

# Payments System Board Annual Report

2020



RESERVE BANK OF AUSTRALIA



RESERVE BANK OF AUSTRALIA

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15 September 2020

The Hon Josh Frydenberg MP  
Treasurer  
Parliament House  
CANBERRA ACT 2600

Dear Treasurer

**RESERVE BANK OF AUSTRALIA PAYMENTS SYSTEM BOARD ANNUAL REPORT 2020**

Under the *Reserve Bank Act 1959*, the Payments System Board is required to:

- inform the Government, from time to time, of the Reserve Bank's payments system policy (section 11(1)(b)); and
- prepare and give to you a report that covers certain matters relating to the standards that the Reserve 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)).

I am pleased to submit the Payments System Board's Annual Report for 2020, which addresses these requirements.

There is no statutory requirement to present the annual report to the Parliament. However, you may consider it appropriate to present the annual report on the basis that this has proven a useful way of drawing attention to the work of the Payments System Board.

Yours sincerely

A handwritten signature in blue ink that reads "Philip Lowe".



# Payments System Board

## Annual Report 2020

### Contents

Governor's Foreword	1
Functions and Objectives of the Payments System Board	3
Governance	5
Payments System Board	9
Accountability and Communication	15
Trends in Payments, Clearing and Settlement Systems	21
Retail Payments Regulation and Policy Issues	47
Oversight, Supervision and Regulation of Financial Market Infrastructures	65
The Payments System Board's Announcements and Reserve Bank Reports	77
Abbreviations	79

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# Governor's Foreword

The past year has been a very eventful one for the payments industry as it dealt with the challenges of the COVID-19 pandemic and significant ongoing changes in technology.

The Payments System Board has been closely monitoring the effects of the pandemic. Financial market infrastructures (FMIs) operating in Australia have generally dealt well with the resulting operational and financial risk management challenges, including those presented by the sharp increases in volatility and turnover in the early stages of the pandemic. The Bank is following up on some issues, but this episode has shown the benefits of recent reforms to strengthen the resilience of the system. Similarly, providers in the retail payments system have coped well with their changed operational arrangements and other changes induced by the pandemic.

The Bank's most recent Consumer Payments Survey (CPS) was carried out in late 2019, providing further evidence of the decline in the use of cash for consumer payments, with households increasingly choosing to use electronic payment methods. The pandemic has accelerated this shift, with increased use of contactless card payments and online payments. At the same time, some people continue to use cash heavily and it is important that the payments industry continues to support access to cash, including to withdrawal and deposit services.

Given its remit to promote a safe, competitive and efficient payments system, the Board is

paying close attention to this shift towards electronic payments, especially as it relates to the cost and reliability of electronic payments. It has actively encouraged acquirers to provide merchants with functionality for least-cost routing (LCR) of contactless debit card transactions as a way to increase competition and hold down payment costs. It has also stressed the importance of banks ensuring that LCR is made available to a wide range of merchant customers and that merchants are provided with information about the full range of payment options. The Board has also focused on operational outages in retail payments occurring over recent years, which can cause significant inconvenience for households and businesses – even more so as people use and carry cash less. It has endorsed the staff working with financial institutions to improve the reporting and disclosure of data on the reliability of retail payment services as a way of increasing transparency.

The Board is considering a wide range of policy issues in the context of its Review of Retail Payments Regulation. The Review was formally put on hold in March due to the pandemic. Prior to that, over 50 written submissions were received in response to an Issues Paper. Industry consultation is likely to recommence later this year and the Board expects to complete the Review next year.

Transactions through the New Payments Platform (NPP) continue to grow strongly. The Board expects NPP Australia to make further

progress towards the delivery of its capability development roadmap. Doing so will support further innovation in the payments system and the provision of better payment services to households and businesses. The Board is taking a keen interest in exploratory work on wholesale central bank digital currency that Bank staff are conducting in the Bank's Innovation Lab. The Bank is also working closely with domestic and overseas regulators to ensure that all regulatory issues associated with private sector 'stablecoins' are addressed prior to any launch.

Another significant focus of the Board's work has been the resilience of Australia's FMIs, including central counterparties. Over the past year, the Council of Financial Regulators completed a public consultation on a package of reforms to the regulatory framework for FMIs, with advice being provided to the Government. The package includes a formal framework for the resolution of a failing entity if that became necessary in a crisis situation, as well as changes to modernise the regulatory framework for domestic clearing and settlement facilities, including enhanced supervisory powers.

Over the past year, the Bank has also undertaken a thorough assessment against international standards of the systemically important FMIs and payment systems in Australia – most notably the clearing and settlement facilities operated by the ASX and the Reserve Bank's real-time gross settlement system. The Bank published these assessments on its website. The Board is closely reviewing ASX's progress towards the completion of the replacement for its CHES clearing and settlement system for cash equities. It has also endorsed the adoption of the new ISO 20022 messaging standards in some parts of the Australian payments system as a strategically important project for the payments industry.

The Bank's policy staff support the Board with a high degree of professionalism and carry out their work to a very high standard. The Payments System Board joins me in thanking them for their contribution to the efficiency and stability of Australia's payments system, as well as all the staff in the Bank's operational areas who have ensured the ongoing operation of the Bank's important payment infrastructures and services in very challenging circumstances.



Philip Lowe  
Governor and Chair,  
Payments System Board  
27 September 2020

# Functions and Objectives of the Payments System Board

The Payments System Board has a mandate to contribute to promoting efficiency and competition in the payments system and the overall stability of the financial system. The Reserve Bank oversees the payments system as a whole and has the power to designate payment systems and set standards and access regimes for designated systems. It also sets financial stability standards for licensed clearing and settlement facilities.

The responsibilities of the Payments System Board are set out in the *Reserve Bank Act 1959*, under which it is the duty of the Payments System Board to ensure, within the limits of its powers, that:

- the Reserve Bank's payments system policy is directed to the greatest advantage of the people of Australia
- the powers of the Reserve Bank set out in 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 and promoting competition in the market for payment services, consistent with the overall stability of the financial system
- the powers of the Reserve Bank that deal with clearing and settlement facilities set out in 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.

Under the Payment Systems (Regulation) Act, the Reserve Bank has the power to designate payment systems and 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.

Under Part 7.3 of the Corporations Act, the Reserve Bank has a formal regulatory role with the objective of ensuring that the infrastructure supporting the clearing and settlement of transactions in financial markets is operated in a way that promotes financial stability. The Bank's powers include the power to determine financial stability standards for licensed clearing and settlement facilities.

This report discusses the activities of the Board during 2019/20.





# Governance

The Payments System Board is responsible for the Reserve Bank's payments system policy. Members of the Board comprise representatives from the central bank, the prudential regulator and five other non-executive members.

## Payments System Board

The Payments System Board has responsibility for the Bank's payments system policy. The Board comprises the Governor, who is the Chair; one representative of the Bank appointed by the Governor, who is the Deputy Chair; one representative of the Australian Prudential Regulation Authority (APRA) appointed by APRA; and up to five other members appointed by the Treasurer for terms of up to five years. Members of the Board during 2019/20 are shown below and details of the qualifications and experience of members are provided on pages 9 to 13.

## Meetings of the Payments System Board

The *Reserve Bank Act 1959* does not stipulate the frequency of Board meetings. Since its inception, the Board's practice has been to meet at least four times a year, with the option of meeting more often if needed. Four meetings were held in 2019/20, three at the Bank's Head Office in Sydney and one a videoconference owing to the COVID-19 pandemic. Five members form a quorum at a meeting of the Board or are required to pass a written resolution.

**Table 1: Board Meetings in 2019/20**  
Number of meetings

	Attended	Eligible
Philip Lowe (Governor)	4	4
Michele Bullock (RBA)	4	4
Wayne Byres (APRA)	4	4
Gina Cass-Gottlieb	4	4
Deborah Ralston	4	4
Greg Storey	4	4
Catherine Walter	4	4
Brian Wilson	4	4

## Conduct of Payments System Board Members

On appointment to the Payments System Board, each member is required under the Reserve Bank Act to sign a declaration to maintain confidentiality in relation to the affairs of the Board and the Bank.

Members of the Board must comply with their statutory obligations in that capacity. The main sources of those obligations are the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) and the Reserve Bank Act. Members' obligations under the PGPA Act include obligations to exercise their powers and discharge their duties with care and diligence, honestly, in good faith and for a proper purpose. Members must not use their position, or any

information obtained by virtue of their position, to benefit themselves or any other person, or to cause detriment to the Bank or any other person. Members must declare to the other members of the Board any material personal interest they have in a matter relating to the affairs of the Board. Members may give standing notice to other members outlining the nature and extent of a material personal interest.

Over and above these statutory requirements, members recognise their responsibility for maintaining a reputation for integrity and propriety on the part of the Board and the Bank in all respects. Members have therefore adopted a Code of Conduct that provides a number of general principles as a guide for their conduct in fulfilling their duties and responsibilities as members of the Board. A copy of the Code of Conduct is on the Bank's website.

## Remuneration and Allowances

Remuneration and travel allowances for the non-executive members of the Payments System Board are set by the Remuneration Tribunal.

## Induction of Board Members

An induction program assists newly appointed Board members in understanding their role and responsibilities, and provides them with an overview of the Bank's role in the payments system and details of relevant developments in preceding years. Separate briefing sessions are tailored to meet particular needs or interests.

## Policy Risk Management Framework and Board Review

Towards the end of 2019, the Board conducted its annual review of the key risks inherent in the consideration of payments policy and the payments policy risk register and control framework. Some minor changes were made

to the risk register, relating to the management of potential conflicts of interest associated with the Bank's interactions with NPP Australia Limited. The control framework was assessed to be operating effectively and managing risks adequately.

Around the same time, the Board conducted its annual review of its own operation and processes. It concluded that Board processes were functioning effectively. Members agreed on the importance of ensuring that the Board's meeting agendas are focused on issues where the Board's contribution is highest.

## Indemnities

Members of the Payments System Board are indemnified to the extent permitted by law against liabilities incurred by reason of their appointment to the Board or by virtue of holding and discharging such office. Indemnities given prior to 1 July 2014 were in accordance with section 27M of the *Commonwealth Authorities and Companies Act 1997* (CAC Act), which specified when indemnity for liability and legal costs was not allowed. Indemnities given after 1 July 2014, when the CAC Act was repealed, have contained contractual restrictions reflecting the substance of the previous CAC Act restrictions. A new section 22B in the *Public Governance, Performance and Accountability Rule 2014* (PGPA Rule) imposes limits on the granting of indemnities by corporate Commonwealth entities in relation to liabilities incurred from 28 February 2020. The Bank has not issued any new indemnities to members of the Payments System Board since 28 February 2020.

As the Bank does not take out directors' and officers' insurance in relation to its Board members or other officers, no premiums were paid for any such insurance in 2019/20.

## Conflict of Interest Audit

The Bank has several distinct areas of responsibility in the Australian payments system: it owns, operates and participates in Australia's real-time gross settlement (RTGS) system, the Reserve Bank Information and Transfer System (RITS); it is a provider of transactional banking services to the Australian Government and its agencies; and it is the principal regulator of the payments system through the Board. This combination of functions is conventional internationally. The operation of the high-value payment system is a core central banking function in most major economies. In addition, central banks in the advanced economies typically have regulatory responsibilities for the payments system (though the breadth of mandates varies) and most also provide banking services to the government.

While the various functions are conceptually distinct, their existence in the one institution may give rise to concerns about actual or perceived conflicts of interest. The Board and the senior management of the Bank take very seriously the possibility of any perception that the Bank's policy and operational roles may be conflicted, especially since this could undermine public confidence in the regulatory and policy process.

Accordingly, the Bank has policies in place for avoiding conflicts and dealing with them when they do occur. The Board has formally adopted a policy on the management of conflicts of interests, which is published on the Bank's website.<sup>1</sup> The policy focuses on interactions between the Bank's Payments Policy Department and Banking Department. It also includes governance arrangements relating to the Bank's ongoing engagement with NPP Australia Ltd (NPPA) – the Bank is one of the

13 shareholders of NPPA and (in its capacity as provider of the Fast Settlement Service (FSS)) appoints one of its directors. Consistent with the policy, the Bank and NPPA have in place a formal Memorandum of Understanding (MOU) that sets out a framework for engagement and information sharing.

