments, payments system access arrangements, the development of the NPP, changes to NPP pricing arrangements, initiatives to bolster the security and reliability of retail payments, the future of cash, the tokenisation of online card transactions and competition in the debit card market. Bank staff continued to engage with stakeholders about their obligations under the Bank's card payments regulations and conducted several rounds of consultation with stakeholders on reforms to the Bank's retail payments statistics. The Bank also engaged with payments industry participants on technology and innovation, especially in relation to 'Buy now, pay later' (BNPL) services, stablecoins, CBDCs and the role of new players in the payments ecosystem.

Bank staff meet regularly with senior staff of the Australian Payments Network (AusPayNet), the main industry body for the payments system, to discuss industry initiatives and developments. These meetings take place consistent with a Memorandum of Understanding (MOU) on liaison arrangements between the two organisations that is published on the Bank's website.[5] The staff also meet periodically with counterparts from a range of government agencies, including the Australian Competition and Consumer Commission (ACCC), Australian Prudential Regulation Authority (APRA), Australian Securities and Investments Commission (ASIC), the Australian Transaction Reports and Analysis Centre (AUSTRAC), the Treasury and Attorney-General's Department as part of a new cross-agency forum on payments. An MOU between the ACCC and the Bank sets out an agreed basis for policy coordination, information sharing and liaison between the two agencies. There was significant engagement with the Treasury and other agencies during the past year on issues relating to implementing the government's reforms to the regulation of the payments system.

The Bank continues to be involved in the NPP, which is operated by NPPA, a wholly owned subsidiary of Australian Payments Plus (AP+). The Bank operates the Fast Settlement Service (FSS), which enables the settlement of NPP payments individually in real time. Further, the Banking Department is a direct participant in the NPP, providing some payments services to its government clients via the NPP. Staff from Payments Policy Department hold regular meetings with senior staff from AP+ to discuss developments in relation to the NPP as well as the other domestic payments infrastructure operated by AP+ (eftpos and BPAY).

The Bank meets regularly with each CS facility it supervises. These meetings cover a wide range of topics, including developments in financial and operational risk management. As ASIC and the Bank have complementary regulatory responsibilities for the supervision of CS facilities, the two agencies coordinate their liaison with these facilities. ASIC and the Bank also liaise with market participants on a range of topics related to clearing and settlement.

The Bank continues to work closely with other agencies of the Council of Financial Regulators (CFR) (and, where relevant, the ACCC) on a number of policy issues. These include the Australian Government's reforms to the regulatory regime for financial market infrastructures and the introduction of a crisis management regime for CS facilities,

[5] See RBA (2021), 'Memorandum of Understanding for Liaison Procedures between the RBA and AusPayNet', February.

competition in clearing and settlement of equities, cybersecurity and de-banking. The CFR agencies, along with AUSTRAC, ACCC and a number of other government departments, participate in a working group that is considering the implications of stablecoins and other types of crypto-assets for the financial sector and regulation.

Staff also attend various conferences and seminars on issues related to payments and market infrastructures, in some cases as speakers or panellists.

International engagement

The Bank is a member of the Bank for International Settlements' (BIS) Committee on Payments and Market Infrastructures (CPMI), which serves as a forum for central banks to monitor and analyse developments in payment, clearing and settlement infrastructures, and the development of relevant international standards. It has members from 28 central banks. Joint working groups of the CPMI and the International Organization of Securities Commissions (IOSCO) bring together members of these two bodies to coordinate policy work on the regulation of payments and market infrastructures. Bank staff are members of a number of CPMI working groups, including those reviewing CCP recovery arrangements and CCP margining arrangements and elements of the international roadmap for enhancing cross-border payments. The Bank also participates in a Financial Stability Board (FSB) working group on CCP resolution.

The Bank is Chair of the Executives' Meeting of East Asia-Pacific Central Banks (EMEAP) Working Group on Payments and Market Infrastructures. This is a regional forum for sharing information and experiences relating to the development, oversight and regulation of payments and market infrastructures. Over the past year, the Bank maintained its involvement in a joint initiative of CPMI, IOSCO and the Basel Committee on Banking Supervision examining issues associated with margin requirements during periods of market volatility. The group released a review of margining practices in September 2022 and commenced further work on a range of margin-related policy issues in late 2022.

In addition to these policy-focused forums, the Bank also participates in several multilateral and bilateral arrangements to support its oversight of overseas-based payments and market infrastructures. Table 1.2 presents a breakdown of the Bank's participation in the international forums relevant to the mandate of the Board.

The Bank has also engaged with overseas regulators on retail payments issues, including through a regular meeting with counterparts in Canada, New Zealand and the United Kingdom. In 2022/23 the main issues discussed were DNDCs, LCR, interchange regulation, scheme fees and merchant payment costs and oversight of retail payment systems.

Table 1.2: RBA's Participation in International Forums dealing with Payments and Market Infrastructure Issues

Name of the forum	Organiser/ secretariat	Mandate	Membership
CPMI	BIS	Monitoring and analysing developments in payment, clearing and settlement infrastructures, standard setting.	28 central banks – CPMI members.
CPMI–IOSCO Steering Group	BIS/IOSCO	Providing operational guidance on joint CPMI–IOSCO work.	CPMI and IOSCO members.
CPMI–IOSCO Policy Standing Group	BIS/IOSCO	Developing supervisory policies and guidance.	CPMI and IOSCO members.
CPMI–IOSCO Implementation Monitoring Standing Group	BIS/IOSCO	Monitoring of Principles for Financial Market Infrastructures implementation in 28 CPMI–IOSCO jurisdictions.	CPMI and IOSCO members.
FMI Cross Border Crisis Management Group	FSB	Development of resolution strategies and operational resolution plans for CCPs.	Representatives from 24 jurisdictions, major international financial institutions (including the International Monetary Fund and BIS), standard-setting bodies (such as the Basel Committee on Banking Supervision).
EMEAP Working Group on Payments and Market Infrastructures	Reserve Bank of Australia (rotating)	Information and experience sharing on the regulation and oversight of payments and market infrastructures.	RBA, The People's Bank of China, Hong Kong Monetary Authority, Bank Indonesia, Bank of Japan, Bank of Korea, Bank Negara Malaysia, Reserve Bank of New Zealand, Bangko Sentral Ng Pilipinas, Monetary Authority of Singapore, Bank of Thailand.
Cooperative oversight forums			
CLS Oversight Committee	Federal Reserve Bank of New York	Cooperative oversight of the CLS.	23 central banks representing 18 CLS settlement-eligible currencies plus five additional Eurosystem central banks.
SWIFT Oversight Forum	National Bank of Belgium	Providing input to cooperative oversight of SWIFT exercised by SWIFT Oversight Group (OG).	G10 central banks (OG) and 10 additional central banks
LCH Ltd Supervisory College and Crisis Management Group	Bank of England	Cooperative oversight of LCH Ltd.	Central banks and securities regulatory authorities from 20 jurisdictions of LCH Ltd operation.
Multilateral Oversight Group for the Euroclear Bank	National Bank of Belgium	Cooperative oversight of Euroclear Bank.	RBA, Federal Reserve, Bank of England, Bank of Japan, European Central Bank.

2. The Evolving Retail Payments Landscape

In recent years, the share of payments made electronically has risen as cash and cheques are used less frequently. New technologies and new participants in the payments system are also providing more payment options to consumers and businesses.

Australians increasingly prefer to make payments electronically

The way Australians make payments has changed significantly over recent decades. Most transactions are now made using electronic payment methods rather than cash, and cheques are rarely used (Graph 2.1). In 2022/23, Australians made around 730 electronic transactions per person on average, compared with about 330 a decade earlier. Cards are the most commonly used retail payment method in Australia, with three-quarters of consumer transactions made using debit and credit cards (Table 2.1). Other payment methods, besides cash and card payments, make up a small share of payments by number. However, bank transfers and BPAY payments make up a more significant share of payments by value because they are used more often for higher value transactions. The long-run trend to electronic payments reflects innovation in the payments system and changing payment preferences. This trend has been accelerated by changes in payment behaviour through the pandemic.

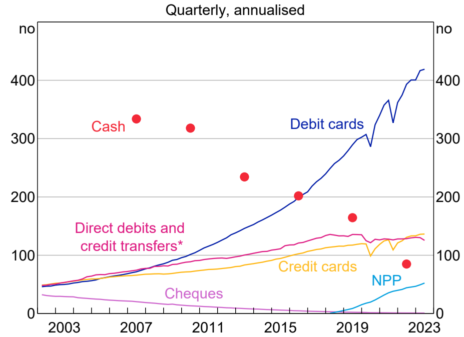
Use of debit cards by Australians has doubled from a decade ago, with their share of total transactions (by number) increasing to more than half in 2022. The strong growth in debit card payments, and card payments more generally, has been spurred by the convenience of contactless payments technology. Contactless payments made up 95 per cent of in-person card payments in the 2022 CPS, up from roughly one-quarter in 2013 (Graph 2.2). This shift was initially driven by payments made by tapping a card at a terminal, with these payments as a share of in-person card payments peaking at three-quarters in 2019. More recently, consumers have increasingly been making contactless payments using a payments-enabled device, such as a mobile phone or smart watch, with 30 per cent of in-person card payments made this way in 2022.

Australia has been quick to adopt contactless payments compared with some other countries (Graph 2.3). Besides consumer demand for convenience, the rise of contactless payments in Australia has been supported by the fast rollout of contactless capable cards and terminals by PSPs and card schemes. The hospitality industry

Graph 2.1

Transactions per Capita

Quarterly, annualised



* Includes BPAY.

Sources: ABS; AusPayNet; BPAY; Colmar Brunton; Ipsos; RBA; Roy Morgan Research.

Table 2.1: Consumer Payment Methods

Share of all payments[(a)]

	2007	2010	2013	2016	2019	2022
Number of payments						
Cash	69	62	47	37	27	13
Cards	26	31	43	52	63	76
– Debit cards	15	22	24	30	44	51
– Credit and charge cards	11	9	19	22	19	26
BPAY	2	3	3	2	2	2
Internet/phone banking[(b)]	–	2	2	1	3	3
PayPal	–	1	3	3	2	2
Cheque	1	1	0.4	0.2	0.2	0.1
Other[(c)]	1	1	2	4	2	2
Value of payments						
Cash	38	29	18	18	11	8
Cards	43	43	53	54	61	65
– Debit cards	21	27	22	26	36	39
– Credit and charge cards	23	16	31	28	25	26
BPAY	10	10	11	8	9	8
Internet/phone banking[(b)]	–	12	10	10	14	14
PayPal	–	1	2	4	2	3
Cheque	6	3	2	2	2	0.05
Other[(c)]	3	3	5	3	2	3

(a) Excludes payments over $9,999, transfers (payments to family and friends), transport cards and automatic payments.

(b) Payments made using banks' internet or telephone facilities; does not include other payments made using the internet.

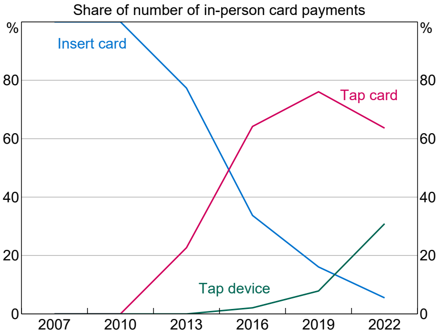
(c) 'Other' methods include prepaid, gift and welfare cards, bank cheques, money orders, 'buy now, pay later' and Cabcharge.

Sources: RBA calculations, based on data from Colmar Brunton, Ipsos and Roy Morgan Research.

Graph 2.2

Card Payments by Channel

Share of number of in-person card payments



Source: RBA calculations, based on data from Colmar Brunton, Ipsos and Roy Morgan Research.

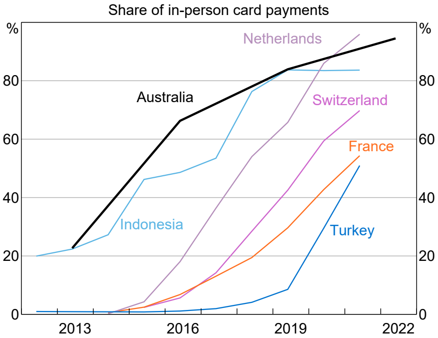
and large merchants, such as supermarkets and department stores, were early adopters of the technology, further expanding consumer uptake. In addition, the emergence of new PSPs and payment plans suited for smaller merchants has seen wider acceptance of contactless card payments. During the pandemic, consumer and merchant concerns about the hygiene of certain payment methods, such as cash, supported increased usage of contactless card payments.

Another long-run trend that has been reinforced by the pandemic is an increase in the share of purchases being made online. The share of payments made online increased during periods of pandemic-related lockdowns. The results from the latest CPS show the share of payments made online remains higher than it was prior to the pandemic, at 18 per cent in 2022, up from 12 per cent three years earlier. The shift towards online payments has been broadly based across sectors, with the share of online payments for leisure, bills, goods and services all increasing significantly from pre-pandemic levels (Graph 2.4).

Graph 2.3

Contactless Card Payments

Share of in-person card payments

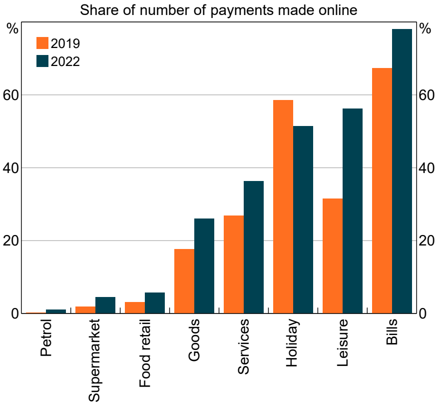


Sources: BIS; RBA calculations based on data from Colmar Brunton, Ipsos and Roy Morgan Research.

Graph 2.4

Online Payments by Sector

Share of number of payments made online



Source: RBA calculations, based on data from Ipsos and Roy Morgan Research.

Cash is being used less for payments but is still important for some people

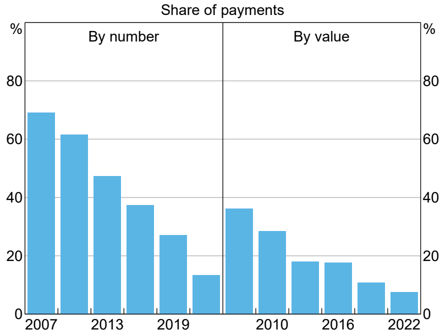
The results of the 2022 CPS show that Australians continue to shift away from using cash for day-to-day transactions. Since 2007, the share of payments made using cash has consistently declined. Cash made up 69 per cent of the total number of consumer payments in 2007 and fell to 13 per cent in 2022 (Graph 2.5, left panel). In value terms, 8 per cent of payments were made with cash in 2022 – down from 36 per cent in 2007 (Graph 2.5, right panel). The decline in transactional cash use accelerated between 2019 and 2022, with the share of cash payments by number halving between 2019 and 2022. This decline is due in part to the impact of the pandemic on consumer payment behaviour. During the pandemic, Australian consumers used cash less often to make payments because of hygiene concerns with handling cash and to comply with social distancing requirements. Instead, they used electronic payment methods such as cards and undertook more transactions online.[1]

Consumers reported using cash less frequently for transactions of all sizes in 2022. This decline was particularly pronounced for small payments;

Graph 2.5

Cash Payments

Share of payments



Sources: RBA calculations, based on data from Colmar Brunton, Ipsos and Roy Morgan Research.

[1] Guttmann R, C Pavlik, B Ung and G Wang (2021), 'Cash Demand during COVID-19', RBA *Bulletin*, March.

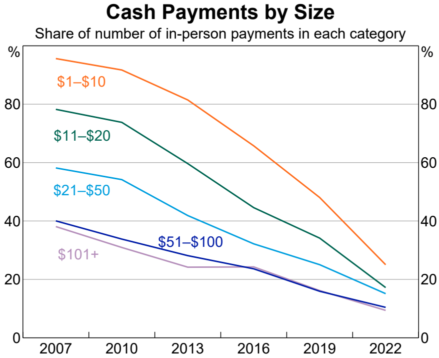
in 2007, cash made up almost all in-person payments with a value of less than $10, but in 2022 just one in four payments of this size were made using cash (Graph 2.6). For higher value transactions, cash use fell further, with around a tenth of in-person payments over $50 made with cash in 2022. Cash is now used less than electronic payment methods for transactions of all sizes. Consumers seem to have switched to cards, particularly for low-value payments, because of the convenience of contactless payments.

The decline in consumers' use of cash has been evident across all types of businesses (Graph 2.7). The largest declines in the share of payments using cash from 2007 to 2022 were recorded in the transport (e.g. parking, public transport and taxis) and food retail sectors (e.g. fast food, cafés and restaurants). Several factors contributed to these declines, including the increased popularity of contactless card payments, the rise of ride-share services, and that most public transport services no longer accept cash.

Despite the overall decline in the use of cash for transactional purposes, some Australians continue to use cash predominantly. In 2022, 18 per cent of consumers aged 65 and above were high cash users, using cash for at least 80 per cent of their in-person payments (Graph 2.8, left panel). Lower household income continued to be associated with more intensive cash usage – for example, 17 per cent of people in the lowest household income quartile were high cash users, compared with only 2 per cent in the highest household income quartile. (Graph 2.8, middle panel). There were slightly more high cash users living in regional and remote areas compared with major cities (Graph 2.8, right panel).

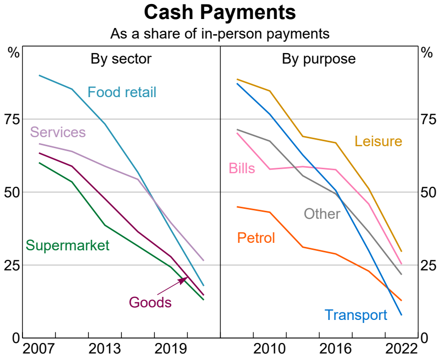
Some Australians would be negatively affected if cash was difficult to access or if shops stopped accepting it as a payment method. In 2022, around 60 per cent of high cash users indicated that they would experience a major inconvenience or genuine hardship if cash was no longer available or usable – this group was equivalent to about 4½ per cent of the adult Australian population. This suggests that cash remains essential in the lives of some Australians, and so ongoing efforts by the Bank and the government to support continued access to cash remain important. For instance, in its Strategic Plan for Australia's Payments System, the government has indicated it will work with industry to ensure a sustainable cash distribution network (see chapter on 'Payments System Regulation and Policy Issues').[2]

Graph 2.6



Source: RBA calculations, based on data from Colmar Brunton, Ipsos and Roy Morgan Research.

Graph 2.7



Source: RBA calculations, based on data from Colmar Brunton, Ipsos and Roy Morgan Research.

[2] See Treasury (2023), 'A Strategic Plan for Australia's Payments System', June.

More Australians are using mobile wallets for payments

Over the past few years, there has been a marked shift to card payments being made with mobile wallets offered by large technology companies, such as Apple Pay, Google Pay and Samsung Pay. These wallets enable consumers to store digital representations of their debit and/or credit cards in their smartphone or other mobile devices (such as a smart watch). These can then be used to make contactless payments at the point of sale and, in some cases, online payments.

The share of debit and credit card payments made via mobile wallets has continued to grow in the post-pandemic period, reaching 35 per cent of card transactions in the June quarter 2023, up from 10 per cent in early 2020 (Graph 2.9). Debit card payments are more likely to be made using a mobile wallet than credit card payments.

Results from the 2022 CPS show that mobile wallet use is expanding for Australians of all ages. More than one-third of consumers used a mobile device to make a contactless payment in the diary week – an increase of 25 percentage points from 2019 (Graph 2.10). Adoption has increased the most for younger consumers, with mobile payments used by nearly two-thirds of Australians aged between 18 and 29 in 2022, up from less than 20 per cent in 2019. For consumers aged 65 and over, 9 per cent made a mobile payment during the diary week, which was triple the share in 2019.

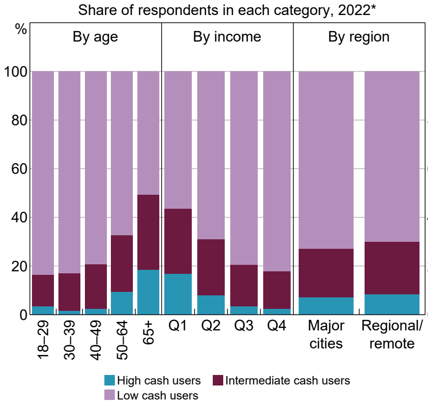
'Buy now, pay later' transactions continue to grow strongly

BNPL services allow customers to purchase goods on credit and make interest-free repayments to the BNPL provider. The merchant receives the full amount of the purchase price upfront from the provider, as is the case for other

Graph 2.8

Cash User Groups

Share of respondents in each category, 2022*



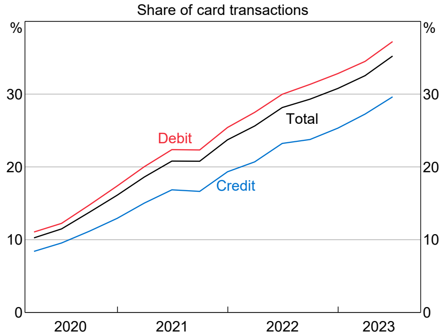
* Frequency based on share of in-person payments in cash (low: ≤ 20 per cent, high: ≥ 80 per cent).

Source: ABS; RBA calculations, based on data from Ipsos.

Graph 2.9

Mobile Wallet Transactions

Share of card transactions

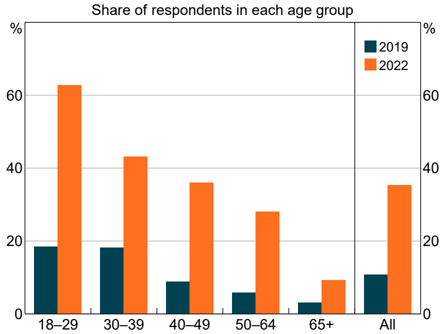


Source: RBA.

Graph 2.10

Use of Mobile Devices for Card Payments*

Share of respondents in each age group



* Used at least once in the diary week of the Consumer Payments Survey.

Source: RBA calculations, based on data from Ipsos and Roy Morgan Research.

forms of payment such as credit cards. While offering benefits to consumers, BNPL services are typically an expensive way for merchants to accept payments. A BNPL transaction costs on average around 4 per cent of the value of the purchase, compared with an average of 0.5–1.5 per cent for traditional card payments.

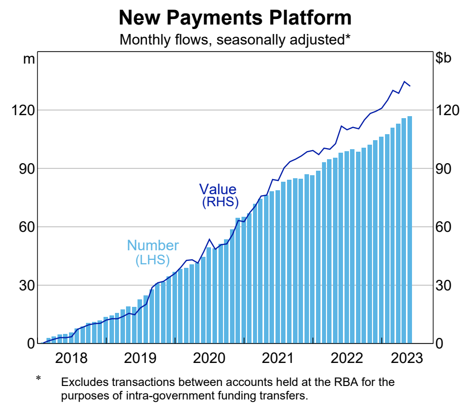
Based on data collected by the Bank from a representative sample of BNPL providers, BNPL transactions have continued to grow strongly over the past year, albeit at a slower pace than previously. The value of BNPL transactions increased by around 13 per cent in 2022/23, compared with 37 per cent in 2021/22. The value of BNPL transactions in 2022/23 was around $19 billion, equivalent to around 2 per cent of Australian card purchases. The number of merchants choosing to accept BNPL services continued to expand rapidly. Customers can also use some BNPL services at non-partner merchants because some BNPL providers leverage existing card acceptance arrangements to enable BNPL purchases at almost any merchant that accepts card payments. By contrast, the number of active Australian BNPL customer accounts was little changed over the year to June at just over 7 million. Several smaller BNPL providers have exited the market over the past year. Results from the CPS show that almost one-third of Australians had used a BNPL service in the preceding year, up around 8 percentage points from 2019.[3]

More account-to-account transfers are happening in real time

Use of Australia's fast account-to-account payments system, the NPP, has continued to grow since its launch in 2018. The NPP enables consumers, businesses and government agencies to make real-time, data-rich payments 24 hours a day, every day of the year. The NPP is available to the customers of more than 110 financial institutions and is used to make around a quarter of all account-to-account payments. In 2022/23 the NPP processed over 1.3 billion transactions, worth more than $1.5 trillion, and usage continues to grow (Graph 2.11). However, most account-to-account payments continue to occur over direct entry. The NPP accounts for about one-third of all credit transfers – that is, payments from a bank account directly to the bank account of a recipient (Graph 2.12). In addition, few direct debit payments, which automatically withdraw money from a customer's account to pay bills or other regular payments, have migrated to the NPP.