Details of the steps taken to achieve compliance with the conflicts policy, including the minutes of informal meetings between departments, are audited regularly, with the results presented to the Board. In May 2019, the Board approved a change from annual to biennial audits. The most recent audit was conducted in March 2020 and reviewed by the Board in May 2020.

In the case of the Bank's oversight of RITS, the Board plays a governance role in managing conflicts of interest. In particular, while an internal financial market infrastructure (FMI) review committee has the formal responsibility to review and approve assessments of other FMIs, the Board retains primary responsibility for approving the staff's periodic assessments of RITS.

<sup>1</sup> Available at <<https://www.rba.gov.au/payments-and-infrastructure/payments-system-regulation/conflict-of-interest.html>>.



# Payments System Board

The Board comprises up to eight members: the Governor (Chair), Assistant Governor, Financial System (Deputy Chair), Chair of the Australian Prudential Regulation Authority (APRA) and up to five other non-executive members appointed by the Treasurer.

## August 2020



### Philip Lowe

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

#### Governor and Chair

Governor since 18 September 2016

Present term ends 17 September 2023

Philip Lowe was Deputy Governor from February 2012 until his appointment as Governor took effect in September 2016. Prior to that, he held various senior positions at the Reserve Bank, including Assistant Governor (Economic) and Assistant Governor (Financial System), where he was responsible for overseeing economic and policy advice to the Governor and Reserve Bank Board. He spent two years with 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 – Financial Markets Foundation for Children

Chair – Bank for International Settlements Committee on the  
Global Financial System

Member – Financial Stability Board

Member – Trans-Tasman Council on Banking Supervision

Director – The Anika Foundation



## Michele Bullock

BEd (Hons) (UNE), MSc (LSE)

### Assistant Governor (Financial System) and Deputy Chair

Deputy Chair since 29 October 2016

Michele Bullock has held various senior positions at the Reserve Bank. Most recently, she held the position of Assistant Governor (Business Services). She has also been in the positions of Assistant Governor (Currency), Adviser for the Currency Group and, before that, Head of Payments Policy Department. In her current position as Assistant Governor (Financial System), Ms Bullock is responsible for the Bank's work on financial stability and oversight of the payments system.

### Other roles

Member – Basel Committee on Banking Supervision

Member – Council of Financial Regulators



## Wayne Byres

BEd (Hons), MAppFin (Macquarie)

### Ex officio member

Chair, Australian Prudential Regulation Authority

Member since 9 July 2014

Wayne Byres brings a wealth of experience and knowledge of prudential supervision and banking practices. He was appointed as a Member and Chairman of APRA from 1 July 2014 for a five-year term, and 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.

### 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



## Gina Cass-Gottlieb

BEd (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 2023

Gina Cass-Gottlieb has extensive expertise in all areas of competition law and economic regulatory advice and in the regulation of payments in Australia. Ms Cass-Gottlieb is 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

Director – Sydney Children's Hospitals Foundation



## Deborah Ralston

BEd, Dip. Fin Mgt, MEd (UNE), PhD (Bond)

### Non-executive member

Member since 15 December 2016

Present term ends 14 December 2021

Deborah Ralston has extensive experience in financial services, with particular interests in financial regulation, superannuation, innovation and commercialisation. Professor Ralston is a researcher and recognised thought leader in financial services and has been widely published in these areas. Professor Ralston has held senior leadership positions in Australian universities, including Dean of Business at the Universities of Southern Queensland and the Sunshine Coast, Pro Vice-Chancellor Business, Law and Information Systems at the University of Canberra, and most recently as Executive Director of the Australian Centre for Financial Studies. She has over 20 years' experience as a non-executive director on public and private sector boards. She is a Professorial Fellow at Monash University Business School and a Fellow of CPA Australia and the Australian Institute of Company Directors.

### Other roles

Director – SuperEd Pty Ltd

Director – Uniting Ethical Investors Limited

Member – Retirement Income Review Panel

Member – YBF Fintech Hub Advisory Board





## Greg Storey

### Non-executive member

Member since 1 August 2018

Present term ends 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 the rollout of 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 has established and overseen merchant point of sale (POS) and ATM switching operations.



## Catherine Walter AM

LLB (Hons), LLM, MBA (Melbourne)

### Non-executive member

Member since 3 September 2007

Present term ends 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 for 20 years 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 is a Fellow of the Australian Institute of Company Directors.

### Other roles

Chair – Creative Partnerships Australia

Chair – Financial Adviser Standards and Ethics Authority

Chair – Melbourne Genomics Health Alliance

Director – Australian Foundation Investment Company

Director – Barristers' Chambers Limited

Trustee – Helen Macpherson Smith Trust



## Brian Wilson AO

MCom (Hons) (Auckland)

### Non-executive member

Member since 15 November 2010

Present term ends 14 November 2020

Brian Wilson brings extensive financial services experience, including involvement with both the funds management and investment management sectors. He has specialised in corporate financial advice. Mr Wilson was a Managing Director of the global investment bank Lazard until 2009, after co-founding the firm in Australia in 2004, and was previously a Vice-Chairman of Citigroup Australia and its predecessor companies. He is the former Chairman of Australia's Foreign Investment Review Board and a former Chancellor of the University of Technology Sydney. Mr Wilson was a member of the Commonwealth Government Review of Australia's Superannuation System, the ATO Superannuation Reform Steering Committee and the Specialist Reference Group on the Taxation of Multinational Enterprises in Australia. In May 2017, Mr Wilson was awarded a Doctor of the University, honoris causa (DUniv) by the University of Technology Sydney.

### Other roles

Chair – UTS Foundation

Director – Bell Financial Group Ltd

Senior Advisor – The Carlyle Group



# Accountability and Communication

The Payments System Board seeks to ensure a high degree of transparency and accountability around its actions through the Bank's communication program, which includes media releases, speeches, research publications, and community and industry liaison. The Bank also engages in various international forums relating to payment systems and financial market infrastructures (FIMs).

## Relationship with Government and Reporting Obligations

As noted above, the responsibilities and powers of the Payments System Board are set out in four statutes: the *Reserve Bank Act 1959*; the *Payment Systems (Regulation) Act 1998*; the *Payment Systems and Netting Act 1998*; and the *Corporations Act 2001*. The Board is afforded substantial independence from the Government in the way that it determines and implements the Bank's policies. However, as discussed in this chapter, there are a range of reporting obligations in addition to the Bank's own policies on transparency and communication that serve to ensure the accountability of the Board.

Under the Reserve Bank Act, 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)); and
- 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 report addresses these requirements and is the primary accountability vehicle with respect to the Bank's payments system responsibilities. The House of Representatives Economics Committee has, in its Standing Orders, an obligation to review the annual reports of both the Reserve Bank and the Payments System Board. The 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 – pertaining 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 Bank periodically also makes submissions to parliamentary inquiries or other inquiries commissioned by the Government.

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



Meeting of the Payments System Board, 22 May 2020

## Communication

The Board seeks to provide a high degree of transparency about its activities, goals and decision-making processes, both for accountability and to promote a better understanding of the Bank's policies and decisions.<sup>2</sup> Consistent with its statutory obligations, the Bank consults widely and at length before undertaking any regulatory action. Where required, the Bank also publishes a Regulation Impact Statement as part of communicating any regulatory decision made by the Payments System Board. The Bank remains open to discussions with any and all parties that may be affected by its regulatory actions.

### Media releases around Board decisions

The Bank publishes a media release in the afternoon immediately following each Board meeting, outlining matters that were discussed by the Board and foreshadowing any forthcoming documents to be released by the

<sup>2</sup> For a detailed list of publications, see 'The Board's Announcements and Reserve Bank Reports' p 76.

Bank. Media releases also accompany any major announcements following decisions taken by the Board.

### Speeches

During 2019/20, senior Bank staff gave a number of public speeches and participated in discussion panels on various payments system-related topics. Speeches and discussion panels covered topics including the impact of the COVID-19 pandemic on retail payments, the requirements of a payments system suited for the digital economy and the Bank's Review of Retail Payments Regulation. Audio files and transcripts of these speeches are published on the Bank's website to improve accountability and communication.

### Submissions and parliamentary appearances

The Bank made submissions to parliamentary and federal government bodies relating to various payments system-related topics during 2019/20. These included submissions to the Senate Select Committee on Financial Technology and

Regulatory Technology and to the Treasury's Inquiry into Future Directions for the Consumer Data Right. Bank staff also appeared before the Senate Economics Legislation Committee on the Currency (Restrictions on the Use of Cash) Bill 2019 and before the Senate Select Committee on Financial Technology and Regulatory Technology. Copies of the Bank's submissions and the opening statement to the Senate Economics Legislation Committee can be found on the Bank's website.

## Research

The Bank's quarterly *Bulletin* contains analysis of a broad range of economic and financial issues, including payments system issues, as well as aspects of the Bank's operations. During the year in review, the *Bulletin* included articles on recent trends in consumer payments based on the results from the latest Consumer Payments Survey, cash use, the New Payments Platform (NPP) and the cost of card payments for merchants.

To supplement 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. The aggregated data on debit, credit and charge cards, ATM transactions, merchant fees, bulk electronic transfers, the NPP 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.

## Online communication

The Bank publishes information in both electronic and hardcopy formats, though most access to information is online. The Bank's website contains a wide range of information relating to the Bank's payments system responsibilities.

## Liaison Activity

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

### Domestic liaison

The Bank continued to engage extensively with a range of participants in the payments industry in 2019/20. In August 2019 and August 2020, the Board held its annual meeting with members of the Australian Payments Council (APC).<sup>3</sup> The meeting included discussion of the APC's progress with its strategic focus areas relating to improving systemic resilience of the payments system and combating financial crime. It also covered the industry's work on the TrustID digital identity framework and developments in the digital identity market more generally, as well as industry plans for the future of the cheques system. Engagement between the Board and the APC occurs pursuant to a Memorandum of Understanding (MOU) between the two organisations that was signed in 2015 and is published on the Bank's website.

In the payments area, Bank staff met with a wide range of stakeholders to discuss policy issues and market developments. In 2019/20, this stakeholder engagement included a number of public consultations. In November, the Bank commenced consultation on its comprehensive Review of Retail Payments Regulation by releasing an Issues Paper. Although this Review has since been formally delayed in light of the COVID-19 pandemic, the staff have continued to progress aspects of the Review and the expectation is that it will be completed in 2021. In February, the Bank published the

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<sup>3</sup> The APC was established in 2014 as a strategic coordination body for the payments industry. Its members are senior executives from a range of payments organisations including financial institutions, card schemes, retail acquirers and other payment service providers, as well as the Australian Payments Network (AusPayNet) and the Bank (in its role as provider of banking services to the Government). The Bank has responsibility for appointing a number of the APC members.

conclusions from its consultation on ISO 20022 migration for the Australian payments system. This consultation was undertaken jointly with the APC.

Outside of formal public consultations, the Bank's meetings with stakeholders on retail payments issues over the past year have focused on the impacts of the COVID-19 pandemic on the payments system, cross-border payments, ATMs, the transparency of payments costs to merchants and competition in the debit card market, including the industry's implementation of least-cost routing (LCR) of contactless debit card transactions. Bank staff have also engaged with stakeholders regarding their obligations under the Bank's card payments regulations. Another focus of the Bank's engagement with payments industry participants has been on technology and innovation, especially in relation to buy now, pay later (BNPL) services, digital currencies and payments-related financial technology (fintech) activity more broadly.

Bank staff meet regularly with senior staff of the Australian Payments Network (AusPayNet) to discuss industry developments, including around initiatives to reduce card fraud and AusPayNet's work program to support the APC. These meetings take place consistent with an agreement on liaison arrangements between the two organisations that is published on the Bank's website. The staff also meet periodically with counterparts from a range of government agencies, including the Australian Competition and Consumer Commission (ACCC). An MOU between the ACCC and the Bank sets out an agreed basis for policy coordination, information sharing and liaison between the two agencies.