[3] For information on forthcoming regulatory changes, see chapter on 'Payments System Regulation and Policy Issues'.

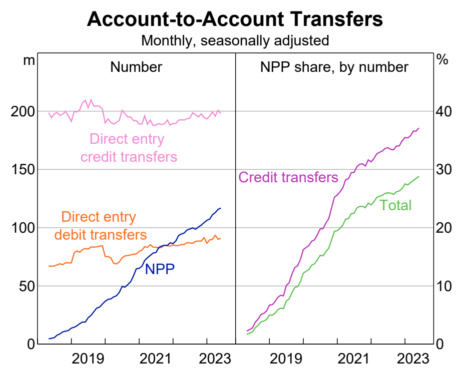
Graph 2.11



* Excludes transactions between accounts held at the RBA for the purposes of intra-government funding transfers.

Source: RBA.

Graph 2.12



Source: RBA.

3. Payments System Regulation and Policy Issues

This chapter summarises the main regulatory and policy work the Bank has undertaken over the past year on retail payment systems. A key area of focus was on implementing a number of policy actions aimed at enhancing competition and efficiency in the debit card market. The Bank also assisted the Treasury and other regulatory bodies on reforms to the regulatory framework for payments. With the ongoing transition away from cash towards electronic payments, the Bank has continued to examine issues on access to cash, and those related to the cost, reliability and security of electronic payment services. The Bank also continues to monitor the rapid pace of innovation in the payments system and changes in market structure. The Bank considered a number of policy and regulatory issues associated with innovations in the payments system throughout the year. Research on CBDC was also a key focus area and will remain so in the period ahead.

Promoting competitive, cost-effective and accessible electronic payments

Australia's payments system is evolving rapidly, with the use of electronic payments continuing to grow. This has been driven by advances in technology and changing expectations of end users for convenient and safe payments. The Bank has an important role to play in ensuring that payment services remain efficient and meet the needs of users of the payments system.

Encouraging competition and lower card payment costs for merchants

A key element of the Bank's work over the past year has been to continue to implement policy measures from the 2019–2021 Review of Retail Payments Regulation (the Review), and introduce new measures aimed at encouraging greater competition between card schemes and lowering card payment costs for merchants. During the year, the Bank:

- took steps to encourage greater availability of LCR functionality
- obtained undertakings from the international card schemes to reduce the risk that 'tying conduct' could limit competition in the debit card market
- collected and published new data on scheme fees, from schemes and issuers/acquirers, to provide greater transparency
- set expectations for the international card networks and acquirers that merchants should have a choice of whether to accept 'instalments' (BNPL) services, and be able to surcharge these transactions to recover the cost of these types of payment
- continued to monitor the adoption of mobile wallet payments and their associated costs.

Dual-network debit cards and least-cost routing

Around 85 per cent of debit cards issued in Australia are DNDCs, which allow domestic payments to be processed via either eftpos or one of the other debit networks (typically either

Debit Mastercard or Visa Debit). DNDCs facilitate competition between debit networks by allowing a choice of routing network to be made at the point of sale. LCR, or merchant-choice routing, is the ability for merchants to choose which debit network on a DNDC processes certain debit card transactions and helps merchants reduce their payments costs. A key focus for the Bank has continued to be encouraging widespread issuance of DNDCs and greater availability of LCR. Over the past year, the Bank:

- Monitored compliance with the expectation that large debit card issuers issue DNDCs and provision both networks on DNDCs in mobile wallets. Large issuers continue to make good progress in meeting the Bank's expectations in this regard.
- Encouraged acquirers, payment facilitators and gateway providers to make progress in meeting the Bank's expectation that they offer and promote LCR functionality to merchants in the device-present (in-person) and device-not-present (online) environments as applicable.
- Published six-monthly updates on LCR availability and take-up across the major acquirers for in-person transactions to provide greater transparency on the progress of individual institutions in meeting the Bank's expectations. Providers have generally made good progress in terms of availability, with LCR available to be turned on for 99 per cent of their merchants. However, the take-up of LCR by merchants remains much lower, with just over half of merchants on plans with LCR enabled. For online transactions, the Bank set an expectation that providers would offer LCR to merchants by the end of 2022; however, the industry did not meet this timeline. As of June 2023, the industry still needs to make significant progress on LCR availability and take-up for online transactions, though several LCR implementation programs across major acquirers are due to be rolled out in the second half of 2023.
- Announced a further expectation for the industry to deliver LCR functionality for mobile wallet transactions by the end of 2024. The Bank has been actively monitoring the industry's plans to meet this expectation.

Tying conduct

Mastercard and Visa have each given undertakings to the Bank that they will not engage in tying conduct involving their debit and credit card products. The undertakings address the Bank's concerns that the international schemes could engage in conduct that would limit competitive pressure in the debit card market, which has the potential to impose additional costs on the payments system. The schemes have committed not to engage in tying conduct, such as by making preferential 'strategic' interchange rates on credit card transactions conditional or 'tied' on the value or volume of a merchant's debit card transactions.

Transparency of scheme fees

During the year, the Bank implemented a new policy measure from the Review aimed at improving the transparency of scheme fees. These fees are charged by card networks to issuers and acquirers. They tend to be complex, opaque and are ultimately passed on to end users (consumers and merchants) in the form of higher costs.

The Bank published some aggregate data from its first collection of annual scheme fee data in a speech in early 2023.[1] The data showed that the fees make a significant contribution to payments costs, with net fees across the major card networks amounting to around $1.2 billion in

[1] See Connolly E (2023), 'The Shift to Electronic Payments – Some Policy Issues', Speech at the AFR Banking Summit, 28 March.

2021/22. On average, issuers paid higher fees to schemes on card transactions relative to acquirers, but also received significantly larger rebates. For domestic debit card transactions, the net scheme fee paid by issuers was 2 basis points of the transaction value, compared with 9 basis points for acquirers. Net scheme fees were a little higher for domestic credit cards, averaging 4 basis points for issuers and 11 basis points for acquirers. Scheme fees for international card transactions in Australia are particularly high at more than 150 basis points.

The data also showed that some types of transactions attract higher fees than others. For example, on average, domestic debit mobile and online transactions attract scheme fees that are more than twice the average fee incurred when a debit card is tapped. The Bank will continue to closely monitor trends in scheme fees over time and publish data annually with the aim of promoting transparency and competitive tension in the market.

Buy now, pay later services

In the Review, the Board concluded that it would be in the public interest for BNPL providers to remove their no-surcharge rules. The right of merchants to apply a payment surcharge can promote competition in the payments system and keep downward pressure on payments costs. By helping to keep merchants' costs down, the right to apply a surcharge means businesses can offer a lower price for goods and services to all of their customers and thereby reduce the extent to which users of lower cost payment methods subsidise users of more expensive payment methods.

However, the Bank's ability to impose standards to achieve this outcome is complicated by the current drafting of the relevant legislation, the *Payment Systems (Regulation) Act 1998* (PSRA). As discussed further below, during the year, the Bank assisted the Australian Government with its plan to reform the regulatory architecture for payments, including modernising the PSRA to enable the Bank to engage with a wider range of issues associated with new payments technologies and business models, such as BNPL and mobile wallets.

During the year, the Bank also continued to monitor developments in the BNPL sector, including the instalments services that the international card networks are planning to launch in Australia. The Board expects that from the launch of these services, merchants will be provided with:

- a choice of whether to accept instalments transactions
- clear information about the costs of accepting instalments transactions
- the ability to fully surcharge these transactions if a merchant wishes to recover the costs they incur.

If these expectations are not met, the Board would consider the merit of taking regulatory action, including on the issue of ensuring merchants have choice of which products to accept.

Card transactions using digital wallets

Another priority for the Bank has been to continue to monitor the adoption of digital wallets, which include mobile wallets (e.g. Apple Pay and Google Pay). As noted in the chapter on 'The Evolving Retail Payments Landscape', the data the Bank collects from issuers show that consumers are increasingly making a material share of their card payments through mobile wallets. The strong growth in their use indicates that consumers increasingly value the convenience and security of making payments from their mobile devices.

However, mobile wallet transactions on average attract materially higher interchange and scheme fees, costs which are passed on by acquirers to merchants in the form of higher merchant fees. In addition, mobile wallet services can also introduce new costs into the payments chain. The Bank would support greater transparency of the costs associated with mobile wallets. In particular, some mobile wallet providers have confidentiality restrictions that prevent issuers from disclosing the costs for this service. As a result, there is very little information in the public domain about how much issuers must pay mobile wallet providers. Greater transparency over these costs could help to boost efficiency and competition for payments using mobile wallets.

The future of the Bulk Electronic Clearing System

The Board has been monitoring the industry's plans to wind down and eventually retire the aging Bulk Electronic Clearing System (BECS). This system, also known as the Direct Entry system, is administered by AusPayNet and facilitates the clearing and settlement of bulk electronic transactions between financial institutions, including payroll, recurring payments to merchants and one-off account-to-account transfers. BECS processed around three-quarters of the value of non-cash payments in 2022/23 and is still heavily relied on by businesses and governments. However, use of the system has gradually been declining over recent years as more account-to-account credit transfers have migrated to Australia's fast payment system, the NPP.

While BECS remains a low-cost and reliable payment system, it has various technical limitations that reflect the time when it was created, including a delayed settlement model and a restricted messaging format that is incompatible with the modern ISO 20022 standard. The industry has since invested in newer payment systems, such as the NPP, that have more advanced capabilities, providing faster, more flexible, and data-rich payments. Given the costs of upgrading BECS, the industry has been discussing how the system could be wound down and eventually retired. There are some challenges that need to be addressed before BECS can be retired. These include ensuring that alternative payment systems are capable of reliably handling all of the transaction volume that would need to migrate from BECS, particularly bulk payments such as salaries and direct debits that are currently processed as batch files in BECS. There will also be a need to support the transition to alternative payment systems by the many businesses and government agencies that have BECS heavily embedded in their payment processing systems. AusPayNet is working with the industry to develop a plan for the retirement of BECS, which is expected to be published before the end of 2023.

Given the opportunities and challenges associated with the migration of BECS to more modern payment systems, the Board is closely monitoring the industry's plans in this area. The government has also indicated its support for an industry-led, phased transition away from BECS as part of its Strategic Plan for Australia's Payments System, published in June 2023. Further, the government has also announced that the Treasury will engage with relevant government agencies and other key users of BECS on their needs and readiness to transition away from BECS. Progress on the BECS transition will be monitored in future updates of the Strategic Plan.

New Payments Platform use and development

The NPP is a modern payments infrastructure that enables account-to-account payments to be processed in a data-rich format on a real-time, 24/7 basis. As noted in 'The Evolving Payments Landscape' chapter, NPP volumes have continued to grow strongly over the past year, with an increasing share of credit transfers previously processed by BECS now being processed via the NPP.