The Bank continues to be involved in the NPP that is owned and operated by NPP Australia Ltd (NPPA). The Bank operates the Fast Settlement Service, which enables the settlement of NPP

payments individually in real time and its Banking Department is a direct participant in the NPP, providing payments services using the NPP to its government clients. The Head of Payments Settlements Department is a Bank appointed member of the NPPA Board and the Bank also participates in some NPPA committees. Staff from Payments Policy Department hold regular liaison meetings with senior staff from NPPA to discuss developments in relation to the NPP, including new payment services that are being developed to utilise the NPP infrastructure and access arrangements for new participants. The Bank and NPPA have in place an MOU that formally sets out the arrangements for how different parts of the Bank interact with NPPA, including sharing of information. The arrangements are designed to address any actual or perceived conflicts of interest between the duties of the Bank as regulator of the payments system and its involvement in the NPP from an operational perspective.<sup>4</sup> The MOU is consistent with arrangements for the Bank's involvement with the NPP approved by the Board.

The Bank meets regularly with each FMI it supervises. These meetings cover a wide range of topics including developments in financial and operational risk management. As the Australian Securities and Investments Commission (ASIC) and the Bank have complementary regulatory responsibilities for the supervision of clearing and settlement (CS) facilities, the two agencies often 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.

As described in other chapters of this report, the Bank continued to work closely with other agencies of the Council of Financial

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<sup>4</sup> See <<https://www.rba.gov.au/payments-and-infrastructure/payments-system-regulation/npp-mou.html>>.

Regulators (CFR) (and, where relevant, the ACCC) on a number of policy issues, including proposals to enhance the regulatory regime for FMLs (including the introduction of a crisis management regime for CS facilities), competition in clearing and settlement of equities, cyber security, as well as a review of the regulatory framework for stored-value facilities. The CFR agencies, along with the Australian Transaction Reports and Analysis Centre (AUSTRAC), participate in a working group considering the implications of distributed ledger technology and crypto-assets for the financial system and regulation. The Bank, ASIC and Treasury also recently established a working group with the ACCC and the Australian Registrars' National Electronic Conveyancing Council (ARNECC) to review elements of the regulatory framework for e-conveyancing systems, with the aim of identifying enhancements that would promote consumer protection, resilience and competition in the e-conveyancing market.

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

### Payments Consultation Group

The Bank established the Payments Consultation Group in 2014, with the aim of providing a more structured mechanism for users of the payments system (consumers, merchants, businesses and government agencies) to express their views on payments system issues as an input to the policy formulation process. The Payments Consultation Group helps to keep the staff and Board well informed of end user needs and views as input to the Bank's interactions with the APC and its other policy work.

The Payments Consultation Group met twice in 2019/20 and discussed a range of topics including trends in consumer payments, the impact of COVID-19 on the retail payments system, cross-border payments, access to cash services and the Review of Retail Payments Regulation. The Board appreciates the valuable feedback provided by the participants and their willingness to engage in this process.

### International engagement

The Bank is a member of the Committee on Payments and Market Infrastructures (CPMI), which is hosted by the Bank for International Settlements and serves as a forum for central banks to monitor and analyse developments in payment, clearing and settlement infrastructures, and sets international standards in this area. 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 and oversight of FMLs. Staff from Payments Policy Department are members of the CPMI–IOSCO Steering Group, the CPMI–IOSCO Implementation Monitoring Standing Group, and the CPMI–IOSCO Policy Standing Group. Bank staff participate in a range of other cooperative workstreams including the CPMI's Real-time Gross Settlement Working Group and the CPMI's Cross-Border Payments Taskforce, which is assisting the Financial Stability Board (FSB) to deliver a roadmap to enhance cross-border payments. Staff are also assisting with international work on wholesale payments security and enhancing resolution arrangements for central counterparties.

CPMI (and IOSCO) have joined other financial policymakers and international standard setters in engaging industry in discussing international



policy responses to COVID-19. The CPMI has been monitoring the impact on FMI of the COVID-19 pandemic and the market volatility over the first quarter of 2020. The CPMI and the CPMI–IOSCO Steering Group have been meeting more regularly to discuss these matters and to consider the forward-looking work plan; this includes the reprioritisation of work items to focus on some of the short-term risks and policy implications and reduce lower-priority demands on industry stakeholders. For more details on the Bank’s involvement in, and other recent international work on, FMIs, see the Policy Development section in ‘Oversight, Supervision and Regulation of Financial Market Infrastructures’.

The Bank is also a member of the Executives’ Meeting of East Asia-Pacific Central Banks (EMEAP) Working Group on Payments and Market Infrastructures (WGPMI). This group is a regional forum for sharing information and experiences relating to the development, oversight and regulation of retail payment systems and FMIs. The group discussed a range of issues during the year in review, including: the development of fast retail payment systems and other efforts to facilitate the shift towards electronic payments; regulatory approaches for addressing risks posed by crypto-assets and global stablecoin arrangements; research into central bank digital currencies; measures to enhance the security and resilience of FMIs; and oversight approaches to FMIs. The group also embarked on a review of developments in cross-border retail payments in the EMEAP region, including to identify any gaps or challenges in the provision of such services.

The Bank also participates in several multilateral and bilateral arrangements to support its oversight of overseas based FMIs, such as CLS Bank International, LCH Limited, CME Inc and SWIFT.

## Regulator Performance Framework

The Bank adheres to the Australian Government’s Regulator Performance Framework (RPF), which aims to encourage regulators to undertake their functions with the minimum impact necessary to achieve regulatory objectives. It is focused on the administration, monitoring and enforcement of regulation, rather than the setting of policy. The RPF requires the Bank to measure and report on its performance against six key indicators that articulate the Government’s expectations for regulator performance.

The Bank’s fourth self-assessment of its performance against these indicators was published in December 2019.<sup>5</sup> Self-assessments are conducted in close consultation with the regulated industry. The Bank, in consultation with the entities it regulates, has developed two sets of metrics to allow assessment against the indicators – one focusing on its regulation of CS facilities and the other on its regulation of retail payment systems. Regulated entities are asked to respond to a survey seeking their feedback on these metrics and on the Bank’s regulatory performance more broadly.

In preparing its fourth RPF self-assessment, the Bank sought feedback from all licensed CS facilities, designated card schemes and a sample of card issuers and acquirers.<sup>6</sup> Regulated entities were later given the opportunity to provide feedback on the Bank’s draft self-assessment before it was finalised. Work on the Bank’s next RPF self-assessment is scheduled to commence in coming months and expected to be published on the Bank’s website in early 2021.

<sup>5</sup> Available at <<https://www.rba.gov.au/about-rba/boards/psb-board.html#regulatorPerf>>.

<sup>6</sup> Card issuers provide individuals or businesses cards to make payments, maintain accounts associated with those cards and undertake other activities that enable payments to be made (e.g. authorising payments, and clearing and settling payment obligations with acquirers arising from the use of those cards). Card acquirers provide merchants with facilities to accept card payments and also undertake similar activities (e.g. clearing and settling the resulting obligations with card issuers).

# Trends in Payments, Clearing and Settlement Systems

The Payments System Board monitors trends in retail payments, and activity and risk exposures across financial market infrastructures (high-value payment systems, securities settlement systems and central counterparties). This helps the Board fulfil its responsibilities to promote efficiency and competition, and control risk, in the Australian payments system.

## Retail Payments

### Australians are preferring to make payments electronically

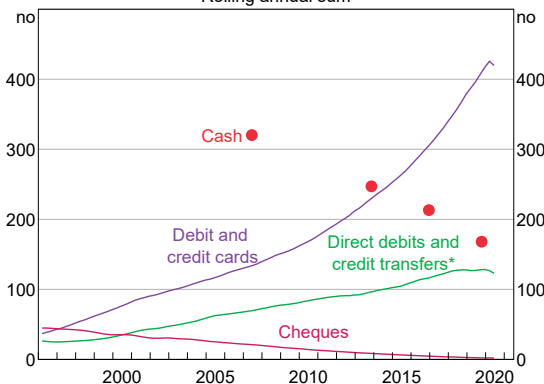
Over recent decades, there has been a trend rise in the use of electronic payment methods for retail transactions and a decline in 'paper based' methods such as cash and cheques (Graph 1). In 2019/20, Australians made around 560 electronic transactions on average, compared with 250 a decade earlier. By contrast, the use of cash and cheques has fallen significantly. It is estimated that Australians

made about 170 cash transactions per person on average in 2019, compared with 320 per person in 2007, and cheques are now seldom used for consumer payments. The shift to electronic payments reflects both consumer preferences for, as well as greater acceptance of, electronic payments for a range of transactions. Innovation and the introduction of new digital payment services, including by some technology-focused firms, has widened the range of electronic payment options available for Australian consumers and businesses.

Payment cards are the most frequently used payment method in Australia. In 2019/20, Australian cardholders made around 10.7 billion debit and credit card purchases worth \$677 billion, with cards accounting for three-quarters of the total number of non-cash retail payments (Table 2). According to the Bank's 2019 Consumer Payments Survey (CPS), debit cards have now overtaken cash as the most commonly used payment method by Australian consumers (see 'Box A: 2019 Consumer Payment Survey').

When measured in terms of the value rather than the number of payments, Direct Entry payments, which include direct credits and

**Graph 1**  
Transactions per Capita  
Rolling annual sum



\* Includes BPAY

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

**Table 2: Non-cash Payments**

	2019/20						Average annual growth 2009/10 to 2019/20	
	Per cent of total		Average value	Growth, per cent		Per cent		
	Number	Value	\$	Number	Value	Number	Value	
Card purchases <sup>(a)</sup>	74.8	5.0	63	7.6	3.3	11.4	6.8	
Debit cards	54.3	2.6	46	10.4	9.8	13.9	10.8	
Credit cards	20.5	2.3	109	0.7	-3.1	6.7	3.7	
Direct Entry <sup>(b)</sup>	19.2	80.3	3,984	-2.2	5.9	5.8	3.8	
Direct credits	12.8	55.3	4,101	-3.5	5.5	4.6	4.4	
Direct debits	6.3	25.0	3,748	0.4	6.9	9.0	2.6	
BPAY	2.9	3.4	1,139	0.4	2.8	3.9	9.2	
Cheques	0.3	3.4	9,816	-21.0	-28.6	-17.1	-11.0	
PEXA	0.0	4.8	358,178	29.7	54.0	-	-	
New Payments Platform <sup>(c)</sup>	2.9	3.0	1,005	167.3	214.9	-	-	
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>951</b>	<b>7.0</b>	<b>7.7</b>	<b>9.5</b>	<b>3.6</b>	

(a) Card purchases using Australian-issued cards; debit card series includes prepaid cards

(b) Data prior to a reporting change in May 2018 have been adjusted downwards to be more consistent with the current definitions of the direct debit and credit series

(c) The NPP was launched to the public in February 2018

Sources: BPAY; RBA

direct debits, account for the bulk of non-cash retail payments. However, since the introduction of the New Payments Platform (NPP) in 2018, banks have started to migrate some direct credits (such as ‘pay anyone’ transactions) to the NPP (which currently can only be used for credit or ‘push’ payments). This likely contributed to the 2.2 per cent fall in the number of Direct Entry payments in 2019/20, compared with average annual growth of 5.8 per cent over the past decade. By contrast, the number of NPP transactions more than doubled in 2019/20, although it still accounted for only 2.9 per cent of the number of non-cash payments. The number of BPAY transactions, which are used for bill payments, increased by 0.4 per cent in 2019/20, which was notably lower than the average annual growth rate over the past decade.

The high average value of BPAY payments means that they make up a larger share of the value of non-cash payments than either credit or debit cards, despite being less frequently used by consumers.