The Board is closely monitoring the industry's progress to develop the NPP into a viable alternative for the full range of payments processed by BECS. An essential aspect of this work is for financial institutions to connect all relevant accounts that can currently send and receive payments via BECS to the NPP. The Bank is requiring institutions to report their progress in making these accounts NPP reachable – based on the latest data, a little less than one-fifth of BECS-reachable accounts held at NPP participants are not connected to the NPP. These are mostly certain home loan, personal loan and superannuation accounts. The Bank will be engaging with NPP participants about their plans to make these accounts NPP reachable. The Bank is also engaging with a number of institutions that are not yet connected to the NPP to discuss their plans to make NPP services available to their customers.

To facilitate the migration of payments from BECS, NPP participants will be required to uplift their NPP processing capacity to ensure they are able to accommodate additional payment volumes on the NPP. Participants will also need to develop and implement new capabilities to process bulk payments (e.g. payroll) on the NPP, without the need for their corporate customers to change their back-end processes.

Another part of the industry's work to develop the NPP is the introduction of new functionality under the industry agreed NPP Roadmap.[2] A major focus over the past year has been the delivery of the PayTo service, which provides households and businesses with the ability to authorise third parties to initiate NPP payments from their bank accounts. This service is designed to be a modern alternative to the direct debit system, giving payers greater control and transparency over their recurring payments, and payee businesses increased data capabilities and speed of settlement. PayTo could also be used in a range of other payment scenarios, including e-commerce transactions, billing and paying e-invoices.

A number of NPP participants, including three of the major banks, were not ready to offer the PayTo service by the June 2022 go-live date, limiting the adoption of the service and the realisation of benefits to end users. In response, the Bank obtained assurances from the relevant banks that they would meet their commitments by April 2023 and required regular progress reports. Most participants, including all of the major banks, are now offering the PayTo service to their retail customers (or payers). Some other aspects of PayTo, such as capabilities for payee businesses, are yet to be broadly rolled out.

One part of the NPP's capability where the Bank would like to see more widespread adoption is the PayID service. The PayID service provides a safer and more convenient way to address payments. PayIDs can be registered using information that is easy to remember such as phone numbers or email addresses. When sending a payment to a payee's PayID, the payer can also check the name of the account holder before confirming the payment. This can reduce the risk of mistaken payments and some types of scams. Although customer adoption of PayIDs has been rising, with around one-fifth of NPP payments now being initiated using a PayID, the Bank would like to see financial institutions do more to promote use of PayID among their customers, including for NPP payments to businesses.

Following the ongoing volume growth of the NPP and the addition of new services such as PayTo, AP+ has recently proposed significant changes to the NPP's wholesale pricing arrangements. The new pricing model involves switching from fixed pricing, where financial institutions were charged a fixed fee aimed at recovering NPP's operating costs, to per-transaction pricing. The model includes an interchange-like fee for PayTo transactions,

[2] NPP Australia (2022), 'NPP Roadmap October 2022', November.

which would be paid by the institution initiating the payment (on behalf of the merchant) to the institution making the payment (on behalf of the customer). The Board recently considered the new pricing arrangements in light of its mandate to promote competition and efficiency in the payments system. The Board indicated that it would apply the same principles to the wholesale pricing of NPP transactions as it has applied to competing payment systems. In particular, interchange fees should not be set at a level that inhibits the competitiveness and efficiency of the payments system, and they should be published to provide transparency.

The future of the cheques system

Managing the wind-down of the cheques system is another important element of modernising payments infrastructure in Australia. Cheque use has declined substantially in Australia over the past few decades as users have shifted to electronic payment methods. In 2022/23, cheque payments accounted for 0.1 per cent of the number of all non-cash retail payments, representing an average of less than one cheque transaction per person. As cheque use has declined, the per-transaction cost of supporting the cheque system, which is already high relative to other payment methods, has continued to rise. Financial institutions have been taking some steps to transition away from providing cheque services, such as ceasing to issue cheque books to new customers and promoting the use of alternative payment methods to their remaining cheque users. At the same time, many merchants are ceasing to accept cheques as a means of payment.

As part of the Strategic Plan, the Australian Government announced its intention to phase out government use of cheques by 2028, and the eventual wind-down of the cheques system by no later than 2030. While these initiatives will result in significant efficiency gains, there are a number of issues that will need to be addressed to allow them to be reached. These include amendments to legislation that requires or promotes the use of cheques and ensuring that alternative payment methods can address all payment scenarios that cheques are currently used for. Financial institutions also have an important role to play in assisting the few remaining customers currently using cheques to switch to alternative payment methods and ensuring customers are provided reasonable notice of any plans to withdraw cheque services. The government plans to initiate a public consultation before the end of 2023 on the support and changes required to retire the cheques system by 2030. The Bank will continue to monitor the wind-down of the cheques system and will engage with industry and the Treasury on the upcoming consultation process.

Access to cash and the Review of Banknote Distribution Arrangements

As discussed in the chapter on 'The Evolving Retail Payments Landscape', there has been a long-term structural decline in the use of cash for transactions in Australia, a trend that has accelerated since the COVID-19 pandemic as people have made more electronic and online payments. Nevertheless, cash remains an important payment method for certain groups in the community and it continues to provide an alternative means of payment during periods when electronic payments cannot be used. The Board has been monitoring trends in cash use closely and seeks to ensure that any associated changes in the availability or acceptance of cash do not cause undue hardship for people who still want to use cash.

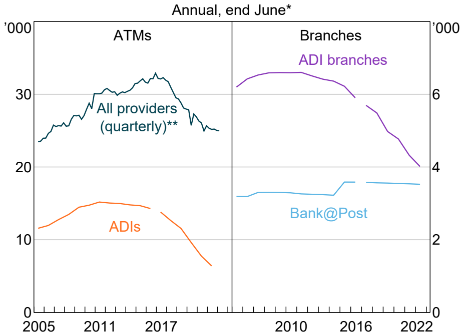
The decline in the transactional use of cash has been affecting the economics of providing cash services. This has been evident by the reduced number of cash access points over recent years, including a 24 per cent decline in the number of ATMs since 2016 (Graph 3.1). Despite this decline, analysis by Bank staff indicates that the average distance people have to travel to access cash services has changed little in recent years, partly reflecting the continued strong geographic coverage of Bank@Post outlets.[3] That said, there are vulnerabilities to cash access in some communities, particularly in non-metropolitan areas, where there are fewer alternative cash access options. Challenges could also emerge in relation to cash acceptance; while the rate of cash acceptance among merchants remains high, surveys indicate that a substantial share of merchants are planning to discourage or stop cash payments at some point in the future.

The trend decline in cash use is also having adverse implications for the economics of the wholesale banknote distribution system, which is the process by which banknotes are obtained from the Reserve Bank by financial institutions and moved around the country via cash-in-transit (CIT) companies. This system is critical to facilitating the flow of cash in the Australian economy. One manifestation of these challenges is the merger of the two largest CIT providers, Armaguard and Prosegur, which the ACCC authorised in June. In approving the merger, the ACCC noted that structural decline and overcapacity in the CIT industry raised the risk of one or both of the CIT companies exiting the industry suddenly, which could cause significant disruption to the availability of cash in the economy. The Bank made public submissions to the ACCC's merger authorisation process. These submissions highlighted the challenges facing the banknote distribution industry and the importance of placing the industry on a sustainable footing to avoid any significant disruption to cash availability.

Graph 3.1

Cash Access Points

Annual, end June*



* Series break in annual data in June 2017 due to APRA data collection change.

** The decrease in the number of active ATMs in June 2020 was largely due to temporary COVID-19-related venue closures.

Sources: APRA; AusPayNet; RBA.

Following its Review of Banknote Distribution Arrangements, which concluded in August 2022, the Bank has taken steps to remove impediments to improving efficiency in the cash distribution system.[4] This includes moving to a transparent and standardised contractual arrangement for the distribution of banknotes as well as establishing an industry forum to facilitate more timely changes to make the distribution of cash more effective, efficient, resilient and sustainable.

The government has also highlighted the importance of maintaining adequate access to cash in Australia as a key priority in its Strategic Plan for the Payments System. As part of this, the Bank is engaging with the Treasury on developing options for maintaining adequate access to cash, including potential responses to any sudden disruptions in cash access. The Board will continue to monitor access to cash services and trends in the use and acceptance of cash, and will consider whether any additional actions by the Bank might be required to support the continued provision of cash services.

Data and research on payment trends

The Bank collects a wide range of payments-related data and conducts research on the

[3] Guttmann R, T Livermore and Z Zhang (2023), 'The Cash-use Cycle in Australia', RBA *Bulletin*, March.

[4] RBA (2022), 'Review of Banknote Distribution Arrangements: Conclusions Paper', August.

implications for the efficiency and competitiveness of Australia's payments system. During the year, the Bank launched a review of its Retail Payments Statistics collection aimed at ensuring that it remains a valuable source of information for the Bank, the industry and the wider community as payments trends continue to evolve. The Bank publishes data from this collection, including on the use of debit and credit cards, ATMs, bulk electronic transfers, the NPP, cheques and merchant fees. In recent years, the Bank has also started separately collecting data on BNPL and mobile wallet transactions, the availability and adoption of LCR, and scheme fees charged by card networks to issuers and acquirers. The Bank highlighted these new data during the year through various publications and speeches.

As discussed in the chapter on 'The Evolving Retail Payments Landscape', the Bank completed its sixth triennial CPS during the year, with the results published in two *Bulletin* articles in June. The CPS collects comprehensive data on consumers' use of, and attitudes towards, different payment methods, and is an important source for understanding trends in consumers' use of cash for payments.

Payments regulatory reforms

The structure of the payments system is evolving rapidly, with new entities becoming involved in the payments value chain and new technologies being used to facilitate payments. This is providing benefits to end users of the payments system. However, it can also raise concerns about access, competition and efficiency. Questions can also arise about how new players and technologies fit within existing regulatory structures and whether any changes to regulation are required to accommodate them. The Bank has been assisting the Treasury and other regulatory bodies on reforms to the regulatory framework for payments.

Reform of the payments regulatory architecture

In December 2021, the government announced its response to several government reviews and inquiries into the regulatory framework for payments in Australia, including the Treasury Payments System Review that concluded in mid-2021.[5] In its response, the government committed to a comprehensive set of reforms to the regulatory architecture for payments. Key initiatives include:

- releasing a government strategic plan for the payments system, to provide greater certainty for industry, better inform participants' investment decisions, and ensure the system and regulators can respond to future developments and innovations
- modernising the PSRA, to ensure that regulators and the government can address new risks related to payments as the payments system evolves and increases in complexity
- introducing a new tiered licensing framework for PSPs, to improve regulatory certainty and ensure appropriate regulatory oversight for these entities.

The Bank has been supporting Treasury with advancing its payments reforms, some of which have implications for the Bank's regulatory powers and responsibilities in the retail payments system.

Modernising the Payment Systems (Regulation) Act

In June 2023, the Treasury released a consultation paper[6] on proposed changes to the PSRA, with the main changes strongly supported by the Bank. These changes include:

[5] See Treasury (2021), 'Transforming Australia's Payments System', Government Response, 8 December.

[6] See Treasury (2023), 'Reforms to the Payment Systems (Regulation) Act 1998', Consultation Paper, 7 June.

1. expanding the regulatory perimeter of the PSRA, by updating existing definitions of a 'payment system' and 'participant', to ensure that all entities that play a role in facilitating or enabling payments, including new entrants, can be appropriately regulated
2. introducing reforms to ensure the government can intervene to address emerging payment issues of national significance that lie beyond the remit of independent regulators
3. making other changes to the PSRA to ensure the regulatory architecture is appropriate and effective, such as enabling the Bank to issue directions to, and accept court-enforceable undertakings from, payment system participants.

New payment service providers licensing framework

The introduction of a new tiered licensing regime for PSPs is an important initiative. By addressing some of the regulatory uncertainties and barriers that many PSPs currently face when entering the Australian payments market, it should help promote competition and innovation in the supply of payment services. At the same time, PSP licensees will be required to appropriately manage risks to payments users.

As a first step in this process, in June 2023 the Treasury released a consultation paper[7] on proposed definitions for payment functions for which a PSP licence would be required. These functions include providing stored-value facilities, issuing payment stablecoins, providing services that involve initiating or facilitating payments, and providing services that involve the clearing and settlement of payments. Treasury plans to consult later in 2023 on proposed obligations for PSP licensees. The Bank is supporting Treasury in this work, particularly in relation to access to payments system and industry standard setting – these are the areas where the Bank would have a role under the revised payments regulatory architecture.

[7] See Treasury (2023), 'Payments System Modernisation (Licensing: Defining Payment Functions)', Consultation Paper, 7 June.

Access to payment systems

The Bank supports PSPs having competitive access to payment systems when providing services to their customers, while managing the associated risks. Many PSPs connect to payment systems indirectly through a sponsoring institution. While indirect access suits many providers, some may prefer to participate directly in clearing and settling payments on behalf of their customers without relying on another financial institution. There has been increasing interest from non-bank PSPs in becoming direct participants in payment systems over recent years. Yet some payment systems currently have access criteria that make it difficult, if not impossible, for non-bank PSPs to gain direct access. Payment system operators often rely on the risk management requirements imposed on banks and their supervision by APRA to mitigate risks to the payment system and its participants.

The Payments System Review recommended that the Bank develop a set of 'common access requirements' to help facilitate direct access to Australian payment systems for non-bank PSPs. The intention is that these requirements would be incorporated into the new tiered PSP licensing framework that the government plans to introduce. Accordingly, the Bank has been consulting with payment system operators, PSPs and other financial regulators about a possible set of requirements for PSPs seeking to clear or settle payments in Australia. The CFR has also been considering the role of Council agencies in setting regulatory standards for and supervising PSPs that seek direct access to payment systems.[8]

The aim of this reform initiative is to create a more level playing field for non-bank PSPs, while managing the risks that they may pose as direct participants to the relevant payment systems and the economy. Lowering the barriers to entry faced by PSPs seeking to directly participate in Australian payment systems by introducing appropriate risk-based regulation will support a more diverse, competitive and innovative payments ecosystem in Australia.

Industry standard setting

The Payments System Review considered that industry bodies are best placed to set technical standards for participants in the payments ecosystem, given the pace of change in payments technology, market structures and business models. It recommended that all relevant participants across the payments system should be required to adhere to a 'core' set of industry technical standards. This broad adherence is aimed at maximising the system-wide benefits of the standards and ensuring a level playing field across participants. Given the mandatory nature of core technical standards, it was proposed that the Bank would be provided with the power to authorise and oversee the effectiveness of industry bodies setting mandatory standards for payments. In fulfilling this new responsibility, the Bank would have regard to a standard-setting body's governance, independence and capabilities, and that the body performs its functions in a way that is consistent with broader payments policy objectives.

The Bank has been working with the Treasury on the design of the proposed new regulatory regime for industry standard setting. The general aspects of this proposed new regime will be consulted on as part of Treasury's broader consultation on the new PSP licensing framework.

[8] See CFR, 'Quarterly Statement by the Council of Financial Regulators – June 2023', Media Release No 2023-02, 14 June.

Promoting the resilience and safety of payment systems

Payment systems need to be operationally resilient, safe and secure. Reliability and security problems can impose significant costs on end users, cause economic disruption and damage public confidence in the financial system. At a minimum, payment systems need effective risk management frameworks, particularly for managing operational risk. The Board considers it vital that participants in the payments industry invest in resilient and secure infrastructure, systems and customer services, and that strong efforts are made to minimise fraud and scams.

Supervision of high-value payment systems

The Bank supervises or oversees the safety and stability of payment systems that are systemically important, since they handle high-value payments for key financial market infrastructures. In February the Board reviewed developments in the payments landscape and affirmed that RITS and CLS Bank International (CLS) are the systemically important payment systems operating in Australia.

Oversight of RITS

RITS is Australia's high-value settlement system, which is owned and operated by the Bank and used by banks and other approved institutions to settle their payment obligations on an RTGS basis. As critical national infrastructure for the Australian payments system, RITS needs to function as a highly available and resilient system. The operation of RITS is overseen by the Board. To support the Board's oversight, the Bank's Payments Policy Department conducts assessments of RITS against the PFMI, which are international standards set by the CPMI and the Technical Committee of IOSCO.

In October 2022, the Bank experienced a major technical outage that impacted two RITS services (the FSS and the Low Value Clearing and Settlement Services (LVCS and LVSS).[9]

Following the incident, the Board asked the Bank to commission an external review of the outage. The 2023 RITS Assessment was a targeted assessment on Governance (Principle 2), Framework for the Comprehensive Management of Risks (Principle 3) and Operational Risk (Principle 17), drawing on the findings of the external review. The assessment was endorsed by the Board and published in June 2023.[10] The assessment highlights a number of improvement opportunities, including the need to consistently and effectively embed accountabilities, processes, systems and controls, and better identify, monitor and manage risk.

Oversight of CLS Bank International

CLS operates a payment-versus-payment settlement system (CLS Settlement) for foreign exchange transactions in 18 currencies, including the Australian dollar. CLS is chartered in the United States and is regulated and supervised by the Federal Reserve. The Bank participates in a cooperative oversight arrangement for CLS, facilitated by the Federal Reserve.

Oversight of Prominent Payment Systems

In February the Board agreed to extend its payments system oversight to include prominent payment systems (PPS) where an outage could cause significant economic disruption and damage confidence in the financial system. The prominence of a payment system will be considered by the Bank on a case-by-case basis, taking into account a range of criteria including size, criticality, interconnectedness, and the potential financial and economic impact of an outage in that system. The payment systems currently considered to meet the criteria of prominence include the NPP, eftpos, Mastercard and Visa. These systems have also been specified as critical to the security and reliability of the financial services and markets sector by the government. The Bank has been consulting with PPS and interested parties on the development and implementation of a graduated, risk-based PPS oversight framework. The Bank will also continue to periodically assess the importance of all payment systems to the Australian economy and financial system.

Oversight of compliance by payment system operators

The Bank is the relevant Commonwealth regulator to oversee the compliance of specified payment system operators with the requirements of the *Security of Critical Infrastructure Act 2018* (SoCI). The payment systems that have been specified as critical to the security and reliability of the financial services and markets sector under the SoCI Act are the Mastercard debit and credit card systems, the Visa debit and credit card systems, the eftpos card system and the NPP. Operators of these systems must maintain a risk management program for the purpose of mitigating significant threats to the reliability and security of their critical infrastructure assets and attest their compliance to the Bank annually.

Oversight of SWIFT

SWIFT provides critical messaging and connectivity services to both RITS and CLS, as well as other financial market infrastructures and market participants in Australia and overseas. The G10 central banks oversee SWIFT through the SWIFT Cooperative Oversight Group (OG). The Bank is a member of the SWIFT Oversight Forum (SOF), which affords a broader set of central banks the opportunity to discuss oversight matters and provide input into the OG's priorities and policies. Oversight of SWIFT is

[9] See RBA, 'Final Incident Report – RBA Technology Outage on 12 October', Media Release No 2022-40, 28 November.

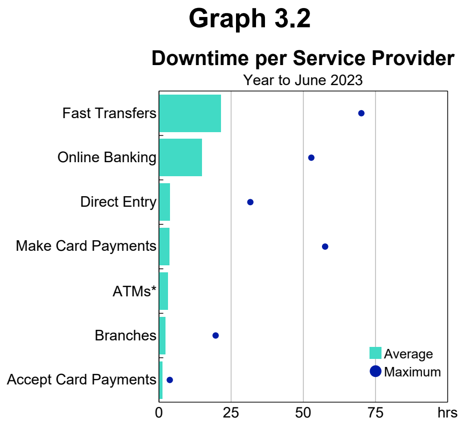
[10] RBA (2022), 'Targeted assessment of the Reserve Bank Information and Transfer System', May.

supported by a set of standards which align with standards for critical services providers in the PFMI.

Reliability statistics for retail payment services

As the reliance on electronic payments increases and use of cash declines, the reliability of retail payment services becomes more important. The Bank collects data quarterly to improve the quality and transparency of information about retail payment service reliability, enabling improved benchmarking of operational performance. Overall, data collected from banks and other financial institutions show a substantial rise in the number and total duration of operational outages in recent years.

Excluding one lengthy ATM outage reported at one institution in December 2022, online banking and fast payments (i.e. NPP) continue to be the least reliable retail payment services provided to households and businesses over the year to June 2023. The average cumulative downtime per provider during the year was around 22 hours for fast payments and 15 hours for online banking (Graph 3.2). The Board will continue to monitor information on retail payment services and will consider whether any policy actions are needed to enhance the reliability of retail payment services provided to end users.



* ATM downtime maximum of 244 hours has been truncated
Source: RBA.

Payment scams

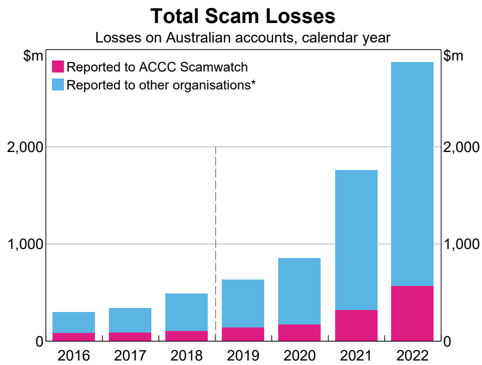
Payment scams occur when people are deceived or manipulated into sending funds or personal information to criminals – for example, when scammers offer an attractive investment scheme that is fake or send a fake bill from a legitimate business seeking payment. According to data published by the ACCC, financial losses from scams rose by 63 per cent to $2.9 billion in 2022, with losses from investment scams growing by 113 per cent (Graph 3.3).[11]

Government efforts to combat scams and online fraud were announced in the 2023/24 Budget. Significant funding was allocated to the ACCC to set up the National Anti-Scams Centre, which launched on 1 July 2023. The Centre's activities will include coordinating efforts across government and industry to facilitate the sharing of intelligence, raising consumer awareness, and leveraging expertise to disrupt scams. At the industry level, the Australian Banking Association has announced a new Fraud Reporting Exchange platform to facilitate the quick reporting of fraudulent payments and provide banks with the ability to halt multiple fraudulent transactions, share intelligence, and assist with loss-prevention efforts.

[11] See ACCC (2023), 'Targeting Scams: Report of the ACCC on Scams Activity 2022', April.

While these efforts are welcome, further measures by financial institutions are needed, including actions to increase the adoption and use of NPP PayIDs by business and personal customers and enhance the exchange of fraud and financial crimes information.

Graph 3.3



* Includes ReportCyber, ASIC, ACMA, ATO and banks when available. Collection of individual bank data began in 2019 and expanded in 2020 and 2021; adjusted to take account of duplicate scam reports where possible.

Sources: ACCC; AusPayNet; RBA.

Enhancing cross-border payments

Payments are increasingly crossing borders as global commerce continues to grow. The need for efficient, competitive and safe cross-border payment services has therefore grown. However, the end-user experience for cross-border payment services often falls well short of that for domestic payments.

Recognising the challenges in cross-border payments and need for global collaboration, the G20 countries (including Australia) endorsed a roadmap to make cross-border payments cheaper, faster, more transparent and more accessible. The roadmap is a multi-year program of targets, milestones and responsibilities, aimed at addressing various frictions in wholesale and retail cross-border payment arrangements. A foundational aspect of the roadmap is a set of quantitative global targets for cost, speed, transparency and access to be met by 2027. In early 2023, the FSB released a revised plan of priority actions that shift the focus of the roadmap from analysis of the problems and possible responses to the implementation of specific initiatives that are expected to have a significant impact on the problems, including by individual countries.[12]

Contribution to implementing the G20 roadmap to enhance cross-border payments

The Bank has been contributing to the international effort to enhance cross-border payments through its participation in international working groups responsible for various aspects of the roadmap. The Bank is also undertaking several key actions to encourage the adoption of new functionality and messaging capabilities for cross-border payments over the coming years, in collaboration with Australian industry participants and other regulatory agencies. These actions should, over time, improve the international interoperability of payment systems and help deliver better outcomes for Australian customers.