### COVID-19 has reinforced these trends

The COVID-19 pandemic has accelerated the shift to electronic payments as consumers and merchants have sought to reduce their use of cash, in some cases due to health concerns about handling banknotes and coins. Many merchants encouraged the use of contactless card and mobile payments for in-store purchases, and consumers also changed their payment behaviour to avoid cash and contact with payment terminals. The payments industry supported the shift to contactless

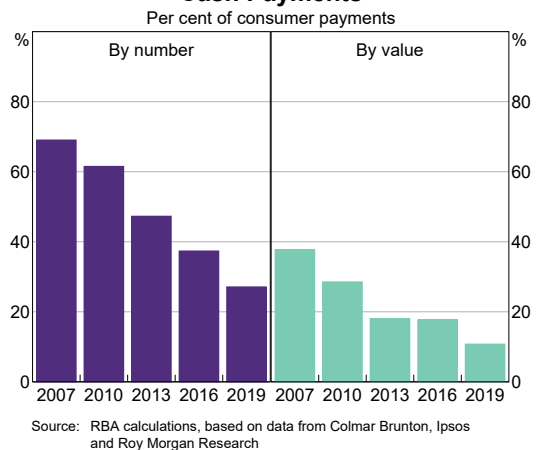
payments by temporarily increasing the no-PIN limit on contactless card transactions from \$100 to \$200 to further reduce the need to touch payment terminals. Banks have also promoted the use of mobile payments, which use biometrics on the device for authentication, and thus do not typically require the user to enter a PIN on payment terminals. Furthermore, banks have encouraged customers to set up debit card and online banking services if they did not already have them, and obtained dispensation from the Australian Securities and Investments Commission (ASIC) to proactively send debit cards to customers with a passbook account or transaction account without a linked debit card. The pandemic has also induced a significant shift to online shopping. Australian Bureau of Statistics (ABS) data show that the online share of retail spending picked up significantly from April and remains high by historical standards.

### Cash use is declining but it is still important

The Bank's 2019 CPS showed a continuation of the long-term trend away from cash for many consumer transactions (see 'Box A: 2019 Consumer Payment Survey'). Cash accounted for 27 per cent of the number of consumer payments in 2019, compared with 69 per cent in 2007 (Graph 2, left panel). When measured by the value of payments (rather than the number), 11 per cent of consumer payments were made in cash in 2019, compared with 18 per cent in 2016 and 38 per cent in 2007 (Graph 2, right panel). The recent decline in the share of cash payments was particularly pronounced for lower-value purchases made in person, where consumers are increasingly using cards (or sometimes mobile devices) to make contactless ('tap and go') payments.

Although the use of cash for transactions has continued to fall, a significant minority of people still heavily rely on cash for many of their payments. For example, older Australians and those on lower incomes tended to use cash relatively frequently, although for a smaller share of transactions than they did in the past. As the transition away from cash to electronic payment methods continues, it will be important to consider the needs of those members of society who continue to rely on cash for their day-to-day payments.

**Graph 2**  
**Cash Payments**



Consistent with the long-term decline in transactional use of cash, Australians are making fewer ATM cash withdrawals than they did a decade ago (Graph 3, left panel). The reduction in cash withdrawals was particularly pronounced in 2019/20, reflecting the impact of the COVID-19 pandemic. The number and value of ATM withdrawals fell by 19 per cent and 12 per cent in 2019/20 respectively, with most of the decline concentrated in the months of March and April.

## Box A

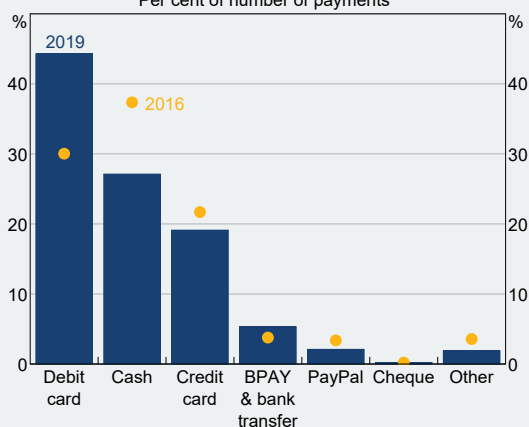
# 2019 Consumer Payment Survey

The Bank undertook its fifth triennial Consumer Payments Survey (CPS) in October and November 2019.<sup>1</sup> A little over 1,100 respondents completed the survey, which consisted of three parts: a pre-diary questionnaire about the demographic characteristics of respondents; a seven-day payments diary; and a post-survey questionnaire about respondents' automatic payment arrangements and their preferences and attitudes about different payment methods. The CPS was conducted prior to the emergence of COVID-19 in Australia and provides a detailed snapshot of consumer payment patterns prior to the pandemic.

The CPS confirmed that Australian consumers had continued to switch to electronic payment methods from cash for many payments. Debit cards were the most frequently used payment method overall, accounting for 44 per cent of the number of payments over the diary week, compared with 30 per cent in the 2016 survey (Graph A1). Growth in card use was largely because cards were used more frequently for in-person payments, with an increase in particular in the use of contactless 'tap and go' functionality. Around half of all in-person payments in the 2019 survey were made by tapping a physical (plastic) card on a terminal, with a further 5 per cent made by tapping a smartphone or other payments-enabled device.

As more payments were made electronically, the use of cash declined further – 27 per cent

**Graph A1**  
**Consumer Payment Methods**  
Per cent of number of payments\*



\* Excludes payments over \$9,999, transfers and automatic payments  
Source: RBA calculations, based on data from Ipsos and Roy Morgan Research

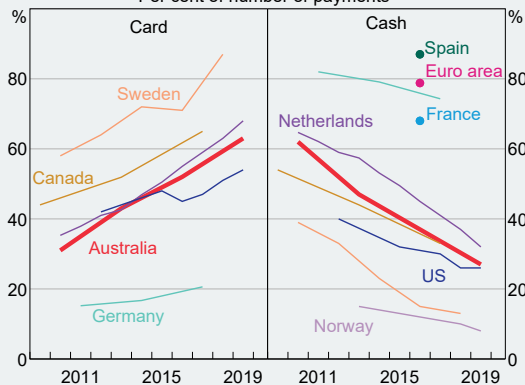
of the number of payments were made with cash in 2019, compared with 37 per cent in 2016. In recent years, the decline in the use of cash has been particularly pronounced for lower-value transactions at the point of sale, consistent with growth in the use of cards with contactless functionality. The CPS also showed that the share of people who rarely use cash is rising – for example, one-third of survey participants did not record *any* cash payments during the week of the survey, compared with less than one-fifth in 2016. However, some people continued to use cash intensively. Participants aged over 65, for example, used cash for around half of their weekly payments on average and lower-income consumers also tended to pay in cash fairly frequently. Across all age groups, around 10 per cent of respondents made *all* of their payments in cash during the diary week, which was little changed compared with three years earlier.

<sup>1</sup> For a summary of findings from the 2019 CPS, see Caddy J, L Delaney, C Fisher and C Noone (2020), 'Cash Use in Australia: Results from the 2019 Consumer Payments Survey'. Available at <<https://www.rba.gov.au/publications/bulletin/2020/mar/consumer-payment-behaviour-in-australia.html>>.

Similar trends in cash and card use have been apparent in a number of other economies. Data from broadly similar surveys conducted by a number of other advanced economies show that consumers globally are shifting away from cash to cards, although there are also some notable differences across countries (Graph A2). Sweden and Norway are prominent examples of jurisdictions where cash is now used for a relatively small proportion of consumer payments, whereas cash is still commonly used in some euro area countries.

The growth in electronic payments has been associated with a trend towards payments becoming more ‘seamless’ from the perspective of consumers. An example of this has been increasing use of automatic payment arrangements such as direct debits for household bills. In the 2019 CPS, 81 per cent of respondents had at least one automatic payment arrangement, compared with 65 per cent in 2016. Another example is that a significant proportion

**Graph A2**  
**Trends in Card and Cash Payments**  
Per cent of number of payments\*

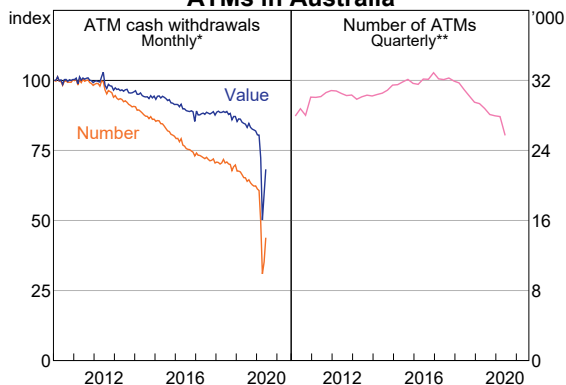


\* Cash and card do not sum to 100; observations are not directly comparable due to differing survey methods and inclusions across countries  
Sources: Bank of Canada; Colmar Brunton; De Nederlandsche Bank; Deutsche Bundesbank; European Central Bank; Federal Reserve Bank of San Francisco; Ipsos; Norges Bank; RBA; Roy Morgan Research; Sveriges Riksbank

(45 per cent) of respondents had used debit and/or credit card details that they had stored on a mobile device or online to make a payment in the previous year.

The ongoing reduction in the use of ATMs, along with the fact that many bank ATMs no longer charge fees, has prompted ATM deployers to rationalise their fleets over the past few years. The total number of active ATMs in Australia declined by 15 per cent (around 5,000 machines) since the peak in 2016 to around 28,000 ATMs in March 2020 and has since fallen further primarily due to the temporary closure of venues under COVID-19 restrictions (Graph 3, right panel). The changes in payment patterns induced by COVID-19 are likely to place further pressure on ATM deployers to rationalise their fleets. Two major banks recently sold most of their off-branch ATM fleets to cash logistics operators, and other banks may be considering similar

**Graph 3**  
**ATMs in Australia**



\* January 2010 = 100; seasonally adjusted; series break due to changes in reporting methodology in May 2018  
\*\* June 2020 data were lower primarily because of temporary venue closures due to COVID-19 restrictions  
Sources: AusPayNet; RBA

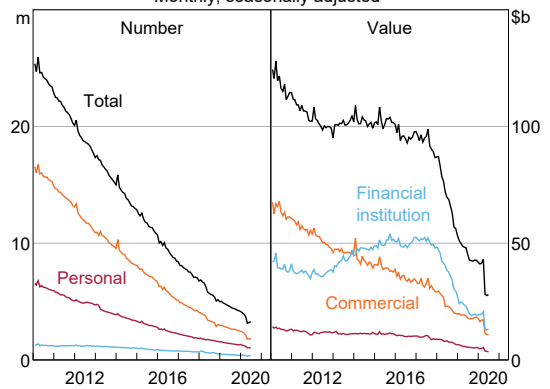
arrangements, which could lead to the creation of one or more ATM utilities. So far, the largest declines in ATM numbers appear to have been in locations such as metropolitan shopping areas where there are other ATMs nearby, and Australians generally appear to have good access to cash services. For example, around 90 per cent of 2019 CPS respondents indicated that access to cash withdrawal services was ‘convenient’ or ‘very convenient’. This is consistent with previous Bank research that found that cash access – as measured by the average distance to the nearest ATM, bank branch or Bank@Post post office – was still good despite the decline in the number of cash access points over recent years (see ‘Box A: Access to Cash Services’ in the 2018/19 Payments System Board Annual Report).

Notwithstanding the ongoing decline in the use of cash for consumer transactions, overall demand for cash has continued to grow. At the end of June 2020, there were 1.8 billion banknotes in circulation, worth \$90.1 billion. The value of banknotes in circulation increased by around 12.6 per cent over 2019/20, compared with annual growth of around 5 per cent in recent years. The above-average growth in circulation reflected increased demand for high denomination banknotes in the months following the outbreak of the COVID-19 pandemic as heightened uncertainty appeared to increase precautionary demand by the public. The role of cash as a precautionary store of wealth was also evident in the 2019 CPS, where 38 per cent of respondents reported that they held some cash outside of their wallet or purse, with funding for ‘emergency transactions’ the most commonly cited reason for doing so.

### Cheques are now seldom used for retail payments

Cheque use in Australia has been declining at a rapid rate over the past decade, as consumers and businesses have been transitioning to electronic payment methods (Graph 4). In 2019/20 the number of cheque payments fell by 21 per cent compared to the previous year. There were less than 1.9 cheque transactions per person in the year (compared with around 45 per person in the mid 1990s) and cheques accounted for less than ½ per cent of all non-cash payments (by number). The decline in the value of cheques in 2019/20 was driven by a sharp fall in financial institution (bank) cheques, which are typically used for relatively large purchases such as property transactions; the COVID-19 pandemic is likely to have accelerated the shift from using cheques for property settlements to e-conveyancing platforms such as Property Exchange Australia (PEXA). South Australia has mandated the use of e-conveyancing from August 2020, bringing it in line with Victoria, NSW and Western Australia.

**Graph 4**  
**Cheque Payments**  
Monthly, seasonally adjusted\*



\* Series break due to changes in reporting methodology in May 2018  
Source: RBA

The CPS confirmed that personal cheques are rarely used for consumer payments, accounting for 0.2 per cent of the number of consumer payments in 2019 (compared with 1.2 per cent in 2007). Because cheques tend to be used for relatively large payments, they accounted for a slightly higher share – 2.1 per cent – when measured by the value of payments, and around 15 per cent of respondents reported that they had made at least one cheque payment sometime in the previous year. Cheques were mainly used by older Australians, with all of the cheque payments recorded in the week of the 2019 CPS made by respondents aged over 50.

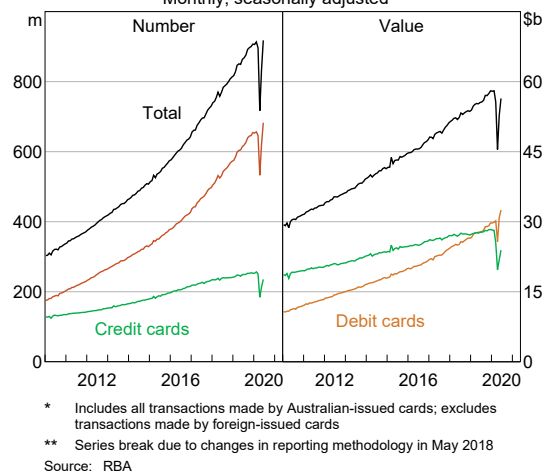
Because cheques are now seldom used, the industry is considering how and when to wind up the cheque system given the high (and rising) per-transaction cost of supporting cheque payments. An important element of this transition is making sure suitable alternative payment methods are available and accessible for those who have continued to use cheques. In this regard, the COVID-19 pandemic and associated policy measures may have encouraged a transition away from cheques for some users. For example, financial institutions have assisted people in signing up to online banking and encouraged the use of debit cards by people who did not previously have one (e.g. passbook holders). In addition, anecdotal evidence points to the pandemic having induced changes in payments behaviour by some people who might previously have been reluctant to use electronic payment methods.

### Cards are displacing cash for more transactions

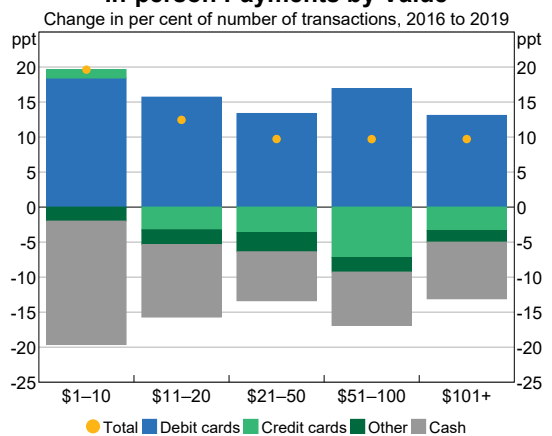
Payment cards account for around three-quarters of all non-cash payments, with debit cards the most frequently used payment method in Australia (Table 2). In 2019/20, the number and value of card payments made by domestic cardholders grew by 7.6 per cent and 3.3 per cent, respectively. This compares

with average annual growth of 11 per cent (number) and 6.8 per cent (value) over the preceding 10 years. Below-average growth in card payments in 2019/20 largely reflected a sharp fall in consumer spending in late March and in April because of the pandemic (Graph 5). The average value of card payments fell to \$63 in 2019/20, down from just over \$80 five years ago, with the 2019 CPS confirming that cards are increasingly displacing cash for many lower-value transactions (Graph 6).

**Graph 5**  
**Transactions by Card Type\***  
Monthly, seasonally adjusted\*\*



**Graph 6**  
**In-person Payments by Value**  
Change in per cent of number of transactions, 2016 to 2019

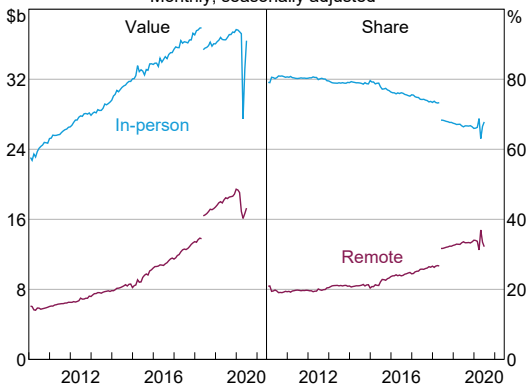


Source: RBA calculations, based on data from Ipsos and Roy Morgan Research



In recent years, an increasing share of card payments have been made remotely (online or via mobile apps) rather than in person, consistent with the trend towards online shopping and the popularity of ride sharing and online delivery apps. As at June 2020, remote transactions accounted for around one-third of all card transactions, compared with 22 per cent five years earlier (Graph 7). The share of remote transactions increased in the early stages of the pandemic as consumers shifted to online shopping, before returning to previous levels as government virus containment restrictions were eased in some states.

**Graph 7**  
**Value of In-person and Remote Transactions**  
 Monthly, seasonally adjusted\*



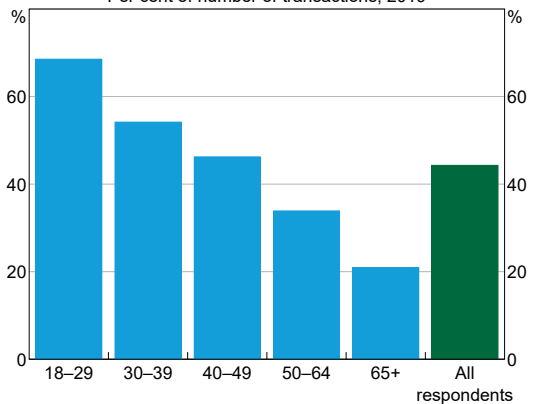
\* Includes all transactions acquired in Australia; excludes overseas transactions made by Australian cards; series break due to changes in reporting methodology in May 2018  
 Source: RBA

Not surprisingly, the value of transactions using foreign-issued cards in Australia and international transactions using Australian-issued cards have both been severely affected by the COVID-19-related restrictions on overseas arrivals and international tourism. In the year to March 2020, around \$1.8 billion transactions per month were made using foreign-issued cards in Australia, but only \$1.0 billion per month in the three months to June 2020.

**Debit cards are increasingly popular ...**

When paying with a card, Australians are increasingly choosing debit cards rather than credit cards. Over the past decade, the value of debit card payments has grown at an average annual rate of 11 per cent, compared with 3.7 per cent for credit cards (Graph 5). Moreover, the number of domestic credit card accounts has fallen by 12 per cent since 2018. The 2019 CPS showed that debit cards are now the most frequently used method of payment by Australian consumers, accounting for 44 per cent of surveyed transactions, compared with 19 per cent for credit cards. The increase in the popularity of debit cards compared with credit cards is likely to reflect a range of factors, including reductions in the generosity of credit card rewards programs and changing attitudes towards accumulating this type of personal debt, particularly among younger consumers. Indeed, CPS respondents aged under 30 made just under 70 per cent of their payments using debit cards in 2019, compared with an average of 44 per cent for all respondents (Graph 8). Another factor has been the introduction in the mid 2000s of international scheme debit cards, which provide much of the same payment functionality as

**Graph 8**  
**Debit Card Use by Age**  
 Per cent of number of transactions, 2019



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

credit cards (e.g. the ability to make contactless and online payments). More recently, it is possible that the emergence of new ways of funding consumer purchases – such as buy now, pay later (BNPL) services – may have also played a role in the continuing decline of credit cards by providing alternative ways to smooth spending and manage cash flows.

The debit and credit card markets in Australia are dominated by two international card schemes, Visa and Mastercard. In the debit card market, the share of transactions made using these two schemes has been increasing for much of the past decade, while the share of the domestic debit scheme, eftpos, has been declining. The decline in eftpos’ market share can partly be attributed to the increasing use of contactless payments, given that the international schemes are the default networks on dual-network debit cards. In addition, the eftpos network only recently began supporting some online and other remote transactions, which have been making up an increasing share of card payments (particularly during the COVID-19 pandemic). However, the take-up of least-cost routing functionality by some merchants over the past year or so has slowed the decline of eftpos’ market share (see the ‘Retail Payments Regulation and Policy Issues’ chapter).

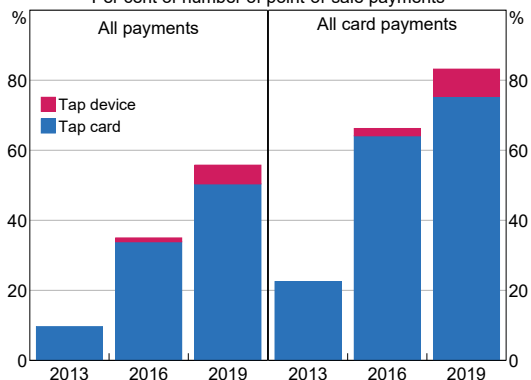
For credit card payments, the combined market share of Mastercard and Visa has also increased over recent years, to around 84 per cent by value of transactions in 2019/20. The fall in the combined market share of American Express and Diners Club over this period largely reflects the closure of the major banks’ American Express companion card programs. This followed regulatory reforms by the Reserve Bank in 2016 that made the American Express companion card system subject to equivalent regulation to that which applies to the Mastercard and Visa systems. However, part of the decline in

market share from the closure of the companion card arrangements has been offset recently by increased issuance of American Express proprietary cards.

### ... and many card payments are now contactless

The way in which consumers use their cards at the point of sale has changed significantly over the past decade or so. Most in-person card payments are now made using contactless (‘tap and go’) functionality rather than by inserting the card into the terminal, and consumers are also increasingly storing their card details in digital wallets on their mobile devices and using those to make contactless payments (see below). In the 2019 CPS, 50 per cent of in-person payments were made using a physical card with contactless functionality, and a further 5 per cent used payment-enabled mobile devices (compared with a combined total of 35 per cent three years earlier) (Graph 9). The share of payments made using contactless functionality is likely to have further increased since the CPS was conducted as consumers and merchants have preferred contactless card payments to handling cash or interacting with payment terminals during the COVID-19 pandemic.

**Graph 9**  
**Contactless Card Payments**  
Per cent of number of point-of-sale payments



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

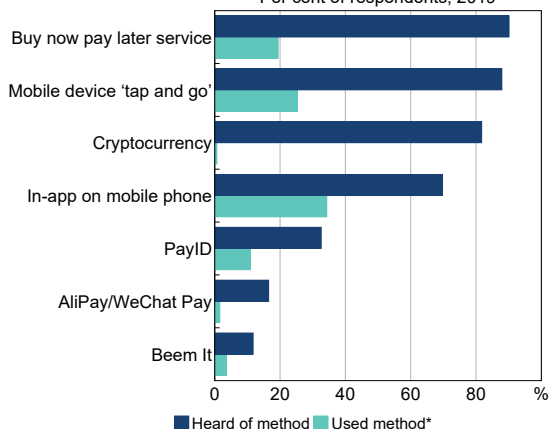
### Innovation is changing the way retail payments are made

Australian consumers have access to a wider range of electronic alternatives to cash and traditional (plastic) cards than they did even a few years ago. A number of innovative new payment services have emerged or attracted increased attention in recent years, often facilitated by mobile device technology. Many of these services make use of existing card networks – e.g. by using stored card details ‘in the background’ – but enable consumers to use cards in new ways. An example of this is the use of linked debit or credit cards to fund instalment payments for purchases using BNPL services. Other innovations have involved the creation of new networks to facilitate payments, most notably the introduction of the NPP, which has provided consumers with the ability to make real-time, data-rich, account-to-account bank transfers using PayIDs.

### Consumers are increasingly aware of new payment methods

The 2019 CPS indicated that consumers are increasingly aware of some these new methods of payment, though they do not necessarily use them often. BNPL services, paying by tapping a mobile device (like a smartphone or watch), digital wallets and ‘cryptocurrencies’ were among the most widely known alternative payment methods by participants in the 2019 CPS (Graph 10). In terms of use, around 20 to 35 per cent of people reported having made payments using BNPL services and mobile-enabled payment methods (in-app or ‘tap and go’) at least once in the previous year. Despite relatively high awareness, few consumers had used a ‘cryptocurrency’ such as Bitcoin to actually make a consumer payment in the previous 12 months; indeed less than one per cent reported having done so.