A priority action under the roadmap over the next few years is transitioning to richer, internationally harmonised message formats for payments, based on the ISO 20022 messaging standard, which should help to lower costs and speed up payments over time. The Bank is chairing a CPMI working group that is developing a set of harmonised ISO 20022 requirements for end-to-end use in cross-border payment transactions. These requirements will help to align the implementation and use of ISO 20022 globally to deliver its full benefits. The Bank is also participating in an industry-led project to update Australia's High Value Clearing System (HVCS) – the system used to process

[12] Financial Stability Board (2023), 'G20 Roadmap for Enhancing Cross-border Payments: Priority Actions for Achieving the G20 Targets', February.

correspondent banking flows and the Australian dollar leg of foreign exchange transactions – to the ISO 20022 standard. The HVCS successfully adopted the ISO 20022 format in March 2023, with full migration expected by November 2024.

Another important initiative that will help Australia make progress in meeting its G20 commitments is the industry's adoption of fast payment capabilities for cross-border payments. The NPP's new international payments business service will allow the final Australian dollar leg of inbound cross-border payments to be processed through the NPP. This should significantly speed up processing times for payments coming into Australia – according to data from SWIFT, more than 80 per cent of the time taken for a cross-border payment to reach an Australian recipient is due to the final Australian dollar leg.[13] In addition to speeding up incoming transactions, extra data about the sender will be carried with these payments, making it easier for providers to meet their financial crime compliance obligations. The Board and the government have communicated their expectations that NPP participants meet their commitment to accept incoming payments under this service by December 2023.

Explore interlinking the NPP to fast payment systems in other jurisdictions

Fostering the interlinking of fast payment systems has been identified as another priority for the next phase of work under the G20 roadmap. Singapore and Thailand became the first countries to link up their fast payment systems in 2021, followed by Singapore and India earlier this year. Similar bilateral projects are being explored in other jurisdictions. At the same time, the BIS Innovation Hub and partner organisations are continuing to develop 'Nexus', a bridging platform that is designed to standardise the way that domestic fast payment systems can connect to each other on a multilateral basis.

Linking up national fast payment systems across borders has the potential to generate significant efficiency benefits and reduce the need for PSPs to maintain intermediary relationships or participate in multiple payment systems. Establishing a well-designed interlinking arrangement across multiple fast payment systems would be a major undertaking for industry and national authorities.

It is important that Australia keeps up to date with these developments in the global cross-border payments market and supports the international work to explore the interlinking of fast payment systems. Accordingly, the Bank has established with Australian industry participants a group to study the issues involved with potentially linking up the NPP with fast payment systems elsewhere in the world. The group's analysis will identify and consider the benefits and challenges associated with interlinking, as well as the arrangements required to achieve interoperability and help manage risk. This study is expected to be completed by around the end of this year.

Researching central bank digital currencies and other innovations in digital money

There is significant innovation occurring in the payments system related to the emergence of new technologies and the broader digitalisation of the economy. The Bank has been seeking to understand these new technologies and innovations and any implications for the competition, efficiency and safety of the payments system. As the Bank considers how the payment system could evolve in the future, a particular area of focus has been on researching CBDCs and other innovations in digital money.

[13] Nilsson T, R Bouther, M Van Acoleyen and L Cohen (2022), 'SWIFT GPI Data Indicate Drivers of Fast Cross-border Transfers', BIS CPMI Paper, February.

Central bank digital currencies

Most central banks, including the Reserve Bank, are investigating the potential implications of issuing CBDC. A CBDC refers to a digital form of money that would be issued by a central bank and could be used by households and/or businesses as a medium of exchange. It would function as a complement to existing forms of money (such as deposits in commercial bank accounts). Consideration of CBDC has generally distinguished between two broad use cases: a CBDC for retail (or general purpose) use, which would be like a digital version of cash that is essentially universally accessible; or a CBDC for wholesale use, which would be accessible only to certain wholesale market participants (such as banks, institutional investors and large corporates) for use in wholesale payment and settlement systems.

Over the past year, the Bank collaborated with the Digital Finance Cooperative Research Centre on a research project that focused on exploring potential applications of a retail or wholesale CBDC. The project involved the development and issuance of a limited-scale pilot CBDC that selected industry participants could use to demonstrate how a CBDC could support innovative and value-adding payment and settlement services to households and businesses. The project also explored some of the legal, regulatory, operational and technical considerations associated with a CBDC.

The project generated a significant amount of interest and engagement from industry participants. A large number of use case proposals were submitted and 15 were selected for participation in the live pilot, which took place between March and July. The submissions covered a wide range of use cases that issuance of a CBDC could support, with three key themes emerging:

1. There was strong interest in the potential for a CBDC to be used as a low-risk settlement asset to support the development of various kinds of tokenised asset markets.
2. Another focus was on leveraging the potential programmability features of a CBDC to automate and speed up various kinds of complex payment processes.
3. A number of use cases highlighted the potential for a CBDC to increase the resilience of the payments system and support digital economy inclusion, including by being able to be used in an offline environment for 'cash-like' peer-to-peer payments.

In addition to the findings related to use cases, the project also highlighted a number of areas where further work on the legal and regulatory underpinnings for a CBDC would be required, including the legal framework under which a CBDC could be issued and the regulatory treatment of business models that use CBDC. A report on the findings of the project was published in August 2023.

The results of the pilot CBDC project will feed into further work the Bank is undertaking with the Treasury to explore the policy case for a CBDC. As noted in the government's Strategic Plan for the Payments System, the Bank and the Treasury are intending to publish a paper in mid-2024 that will take stock of the research work to date and outline a forward workplan on CBDC, including plans for further stakeholder engagement.

Other innovations in digital money

The Bank has been exploring CBDC within the broader context of research into the future of digital money in Australia. This has included exploring the potential for new forms of private digital money to emerge and the associated benefits, risks and other implications.

One area of focus has been on stablecoins, which are a type of crypto-asset that is designed to maintain a stable value relative to a specified unit of account or store of value, such as a national currency or commodity.[14] Stablecoins aim to overcome some of the shortcomings of unbacked crypto-assets (e.g. Bitcoin), particularly price volatility, potentially making them more attractive to be used as a means of payment or store of value. To date, most activity globally has been concentrated in a small number of US-dollar-denominated stablecoins, which are mostly being used as a 'bridge' to facilitate trading between national currencies and other crypto-assets. However, there has been growing interest in the potential for stablecoins to be used in a broader range of payments and financial services. In Australia, issuance of stablecoins has been relatively limited to date, though some financial institutions have been piloting Australian-dollar stablecoins and exploring their use in cross-border payments and the settlement of tokenised asset transactions.

Regulators and international bodies have been undertaking significant work in recent years to understand and address risks arising from stablecoin activity. A common theme across jurisdictions has been to focus regulatory attention on stablecoins that could become widely used for payments. In Australia, the Bank has been involved in work with the other CFR agencies to develop a regulatory framework for payment stablecoins. The Treasury's recent consultation on modernising the payments licensing framework proposed that issuers of payment stablecoins be regulated in a similar way to stored-value facilities, including that major issuers be supervised by APRA. The Board supports the development of a modern, risk-based regulatory framework for payment stablecoins. The Bank will continue to explore how appropriately regulated stablecoins could play a role in supporting innovation in the payments system.

Consistent with the G20 cross-border payments roadmap, another area of research focus for the Bank has been to explore the potential for innovations in digital money, such as CBDCs or stablecoins, to enhance cross-border payments. The BIS Innovation Hub has been facilitating research projects among central banks that have been exploring the use of CBDCs for cross-border payments. The Bank recently joined as a member observer of Project mBridge, a project facilitated by the BIS Innovation Hub in Hong Kong and involving a number of other central banks that is exploring how CBDCs could be used for cross-border payments using a common multi-CBDC platform. Bank staff were also involved in a project facilitated by SWIFT in early 2023 that demonstrated an interlinking solution capable of connecting CBDC networks and existing payment systems for cross-border transactions.[15]

[14] Dark C, E Rogerson, N Rowbotham and P Wallis (2022), 'Stablecoins: Market Developments, Risks and Regulation', RBA *Bulletin*, December.

[15] Swift (2023), 'Connecting Digital Islands – Swift CBDC Sandbox Project', Results Report, March.

4. Developments in the Clearing and Settlement Industry

CS facilities play a critical role in making financial transactions more efficient and in managing risk within the financial system. The Board has a role in overseeing and supervising CS facilities to promote financial stability. The Bank continuously monitors financial and economic developments and their implications for the evolving risk environment in which Australian and overseas CS facilities operate. Over the past year, volatility in markets has remained elevated, responding to developments affecting the inflation outlook, international bank failures and economic uncertainty. In Australia and overseas, regulators are placing a greater focus on CS facilities' operational resilience and their oversight of critical third-party providers, particularly with many CS facilities looking to transition core functions to the cloud. These developments highlight the importance of the Bank's monitoring of the financial and operational risk management practices of CS facilities for the smooth functioning of the financial system.

The role of CS facilities in financial markets

CS facilities support the processing of many transactions in financial markets. There are two types of CS facility – CCPs and SSFs.

CCPs provide clearing services and play a major role in managing the risks associated with trading in many types of financial instruments. They stand between the counterparties to a financial trade, acting as the buyer to every seller and the seller to every buyer; this activity is known as 'central clearing'. Participants in centrally cleared markets have credit and liquidity exposures only to the CCP, rather than other participants in the market. If a participant defaults, the CCP takes over its portfolio. The CCP faces potential losses from changes in the value of a defaulting participant's portfolio until it closes out the positions in that portfolio. CCPs hold financial resources to meet these potential losses.

SSFs offer settlement services, which involves the delivery of a financial security typically in exchange for payment. An SSF's main responsibility is to mitigate principal risk by making the final settlement of one obligation (e.g. the securities) conditional upon the final settlement of the other (e.g. the cash payment) via a delivery-versus-payment mechanism.

The Bank's regulatory framework

The Board has determined policies for the supervision and oversight of CS facilities in accordance with its powers under the *Reserve Bank Act 1959*.[1] Day-to-day oversight and supervision is undertaken by the Bank's Payments Policy Department. In carrying out these activities, the Bank works closely with ASIC. The two agencies have complementary oversight powers over CS facilities and share the responsibility for ongoing supervision and assessment under the *Corporations Act 2001*. Where a CS facility is based overseas, the Bank seeks to rely on supervision and assessments undertaken by the home regulator, where appropriate.

[1] RBA (2021), 'The Reserve Bank's Approach to Supervising and Assessing Clearing and Settlement Facility Licensees', 25 February.

The Bank, in cooperation with ASIC and the other CFR agencies, continues to work towards the implementation of a package of reforms to support the effective regulation of FMIs in Australia, including CS facilities. These reforms will provide greater clarity on when offshore FMIs need to be licenced in Australia, strengthen the supervisory and enforcement powers of the regulators and provide new powers for crisis management. The Bank is engaging with the Australian Government on the prospective timeline for legislating the reforms.

The Bank's Financial Stability Standards for CS facilities

Under the Corporations Act, the Bank may determine financial stability standards for CS facility licensees. The Bank is responsible for assessing how well licensees have complied with the standards and their obligation to do all other things necessary to reduce systemic risk.

The Bank has determined two sets of Financial Stability Standards (Standards) – one for CCPs and one for SSFs.[2] Each licensed CS facility is required to meet the relevant set of Standards. The objectives of the Standards are to ensure that CS facility licensees identify and properly control risks associated with operating their facility, and conduct their affairs in a way that is consistent with the overall stability of the Australian financial system. The Standards set principles-based requirements and regulatory expectations, rather than prescribing detailed rules and obligations.