**Graph 10**  
**Alternative Payment Methods**  
Per cent of respondents, 2019



\* In the last 12 months  
Source: RBA calculations, based on data from Roy Morgan Research

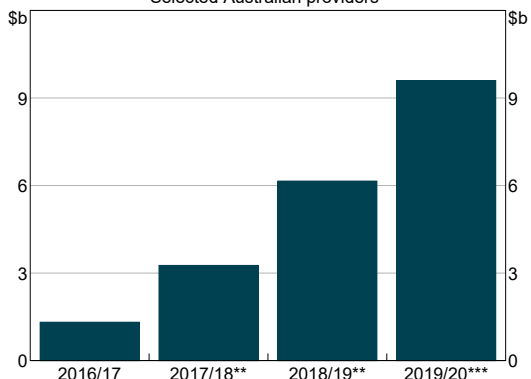
Digital wallets have been one of the most prominent innovations in consumer payments in recent years. These services enable consumers to store their debit and/or credit cards in a digital wallet application on their smartphone or other mobile device, which can then be used to make contactless payments at a card terminal, and in some cases for online payments. These services offer the convenience of not having to carry a physical card to make payments and they can use the biometric features built in to the mobile device to authenticate payments without having to enter a PIN. In the past few years, many card issuers have supported the use of their cards in digital wallet applications provided by Apple, Samsung and Google, for example. As noted, the use of contactless mobile payments has increased in recent years from a relatively low base, and the changes in payment behaviour associated with the COVID-19 pandemic may support a further increase in the period ahead.

## New players are entering the market

A number of the new payments services introduced in recent years have been developed by large technology-focused firms, including ‘bigtechs’ like Google, Apple, Facebook and Amazon, which have been disrupting the payments industry. Along with digital wallets and payment functionality integrated into their own online platforms, in some jurisdictions these firms have started to offer a broader range of payment services, including peer-to-peer money transfer services and credit cards. In advanced economies, bigtech companies have generally offered payments services in partnership with local banks, using card schemes’ existing network infrastructure to process payments. In Australia, bigtech firms’ activities have so far focused on digital wallets and services that streamline the online checkout process for consumers (e.g. by using stored payment credentials for a more ‘seamless’ checkout). By contrast, in China and some other developing economies, technology platforms such as Alipay and WeChat Pay have fundamentally reshaped the payments market by creating their own payments infrastructure, and they now account for a very significant share of consumer transactions.

Another prominent development in the retail payments market in recent years has been the emergence of newer types of BNPL services. These services, often based on mobile apps, enable consumers to obtain goods and services from a participating merchant immediately and make subsequent payments to the BNPL provider in a series of low- or zero-interest instalments, typically over 1–2 months. The value of payments processed through BNPL services has grown rapidly, with transactions tripling over the past two years, to almost \$10 billion in 2019/20 (Graph 11). Despite this strong growth, BNPL accounts for a relatively small share of

**Graph 11**  
**BNPL Payments Processed**  
Selected Australian providers\*



\* Includes services offered by Afterpay, FlexiGroup, Openpay and Zip Co; Openpay is only included in financial years 2018/19 and 2019/20  
 \*\* Afterpay and Flexigroup includes both Australia and New Zealand payments  
 \*\*\* Afterpay, Zip Co and Flexigroup includes both Australia and New Zealand payments; Openpay includes both Australia and United Kingdom

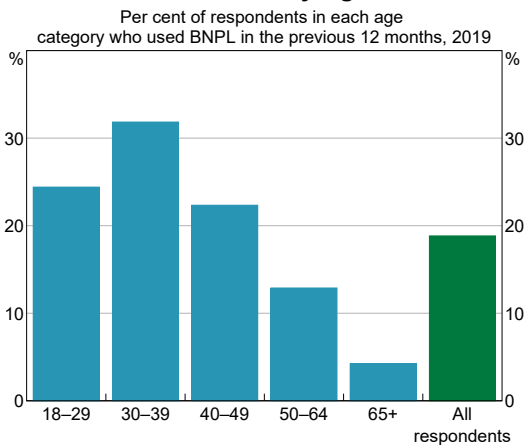
Sources: Afterpay; FlexiGroup; Openpay; Zip Co

overall payment flows, with payments initiated via BNPL equivalent to less than 1½ per cent of total card purchases over the year. BNPL has, however, gained significant traction in certain sectors like online goods retail, where market shares are likely to be higher.

There has also been increased competition in this segment of the payments industry, with a number of new providers entering the market in the past year. For merchants, particularly early adopters, BNPL services may be attractive because they may facilitate increased sales. In addition, as merchants are paid upfront by the BNPL provider, they do not bear the risk of fraud or customer non-payment. However, merchants pay fees to the BNPL provider that are typically much higher than the fees they would pay on other payment methods, such as credit and debit cards. From a consumer perspective, the growing popularity of BNPL services may relate to their convenience and potential to provide a lower-cost alternative to consumer credit. Indications are that BNPL services are used more

intensively by younger consumers – according to the 2019 CPS, 60 per cent of BNPL users were aged under 40 (Graph 12).

**Graph 12**  
**BNPL Use by Age**



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

Cross-border retail payments is another area of the payments market that has been experiencing disruption from new technology-driven firms. New digital (online-only) providers of international money transfer services typically bypass traditional correspondent banking processes by collecting and dispersing funds across countries using local bank accounts, offering cheaper and faster money transfers than many banks.<sup>7</sup> Digital wallets that allow real-time transfers between currencies at the prevailing wholesale exchange rate are another service offered by some new entrants. The recent significant gains in market share by digital providers have been a factor spurring traditional providers to lower prices and improve the convenience and transparency of their offerings.

<sup>7</sup> For a comparison of international money transfer prices offered by the major banks and new digital providers, see Graph 6 in Lowe (2019), 'A Payments System for the Digital Economy', speech to the 2019 Australian Payments Network Summit, 10 December. Available at <<https://www.rba.gov.au/speeches/2019/sp-gov-2019-12-10.html>>.

### More payments are being made through the NPP

Making retail payments faster has been a strategic priority globally for a number of years. In Australia, the payments industry launched the NPP in 2018 to enable consumers, businesses and government agencies to make real-time, information-rich payments 24 hours a day, every day of the week. The NPP's PayID service provides the option for payments to be addressed to the account owner's registered mobile phone number, email address or Australian Business Number (ABN) rather than to a BSB and account number.

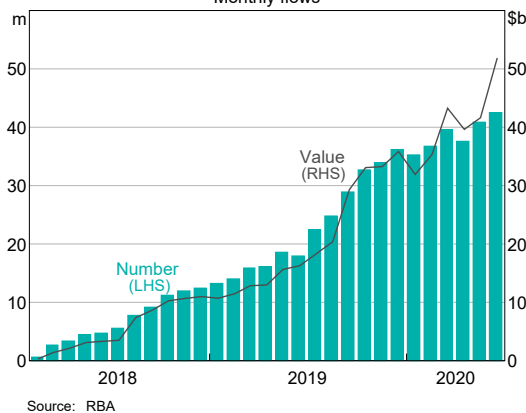
At the time of writing, there were 102 entities (including sub-brands and subsidiaries) offering NPP payment services to their customers.

Thirteen of these are participants in the NPP, while the others, comprising smaller financial institutions and five non-bank providers, access the platform indirectly through the services of a sponsoring participant. The initial uptake of the NPP was somewhat slower than had been expected as some institutions took a phased approach to rolling out services to their customers according to their own priorities. However, there are now about 67 million Australian bank accounts accessible to send and receive payments via the NPP, with a further 4.5 million accounts able to receive incoming payments (together estimated at around 95 per cent of all accounts that will eventually be reachable). Over 5 million PayIDs have been registered.

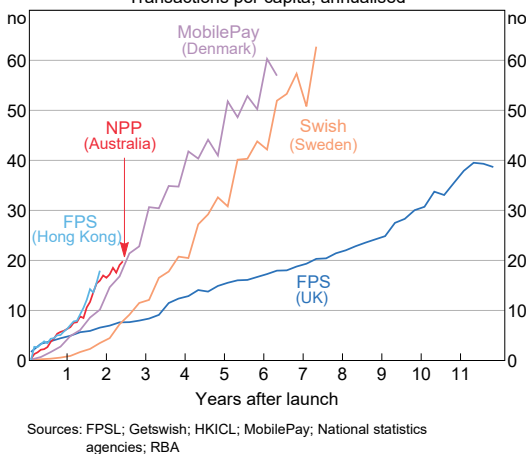
NPP transactions picked up significantly over 2019/20 as financial institutions progressed the rollout of core functionality to end users. The Australian Government also started using the NPP for certain payments, including real-time funding of government agencies and some emergency welfare and disaster payments.

The average daily volume of NPP payments made in June was 2½ times that of the same month a year earlier, while the average daily value of transactions tripled over the same period. In aggregate, the platform processed around 412 million payments worth \$414 billion in 2019/20 (Graph 13). The majority of these payments were made using Osko, an NPP overlay service provided by BPAY. Overall, the adoption of the NPP since its launch, measured in terms of the number of transactions per capita, compares favourably with the more successful fast payments systems that have been launched in other countries (Graph 14).

**Graph 13**  
New Payments Platform  
Monthly flows



**Graph 14**  
Use of Fast Payments Systems  
Transactions per capita, annualised



Retail payments data suggest that there has been some migration of payments to the NPP that would traditionally have been made through the Direct Entry system, such as 'pay anyone' transactions (via online banking) and certain government payments. There has also been some anecdotal evidence of merchants encouraging payments via the NPP as a substitute for cash during the COVID-19 outbreak. It is anticipated that there will be further growth in NPP transactions as additional financial institutions connect to the platform and make services available to their customers and as there is a further migration of transactions from the Direct Entry system. In addition, NPP Australia Limited (NPPA) and NPP participants are working on a roadmap to extend the capabilities of the NPP, including to enable recurring and debit-like payments through the NPP and new message data standards to support straight-through processing of specific types of payments (such as payroll, superannuation and tax payments) (see the 'Retail Payments Regulation and Policy Issues' chapter for more detail). These capabilities could be used by a range of entities to develop new, innovative and flexible payment solutions targeted to specific customer needs.

### Changing payment patterns underscore the importance of electronic payments being inexpensive, reliable and safe

#### Some merchant fees have continued to decline ...

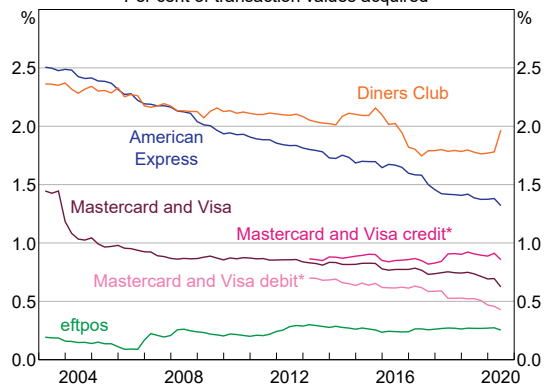
Merchant fees are paid by merchants to their financial institutions (or directly to the card scheme in the case of American Express and Diners Club) for the provision of card acquiring services. The level of merchant fees is heavily influenced by the wholesale interchange fees paid from a merchant's financial institution (known as the acquirer) to the cardholder's financial institution (the issuer) for each

transaction, as well as the scheme fees that acquirers pay to the card schemes. Merchant fees can also include annual or monthly fees, terminal rental fees and joining fees charged by acquirers.

Average merchant fees for international scheme cards have declined since the early 2000s when the Bank started its card payments reforms (Graph 15). In 2019/20, the average merchant fee for transactions on Mastercard and Visa debit cards fell by 6 basis points, to 0.46 per cent, continuing a downward trend seen over recent years. The latest decline was consistent with small reductions in the schemes' weighted-average interchange fees on debit transactions, as they responded to competitive pressures created by the availability of least-cost routing (LCR). The average merchant fee for eftpos transactions remained at 0.27 per cent throughout the year. Merchant-level data for 2018/19 show that transactions processed through eftpos were, on average, materially cheaper than the international debit schemes for most merchants (see Box B).