Table 4.1 presents an overview of the CS facilities most relevant to the Australian market, the products they clear or settle, and their home regulator.

[2] RBA, 'Clearing and Settlement Facilities – Financial Stability Standards'.

Financial market developments affecting CS facilities

Market volatility has led to an increase in margin calls

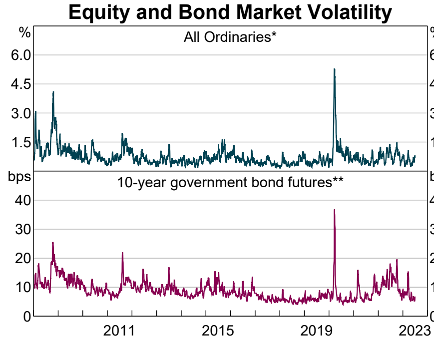
Volatility in interest rate markets remained elevated for much of the past year, and CCPs and their participants have generally dealt well with the associated challenges (Graph 4.1). Other markets, such as the electricity derivatives market, also experienced substantial volatility at times over the past year.

The periods of higher market volatility resulted in an increase in margin calls. Margin requirements are designed to respond to changes in the level of risk, a consequence being that when risks rise, participants must be prepared to meet higher liquidity demands. The large margin calls which arose from volatility in domestic electricity future prices in mid-2022 resulted in liquidity stresses for some market participants (Graph 4.2). Heightened volatility increased the costs of using centrally cleared derivatives and led to a decrease in their use, for instance, through participants withdrawing from the market or activity shifting to non-centrally cleared markets.

Most of the increase in total margin requirements during times of heightened volatility arises from changes in the market value

Graph 4.1

Equity and Bond Market Volatility



* 10-day moving average of absolute per cent change.
** 10-day moving average of intraday range.
Source: Bloomberg.

Table 4.1: Clearing and Settlement Facilities Most Relevant to the Australian Market

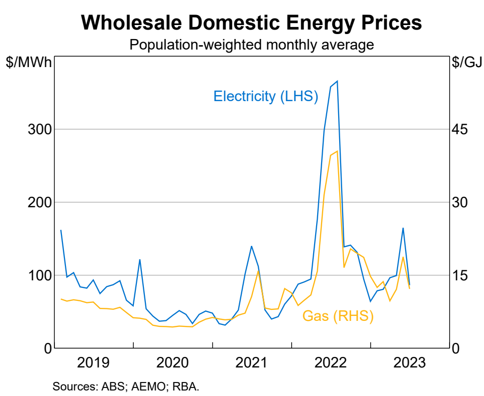
Name	Products relevant to the Australian market[a]	Home jurisdiction (regulator)
Central counterparties		
ASX Clear[b]	Cash equities, debt products, warrants and equity-related derivatives traded on Australian exchanges or over-the-counter (OTC).	Australia (RBA/ASIC)
ASX Clear (Futures)[b]	Futures and options on interest rate, equity, energy and commodity products traded on the ASX 24 market, as well as AUD and New Zealand dollar-denominated OTC interest rate derivatives (IRD).	Australia (RBA/ASIC)
LCH Ltd	Swapclear service: OTC IRDs and inflation rate derivatives.	United Kingdom (Bank of England)
Chicago Mercantile Exchange Inc. (CME)	IRS service: OTC IRD, and non-AUD IRD traded on the CME market or the Chicago Board of Trade. FEX service: Commodity, energy and environmental derivatives traded on the financial market operated by FEX Global Pty Ltd (FEX).	United States (Commodity Futures Trading Commission)
Securities settlement facilities		
Austraclear[b]	Debt securities, including government bonds, and repurchase agreements.	Australia (RBA/ASIC)
ASX Settlement[b]	Cash equities, debt products and warrants traded on Australian exchanges.	Australia (RBA/ASIC)
Euroclear Bank[c]	Debt and equity securities, including government bonds, and repurchase agreements.	Belgium (National Bank of Belgium)
Clearstream Banking S.A.[c]	Debt and equity securities, including government bonds, and repurchase agreements.	Luxembourg (Banque Centrale du Luxembourg and Commission de Surveillance du Secteur Financier)

(a) Including service name if applicable (e.g. for overseas facilities that only provide some services relevant to the Australian market).

(b) ASX Group entities.

(c) Not licensed nor exempted in Australia as at 30 June.

Graph 4.2



of positions leading to larger variation margin calls (Graph 4.3). For example, in late September 2022 UK yields increased sharply following the UK Government's 'mini-budget', with the 10-year UK swap rate increasing by more than 100 basis points over a five-day period. This large price change led to variation margin requirements on these products exceeding recent peaks associated with the onset of the COVID-19 pandemic in March 2020 and other volatility events such as the Russia–Ukraine war and evolving inflation outlook.

Initial margin requirements at most CCPs also increased in response to these events (Graph 4.4). Initial margin is an important aspect of financial risk management as it is designed to cover most, but not all, losses arising from a participant default. Reflecting this, initial margin requirements rise as the risk exposure of participant positions increase and in periods of market volatility.

There were no instances of missed margin calls at CCPs operating in Australia despite the elevated liquidity demands on participants arising from higher volatility. Recent events have highlighted that some participants were better prepared than others to meet the swift increase in liquidity demands associated with the change in market conditions. Global standard-setting bodies continue to investigate the extent to which greater transparency around margin models can assist participants and clients better prepare for periods of acute liquidity demand.

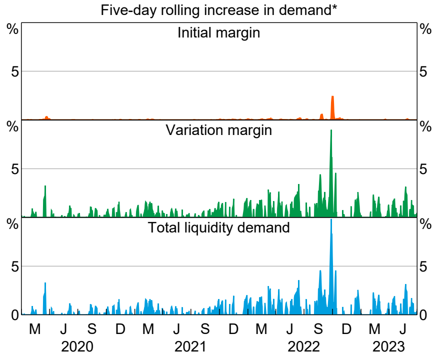
Initial margin obligations related to participants' positions must be met by posting either cash or eligible non-cash collateral. Consistent with other periods of heightened volatility, much of the increase in margin requirements during volatility events over the year was initially accommodated through greater postings of cash (Graph 4.5). Over time, participants tend to change the mix of collateral they provide in order to minimise costs.

One way CCPs assess the effectiveness of their initial margin models is by testing the protection they provide against adverse historical price movements. Episodes of market stress can lead to an increase in the number of times where initial margin would have been insufficient to cover the hypothetical default losses of a participant. This has led to a deterioration in the historical coverage outcomes seen at LCH Ltd's SwapClear service. In contrast, the ASX's OTC interest rate service has not experienced the same decline. This may reflect that some market shocks, such as interest rate movements associated with the UK mini-budget, were

Graph 4.3

Liquidity Demand – 10-year GBP Swap

Five-day rolling increase in demand*



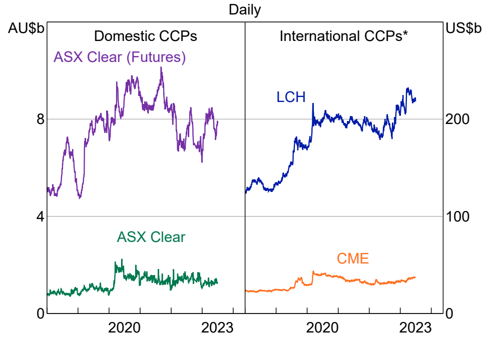
* On a receive fixed/pay float 10-year GBP swap.

Sources: Bloomberg; RBA.

Graph 4.4

Initial Margin – Australian-licensed CCPs

Daily



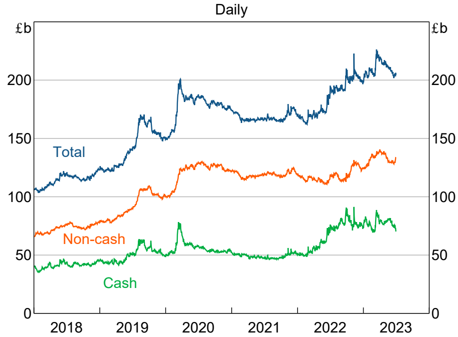
* OTC interest rate derivatives services only (covering all currencies).

Sources: ASX; CME Inc; LCH Ltd.

Graph 4.5

Total Collateral Held

Daily



Source: LCH Ltd.

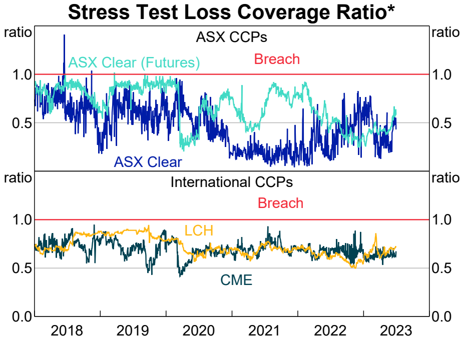
concentrated in overseas markets as well as ASX Clear (Future)'s increases to its initial margin settings in August 2022.

Margin is, however, only one part of the financial resources of CCPs. CCPs also have default funds that provide protection against the potential simultaneous default of the two participants with the largest estimated combined losses in excess of their initial margin (Graph 4.6). The default fund is a pool of financial resources funded by participants to protect against losses in a default event exceeding initial margin requirements in extreme, but plausible, market conditions. In light of the events experienced in the past year, CCPs have reviewed and, where appropriate, strengthened the range of scenarios used to size the default fund.

The Australian financial system was able to weather the stresses emerging from the global banking failures in March 2023. Ahead of its takeover by UBS, Credit Suisse was an active participant of ASX Clear for equity cash market products and had limited positions at other CCPs operating in Australia. CS facilities operating in Australia acted promptly to reduce credit exposures to Credit Suisse. By contrast, there were no direct exposures by licensed CS facilities to the three US banks which failed. Overall, licensed CCPs were well prepared as they regularly conduct tests of their capacity

Graph 4.6

Stress Test Loss Coverage Ratio*



* Ratio of Cover 2 stress test losses to default fund including additional default fund margin.

Sources: ASX; CME Inc; LCH Ltd.

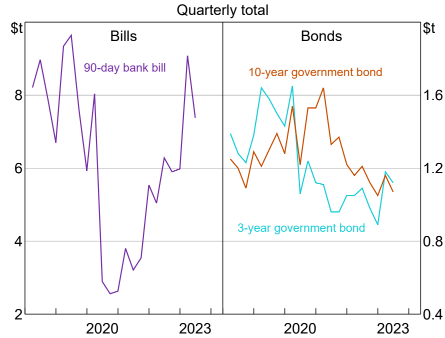
and readiness to manage the default of a large participant.

These events contributed to periods of increased activity in IRDs, particularly short-dated overnight interest rate swaps and bill futures, as participants sought to reposition their portfolios in response to the changing risk environment (Graph 4.7). Activity in debt securities markets also increased (Graph 4.8).

Graph 4.7

ASX Clear (Futures) Notional Value of Interest Rate Futures Trades Registered

Quarterly total

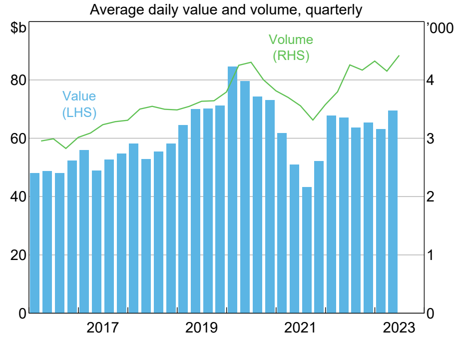


Sources: ASX; Bloomberg.

Graph 4.8

Austraclear RTGS Transactions

Average daily value and volume, quarterly



Source: RBA.

Operational incidents have been low in a challenging external environment

Operational risk arises from deficiencies in systems and processes or disruptions from external events. Operational failures can result in a deterioration in the service provided by a CS facility, damaging a CS facility's reputation, and lead to financial losses being incurred by the CS facility or its participants.

CS facilities had the operational capacity to manage the increase in trade registrations

CS facilities' trade registration and processing systems have demonstrated their capacity to deal with sustained periods of heightened activity over the past year arising from market events. All CS facilities monitor their system capacity on an ongoing basis to ensure there is sufficient headroom to accommodate trade volumes associated with stressed conditions while maintaining service level objectives.

There were no major service outages that impacted the functioning of clearing and settlement services at the CS facilities licensed in Australia during the past year, and the frequency of operational incidents at CS facilities have been maintained at low levels.

CS facilities are focused on strengthening their cyber resilience

Cyber risk is the potential for information technology systems to be disrupted or destroyed, resulting in interruptions to business and financial loss. The external cyber threat environment is constantly evolving and requires CS facilities to regularly test and strengthen their cyber controls. Despite the elevated risk environment, there have been no direct cyber-attacks reported on firms supervised by the Bank.

The cyber-attack on Ion Markets highlighted the risk faced by CS facilities and their participants in relation to third-party vendors. On 31 January, Ion experienced a ransomware attack on its futures trade matching and reconciliation services used by brokers. As a result, Ion's service was unavailable for several weeks. Even though CS facilities licensed in Australia were not directly affected, the attack disrupted critical processes at several of their participants. While licensed CS facilities have assessed their controls as adequate, the event demonstrates the importance of managing supply chain security risks, particularly when CS facilities and their participants can be harmed by a breach of a third-party system.

The transition away from LIBOR has been successfully managed by CCPs

A key strategic focus for international CCPs over recent years has been the transition from LIBOR to risk-free rates (RFRs) in many major markets. The transition to RFRs was a complex project. Ahead of US dollar LIBOR's cessation at the end of June, LCH Ltd's SwapClear service and CME's IRS service successfully converted LIBOR-based products to their RFR equivalents. Australian dollar-denominated interest rate swaps linked to Australia's bank bill swap rate (BBSW) did not require conversion as BBSW remains a robust benchmark since it is anchored by a sufficient volume of actual transactions.

CS facilities are planning to move critical services to the cloud

CS facilities are increasingly seeking to use public cloud infrastructure platforms to provide critical services to their participants. The cloud offers the potential for greater operational resilience through the use of geographically diverse locations, system availability and security. However, there are risks associated with using cloud infrastructure. These include:

- project management and migration risks
- the need to provide continuity of services that are critical to the financial system
- operational considerations such as the management of outages and cyber security
- governance risks related to oversight and contractual arrangements associated with outsourcing to a third party.

The Bank is engaging with all licensed CS facilities on their cloud transition plans and will maintain close supervision on the migration of any critical services to the cloud by domestic CS facilities.

The Bank's supervision and oversight of financial market infrastructures

The Bank undertakes assessments of licensed CS facilities that are proportionate to their degree of systemic importance in the Australian financial system.[3] The four CS facilities in the ASX Group are systemically important domestic CS facilities, and LCH Ltd's SwapClear service is a systemically important overseas CS facility. CME's CCP services have not been classified as systemically important and are therefore subject to less-intensive supervision.

Summary of assessment for the ASX CS facilities

The Bank's assessment of the ASX CS facilities as at 30 June 2023 concluded that ASX should place high priority on addressing recommendations related to three Financial Stability Standards: the Framework for the Comprehensive Management of Risks; Governance; and Operational Risk.[4] Given the pausing of the CHESS Replacement Program in November 2022, it has become even more critical for ASX to ensure the current CHESS continues to reliably service the market until after its replacement goes live.

Assessment of LCH Ltd's SwapClear Service

LCH Ltd's SwapClear service clears around 90 per cent of the cleared Australian dollar OTC IRDs market (Graph 4.9). SwapClear is used by banks and corporations to manage interest rate risk and take speculative positions. It has six Australian direct participants, including the four major banks.

[3] See ACCC (2023), 'Targeting Scams: Report of the ACCC on Scams Activity 2022', April.

[4] RBA (2023), 'Assessment of ASX Clearing and Settlement Facilities', October.

The Bank has assessed LCH Ltd's SwapClear service as being conducted in a way that promotes overall stability in the Australian financial system as at 30 June 2023. This assessment is based on the Bank's bilateral engagement with LCH Ltd, information from the Bank of England (LCH Ltd's home regulator), and LCH Ltd's progress towards meeting the Bank's regulatory priorities. The Bank of England takes a risk-based approach to oversight, prioritising its supervisory efforts in areas where it considers risks to financial stability are greatest. A summary of the Bank's regulatory priorities and areas of supervisory focus can be found in Table 4.2, with further detail provided below.

Extension of operating hours

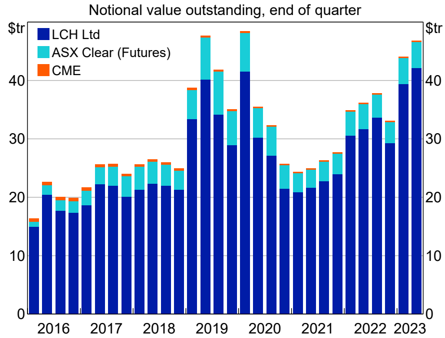
LCH Ltd fully extended SwapClear's operating hours to cover the Australian business day in late August 2023. The Bank has been a proponent of this work since SwapClear was licensed in 2014, and this change sees the service accept trades 24 hours per day, five days per week (24x5) from its opening at 9 am Sydney time on Monday mornings. The Bank will review the status of the associated regulatory priority once the change is demonstrated to be effectively operating in a business-as-usual manner for a sustained period.

This is a good outcome for participants based in Australia and the Asia-Pacific as trades can now

Graph 4.9

Cleared AUD OTC Interest Rate Derivatives

Notional value outstanding, end of quarter



Sources: ASX; CME Inc.; LCH Ltd.

Table 4.2: Regulatory Priorities and Areas of Supervisory Focus for LCH Ltd's SwapClear Service

Name	Description	Status	Relevant Financial Stability Standard(s)
Regulatory priorities			
Extension of operating hours	LCH Ltd should complete its work to extend the operating hours of the SwapClear service within the next year, while maintaining the resilience of its operations; it should keep the Bank informed of its progress. LCH Ltd's business developments should not negatively affect its work on operating hours.	Ongoing	Margin (CCP Standard 6) Operational Risk (CCP Standard 16)
Area of supervisory focus			
Cyber risk management	The Bank will continue to monitor LCH Ltd's ongoing work to enhance its cyber risk management.	Ongoing	Operational Risk (CCP Standard 16)
Australian legal opinion	LCH Ltd should seek a new legal opinion from external advisers to address Australian law issues arising through its operations in Australia, including the extent to which LCH Ltd's rules and related contracts are enforceable under Australian law.	Closed	Legal basis (CCP Standard 1)

be cleared immediately upon submission to the SwapClear service. When the SwapClear service was closed, participants were required to manage bilateral credit risk exposures until the service reopened. Prior to the extension, this affected around 20 per cent of Australian participants' trades.

Other material developments

Other key developments and areas of supervisory focus the Bank took into consideration included:

- *Cyber risk management:* LCH Ltd continues to enhance its control frameworks and capabilities for managing cyber risk. LCH Ltd remains vigilant to changes in the cyber threat landscape, but has not experienced any material incidents. LCH Ltd regularly assesses the effectiveness of its cyber controls through independent reviews, and the Bank of England maintains a holistic focus on cyber resilience.
- *Review of Australian legal risk:* In 2022/23, LCH Ltd and the Bank completed a targeted review into certain aspects of SwapClear's legal basis related to Australian law, including the extent to which LCH Ltd's rules and related contracts are enforceable under Australian law. The review did not identify any substantive issues of concern and this area of supervisory focus has been closed.

Oversight of Chicago Mercantile Exchange Inc.

CME does not currently have any direct Australian-based participants, and the scope and nature of its Australian activities is limited. Reflecting these factors, the Bank takes a proportionate approach to its supervision of CME, seeking to rely on reports, information and engagement with CME's home regulator to the extent possible.

The Bank also monitors CME's progress in addressing regulatory priorities set by the Bank and other material developments on an ongoing basis. A summary of regulatory priorities can be found in Table 4.3. These regulatory priorities are contingent on either the FEX service growing or developments within CME's business triggering the associated

Table 4.3: Regulatory Priorities for CME

Name	Description	Status	Relevant Financial Stability Standard(s)
Australian dollar liquidity arrangements	CME must establish adequate liquidity arrangements for Australian dollar collateral during Australian hours before introducing any type of eligible collateral for Australian dollar-settled FEX products other than Australian dollar cash.	Ongoing	Collateral (CCP Standard 5) Liquidity (CCP Standard 7)
Australian dollar settlement bank arrangements	Should the FEX service grow, CME must ensure the settlement arrangements in place to support money settlements for the FEX clearing service remain appropriate, including adequate back-up arrangements. CME must share its assessments of these arrangements with the Bank for review.	Ongoing	Settlement finality (CCP Standard 8) Money settlements (CCP Standard 9)

requirements. These priorities are designed to provide clarity on the regulatory expectations.

Engagement with Clearstream Banking

Clearstream Banking S.A. (CBL) is an internationally focused SSF with a 5–10 per cent market share in the custody and settlement of Australian dollar-denominated securities. A disruption in the operation of CBL could have implications for the functioning of the Australian bond market.

CBL is in the process of applying for a licence to operate a SSF in Australia. The Bank has undertaken an initial assessment of how CBL's settlement facility meets the FSS. The Bank will jointly make a determination with ASIC of whether CBL's home regulatory regime is equivalent to that in Australia. This assessment will be published in due course.

Engagement with Euroclear Bank

Euroclear Bank is an internationally focused SSF that provides settlement and custodial services for securities, including Australian dollar-denominated securities. Euroclear Bank has a material share of Australian dollar-denominated securities settlement activity, but to date has not applied for a licence to operate in Australia.

The Bank is a member of the Euroclear Bank Multilateral Oversight Group, which is chaired by the National Bank of Belgium (Euroclear Bank's home supervisor). It serves as a cooperative oversight forum between the central banks of the major currencies settled in Euroclear Bank.

Abbreviations

ACCC	Australian Competition and Consumer Commission
AP+	Australian Payments Plus
APRA	Australian Prudential Regulation Authority
ASIC	Australian Securities and Investments Commission
ASX Clear	ASX Clear Pty Limited
ASX Clear (Futures)	ASX Clear (Futures) Pty Limited
ATM	Automated teller machine
AUD	Australian Dollar
AusPayNet	Australian Payments Network
AUSTRAC	Australian Transaction Reports and Analysis Centre
Austraclear	Austraclear Limited
BBSW	Bank bill swap rate
BECS	Bulk Electronic Clearing System
BIS	Bank for International Settlements
BNPL	Buy now, pay later
CBDC	Central bank digital currency
CBL	Clearstream Banking S.A.
CCP	Central counterparties
CFR	Council of Financial Regulators
CIT	Cash-in-transit
CLS	CLS Bank International
CME	Chicago Mercantile Exchange Inc.
CPMI	Committee on Payments and Market Infrastructures
CPS	Consumer Payments Survey
CS facility	Clearing and settlement facility
DNDC	Dual-network debit card
eftpos	Electronic funds transfer at point of sale
EMEAP	Executives' Meeting of East Asia-Pacific Central Banks
FEX	FEX Global Pty Ltd
FSB	Financial Stability Board

FSS	Fast Settlement Service
HVCS	High Value Clearing System
IOSCO	International Organization of Securities Commissions
IRD	Interest rate derivative
LCR	Least-cost routing
LVCS	Low Value Clearing Service
LVSS	Low Value Settlement Service
MOU	Memorandum of Understanding
NPP	New Payments Platform
OG	Oversight Group
PFMI	Principles for Financial Market Infrastructures
PPS	Prominent payment systems
PSP	Payment service provider
PSRA	*Payment Systems (Regulation) Act 1998*
RFR	Risk-free rate
RITS	Reserve Bank Information and Transfer System
RTGS	Real-time gross settlement
SSF	Securities settlement facility