The average merchant fee for transactions on Mastercard and Visa credit cards declined by 2 basis points in 2019/20, to 0.89 per cent. The average fee for American Express also fell, to 1.36 per cent. These falls were concentrated in the June quarter, associated with a sharp decline in credit card spending during the pandemic. By contrast, the average merchant fee for Diners Club increased over the same period, although this scheme accounts for a very small share of transactions.

**Graph 15**  
**Total Merchant Fees**  
Per cent of transaction values acquired



\* Prior to changes in reporting methodology in June 2018, the average fee reported for debit cards was slightly overstated and the average fee reported for credit cards was slightly understated; the overall average fee for Mastercard and Visa was unaffected by the reporting change  
Source: RBA

## Box B

# The Cost of Card Payments for Merchants<sup>1</sup>

The Bank collects various data on merchant payment costs in order to monitor trends in the cost of electronic payments to merchants. In late 2019, the Bank asked eight large acquirers

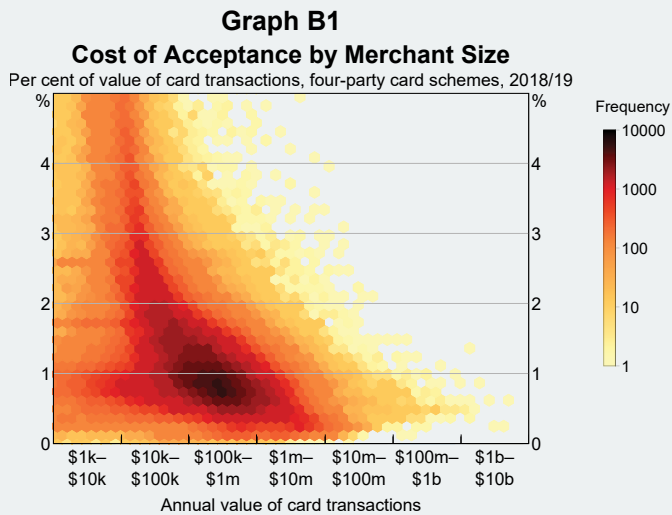
for anonymised merchant-level data on the costs to their merchants of accepting different types of cards. Data were collected for about 672,000 merchant accounts, and included the total value of card payments processed through each of the four-party card schemes (eftpos, Debit Mastercard, Visa Debit, Mastercard credit, Visa credit and UnionPay) in 2018/19

1 For more information, see Occhuitto (2020), 'The Cost of Card Payments for Merchants', RBA Bulletin, March, viewed 10 September 2020. Available at <<https://www.rba.gov.au/publications/bulletin/2020/mar/the-cost-of-card-payments-for-merchants.html>>.

and the corresponding value of merchant fees charged by the acquirer. The data matched the information that acquirers are required to provide in statements to their merchants each year under the surcharging framework of the Bank and the Australian Competition and Consumer Commission (ACCC).

Graph B1 shows how the cost of accepting card payments in 2018/19 (averaged across

all of the four-party schemes) varied based on the size of the merchant. It is apparent from the darker areas in the heat map that merchants with a higher value of card transactions tended to pay less for accepting card payments than smaller ones. The tendency for merchants' average payment costs to fall as their transaction values rise was evident for each of the four-party schemes (Graph B2).



Source: RBA

There are several possible reasons why smaller businesses tend to have higher average payment costs:

- Smaller businesses have a lower volume of transactions over which to spread the fixed costs associated with providing payment services to merchants (such as the provision of terminals).
- Larger merchants are more likely to benefit from favourable interchange rates from card schemes.
- There may be some impediments to competition in the acquiring market for smaller merchants. For example, smaller merchants are likely to have lower

negotiating power with their acquirers, may face relatively high costs of switching to another acquirer, and may be less likely to choose, or be offered, plans that would minimise their payment costs.

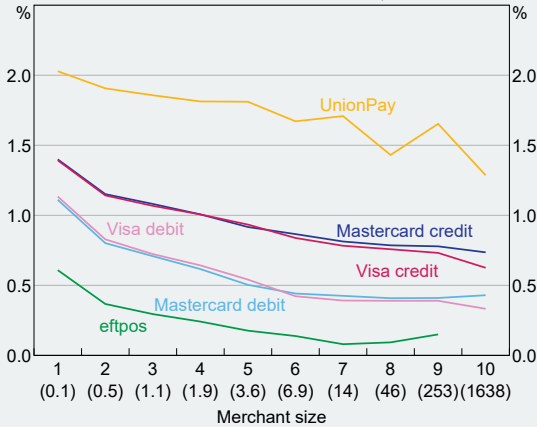
The merchant-level data also showed that merchants of all sizes paid less on average for transactions processed via eftpos compared with the international debit schemes (Graph B2). Holding merchant size constant, the cost of acceptance for eftpos was on average around 37 basis points lower than international scheme debit, which in turn was around 36 basis points less than scheme credit. UnionPay costs were significantly higher than those of all the other four-party schemes, which would partly



## Graph B2

### Average Cost of Acceptance by Merchant Size\*

Per cent of value of card transactions, 2018/19



\* Merchants ranked in value deciles, with the average annual value of card transactions (\$m) in 2018/19 for each decile shown in parentheses  
Source: RBA

reflect the higher interchange fees charged on overseas-issued cards, though UnionPay transactions were a very small share of total transactions.

The differences in the costs of accepting transactions from different card schemes can reflect a range of factors. Two significant components of merchant fees are interchange fees (paid by the acquirer to the card issuer) and scheme fees (paid by the acquirer to the card scheme) – both of these fees are determined by the card schemes. In general, credit cards have higher interchange fees than debit cards, and interchange fees for eftpos transactions are lower on average than those for Visa and Mastercard debit. Another key component of merchant fees is the acquirer's margin, which may reflect factors such as the merchant's size, the services being provided and the type of pricing plan the merchant is on.

Some of the differences in the average merchant fees across schemes could also be explained by compositional differences in transaction types. For example, the merchant fee data for Visa and Mastercard debit cards, unlike those for eftpos, include fees for transactions on foreign-issued debit cards, which have significantly higher interchange fees than domestic transactions. In addition, during 2018/19, eftpos was only supported for card-present transactions (i.e. in-person payments). In contrast, Visa and Mastercard debit cards could also be used for card-not-present transactions (such as online purchases), which may have different interchange and/or scheme fees compared with card-present transactions.

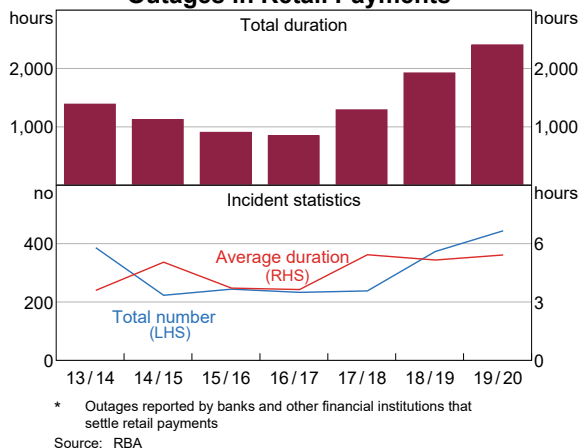
The data also show that there were some merchants for which eftpos was not the lowest-cost debit scheme on average. Visa and Mastercard pricing is usually percentage-based, while eftpos is typically priced on a cents-per-transaction basis. This means that businesses with low average transaction values (such as coffee shops) may see little difference in the costs of accepting the different debit schemes and, in some circumstances, may face higher costs for eftpos. The merchant-level data for 2018/19 suggested that Visa and Mastercard debit were materially less expensive for around 9 per cent of the merchants (accounting for about 5 per cent of the value of card transactions). There was little difference between the costs of the debit networks for a further 15 per cent of the merchants.

### ... outages in retail payments have continued to rise

The Bank collects data from banks and other financial institutions to monitor trends in the reliability of retail payments. These data show a substantial rise in the number and total duration of operational outages to retail payment services in recent years (Graph 16). Accordingly, since late 2019 the Bank has been working with the industry on measures to promote improved reliability in retail payment services (see the 'Retail Payments Regulation and Policy Issues' chapter). In 2019/20, there was a further rise in the aggregate duration of outages, reflecting a marked increase in the number of incidents and a slight lengthening in their average duration (i.e. the average time taken to restore services). By retail channel, online or mobile banking services continued to account for around half of the number of retail outages, while disruptions to card and NPP payment services were each about 10 per cent of the total. Software failures remained the leading reported cause of outages during the year. Institutions also experienced more problems relating to their telecommunications infrastructure and payments services provided by third parties, which illustrates some of the interdependencies that can impact the reliability of retail payment services.

The operational resilience of retail payments providers has been tested by the COVID-19 pandemic. Payment service providers had to adjust to new working arrangements, with key operational staff split across multiple sites or working from home. Another challenge has been heightened malicious cyber activity targeting financial institutions. Overall, retail payment providers have coped well since the COVID-19 outbreak began: there have been few very severe outages to electronic payment services and systems have remained secure. This has been a positive outcome; given the reduced use of cash in the pandemic, major disruptions

**Graph 16**  
**Outages in Retail Payments\***

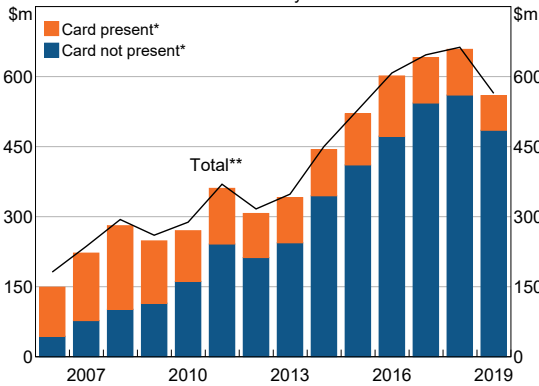


to electronic payments and a loss of access to funds could have caused significant difficulties for consumers and merchants and a broader loss of confidence in the payments system. To some extent, however, the good outcomes on retail payments reliability may be partly explained by organisations having temporarily halted some system changes and updates, which could generate a backlog of important work that will need to be completed at a later time.

### ... while fraud on payment cards has declined of late

Payment security and prevention of fraud is also important for maintaining public confidence in electronic payment services. According to industry data collected by the Australian Payments Network (AusPayNet), total losses from fraudulent transactions on debit, credit and charge cards fell by 15 per cent in 2019, to \$560 million (Graph 17). This was the first decline in total card fraud losses in eight years, and came despite strong growth in the use of cards over the year. The estimated fraud rate on card payments in 2019 was 67 cents per \$1,000 spent, compared with a peak of 84 cents in 2017. Within this, the fraud loss rate

**Graph 17**  
**Payment Fraud Losses**  
Calendar year



\* Includes card fraud losses for international card schemes, Visa and Mastercard, and the domestic card scheme, eftpos, that are issued and/or acquired in Australia

\*\* Includes cards, cheques and ATM transactions

Sources: AusPayNet; RBA

on 'domestic transactions' (i.e. transactions on Australian-issued cards at Australian merchants) is considerably below that on either 'outbound international transactions' (i.e. Australian-issued cards used at overseas merchants) or 'inbound international transactions' (i.e. foreign-issued cards used at Australian merchants).

Total card fraud losses continued to be driven by the fraudulent use of international scheme cards for card-not-present (CNP) transactions (i.e. those undertaken by phone, mail order or online).

There had been a marked increase in this type of fraud over recent years, driven by the rapid expansion in e-commerce and the increasing sophistication of online fraud methods.

However, in 2019, CNP fraud losses declined by 13 per cent to \$485 million, reflecting lower fraud losses on Australian-issued cards. This improved outcome is consistent with industry efforts to reduce CNP fraud through measures such as upgrading security where merchants hold card data, improved fraud detection tools and the tokenisation of card details. The CNP Fraud Mitigation Framework implemented by the industry in mid 2019 is also helping to

reduce CNP fraud losses. A core element of this framework is a requirement for multi-factor authentication of the cardholder in online CNP transactions where either the merchant or issuer has consistently exceeded specified fraud thresholds (see the 'Retail Payments Regulation and Policy Issues' chapter). According to AusPayNet, of the merchants who have exceeded a fraud threshold in one of the first few quarters that the framework has been in place, two-thirds brought fraud levels below the threshold in the following quarter; the remainder are working closely with their acquirer to reduce their fraud loss rate.<sup>8</sup>

Card-present (CP) fraud losses also declined in 2019, to be \$74 million or 13 per cent of total card fraud losses. CP fraud losses remain much lower than they were a decade ago, with the introduction of enhanced security measures, such as chip-and-PIN, which has helped reduce fraud losses from card skimming and counterfeiting.

## Payments, Clearing and Settlement Systems

The high-value payments and settlements systems and central counterparties that operate in Australia process the bulk of activity that takes place in Australia's financial markets. Following the outbreak of COVID-19, financial markets in Australia – as in other economies – became extremely volatile in late February and through March. The increase in volatility was associated with heightened activity in financial markets in the first half of 2020, with peaks of daily activity in many segments of the financial markets well above previous levels seen. The key financial market infrastructures in Australia

<sup>8</sup> See Australian Payments Network (2020), 'Australian Payment Fraud 2020', August. Available at <<https://www.auspaynet.com.au/resources/fraud-statistics/2019-Calendar-year>>.

were generally able to process this heightened level of activity and did not experience service disruptions despite operating under business continuity arrangements (see ‘Box C: COVID-19 and Financial Market Infrastructures’ for more details).

### High-value Payments and Settlements Systems

In Australia, the final settlement of Australian dollar (AUD) interbank payment obligations occurs across Exchange Settlement (ES) accounts through the Reserve Bank Information and Transfer System (RITS). RITS facilitates settlement of payments on a real-time gross settlement (RTGS) basis. Foreign exchange transactions involving the AUD are generally settled through CLS Bank International (CLS), with AUD funding paid to CLS through RITS. Together these two systems settle the majority of payments in Australia by value.

### Reserve Bank Information and Transfer System

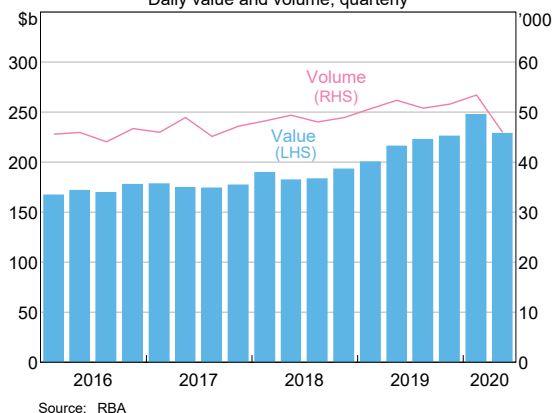
RITS is Australia’s high-value payments system, which is used by banks and other approved institutions to settle their payment obligations on an RTGS basis. RITS also settles a wide range of payments:

- RITS is used to settle time-critical wholesale payments for other financial market infrastructures (FMIs): AUD pay-ins to or pay-outs from CLS; margin payments to central counterparties (CCPs); and debt and equity settlement obligations arising in securities settlement systems.
- RITS also facilitates the multilateral net settlement of interbank obligations arising from other systems. This includes the settlement of obligations from non-cash retail payments – such as cheques, Direct Entry payments and card transactions – most of which are netted among participating

financial institutions and sent through the RITS Low Value Settlement Service for multilateral net settlement. RITS also settles Mastercard’s AUD domestic obligations; eftpos scheme obligations; and property settlement transactions, managed by PEXA and ASX Financial Settlements Pty Limited (ASXFS). These payments are submitted to RITS as multilateral net batches sent through the RITS batch functionality, with property transactions only settling when the property transfer has been confirmed by the land titles office.

The daily average value of RTGS transactions settled in RITS in 2019/20 increased approximately 17 per cent over the previous financial year, with SWIFT transactions comprising the majority of payments settled by value (Graph 18; Table 3). In March 2020, a record \$282 billion was settled on average per day, surpassing the previous peak month of June 2019 by around 20 per cent.

**Graph 18**  
**RTGS Transactions**  
Daily value and volume, quarterly



**Table 3: Payments in Australia**  
Daily average<sup>(a)</sup>, July 2019–June 2020

	Number <sup>(b)</sup>		Value <sup>(b)</sup>		Interbank settlement value in RITS	
	'000s	Annual Growth (per cent)	\$ billion	Annual Growth (per cent)	\$ billion	Annual Growth (per cent)
<b>RITS RTGS</b>	50	–	231	17	224	16
SWIFT payments	46	–	133	14	133	14
Austraclear <sup>(c)</sup>	4	–	85	25	76	24
RITS cash transfers	–	–	13	3	15	5
<b>CLS</b>	82	11	345	6	3	14
<b>Retail payments</b>	54,200	4	50	10	6	4
Direct entry <sup>(d)</sup>	12,500	–1	46	13	–	–
Cheques	200	–22	2	–30	–	–
Credit/charge cards	11,500	–1	1	–5	–	–
Debit cards	30,000	9	1	8	–	–
<b>Equity settlements<sup>(e)</sup></b>	–	–	12	17	1	18
<b>Property settlements<sup>(f)</sup></b>	–	–	3	54	1	52
<b>NPP</b>	1,700	150	2	194	1 <sup>(g)</sup>	208

(a) Business days (NPP payments made over seven days but expressed as an average per business day for comparability)

(b) Includes payments between customers of the same financial institution

(c) Includes margin payments to ASX's CCPs and obligations arising from debt securities transactions; Excludes intraday repurchase agreements

(d) Includes BPAY

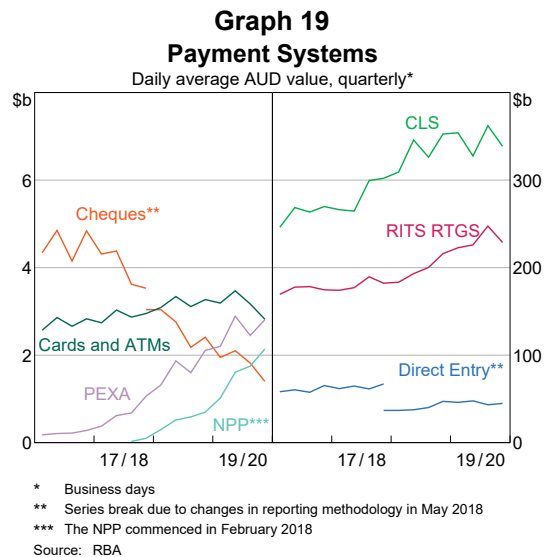
(e) Gross values based on value of novated and non-novated equity trades settled through ASX Settlement

(f) Net value of property settlement batches; each property settlement batch may involve a number of payments

(g) Interbank settlement value in FSS

Sources: ASX; CLS; RBA

PEXA transactions have continued to grow strongly with a daily average value of approximately \$3 billion, an increase of 54 per cent on last year (Table 3; Graph 19). Activity over the NPP has also continued to grow strongly, although daily average values in both NPP and PEXA remain small in comparison to daily average RITS RTGS values (Graph 19).



### CLS Bank International

CLS is an international settlement system that links the settlement of the two legs of a foreign exchange transaction. By operating such a payment-versus-payment settlement mechanism, CLS allows participants to mitigate foreign exchange settlement risk, i.e. the risk that one counterparty to a transaction settles its obligation in one currency, but the other counterparty does not settle its obligation in the other currency. CLS currently settles 18 currencies. The daily average value of AUD settlements at CLS increased to around \$345 billion in 2019/20 with peak activity recorded in March of \$414 billion per day.

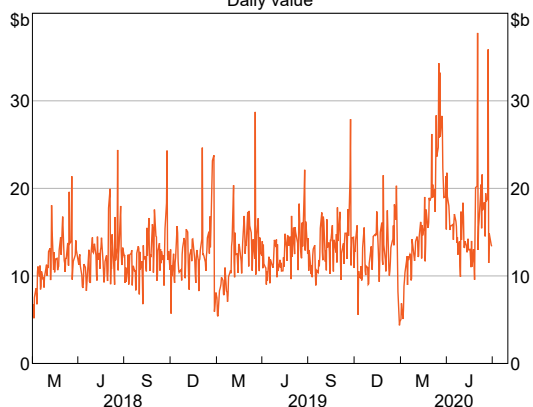
### Securities settlement facilities

Securities settlement involves the delivery of the security in exchange for payment, typically through a securities settlement facility (SSF). In Australia, ASX Settlement provides SSF services for Australian Securities Exchange (ASX)-quoted cash equities, debt products and warrants traded on the ASX and Chi-X Australia Pty Ltd (Chi-X) markets. ASX Settlement also provides SSF services for non-ASX listed securities quoted on the National Stock Exchange of Australia and the Sydney Stock Exchange Limited. The average daily value of cash equity settlements through ASX Settlement increased by around 17 per cent in 2019/20 to \$12.3 billion. Peaks in daily activity of above \$35 billion occurred in March and June, well above the previous peak of \$28.7 billion in March 2019 (Graph 20). The March peak in daily activity was driven by the settlement of a record volume of 7 million cash equities trades executed across all markets.

Austraclear Limited (Austraclear) provides SSF services for trades in debt securities, including government bonds and repurchase agreements. The average daily value of debt securities settled

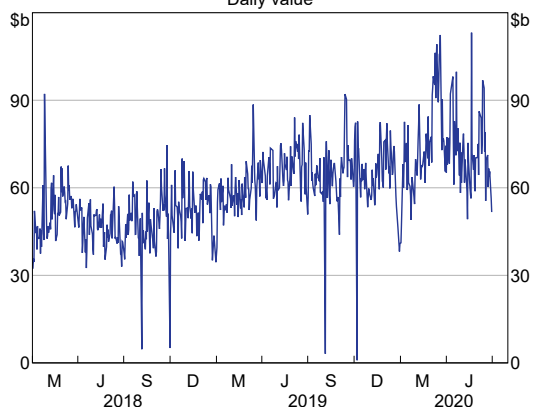
in Austraclear increased by around 25 per cent in 2019/20, to \$69.5 billion. Peak settlement activity in 2019/20 exceeded that of the previous financial year on 15 occasions between March and June, with a maximum value of \$113.2 billion being settled on 21 May (Graph 21). Most of the peak days were driven by settlement of new bonds issued by the Australian Government.

**Graph 20**  
**Net Settlements in ASX Settlement\***  
Daily value



\* Both novated and non-novated settlements  
Source: ASX

**Graph 21**  
**DvP Transactions in Austraclear**  
Daily value



Source: ASX

## Central counterparties

CCPs play a major role in managing the risks associated with trading in financial instruments. CCPs 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 clearing. Participants in cleared markets have credit and liquidity exposures only to the CCP, rather than other participants in the market.

In the absence of a participant default, the CCP is not exposed to market risk as it stands between counterparties with opposite (i.e. offsetting) positions. However, in the event that a participant defaults, the CCP must continue to meet its obligations to its surviving participants. In such an event, 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.

To mitigate the risk of such losses, CCPs maintain prefunded resources, typically in the form of initial margin and default funds. Initial margin is collected from participants and is sized to cover potential future losses, to a specified confidence interval, on a participant's portfolio in the event they default. Accordingly, aggregate initial margin provides a risk-based measure of the magnitude of exposures faced by CCPs. Default funds comprise contributions from participants and/or the CCP itself and are available to cover losses if, in the event of default, the defaulting participant's margin is exhausted.<sup>9</sup>

Four CCPs are licensed to provide services in Australia:

- ASX Clear Pty Limited (ASX Clear) provides CCP services for ASX-quoted cash equities, debt products and warrants traded on the

ASX and Chi-X markets and equity-related derivatives traded on the ASX market or over-the-counter (OTC).

- ASX Clear (Futures) Pty Limited (ASX Clear (Futures)) provides CCP services for 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 (NZD)-denominated OTC interest rate derivatives (IRD).
- LCH Limited's (LCH Ltd) SwapClear service provides CCP services for OTC IRD and inflation rate derivatives.
- Chicago Mercantile Exchange Inc. (CME) provides CCP services for OTC IRD, and non-AUD IRD traded on the CME market or the Chicago Board of Trade market for which CME permits portfolio margining with OTC IRD. CME is also licensed to provide clearing services for commodity, energy and environmental derivatives traded on the financial market to be operated by FEX Global Pty Ltd (FEX).

## Activity

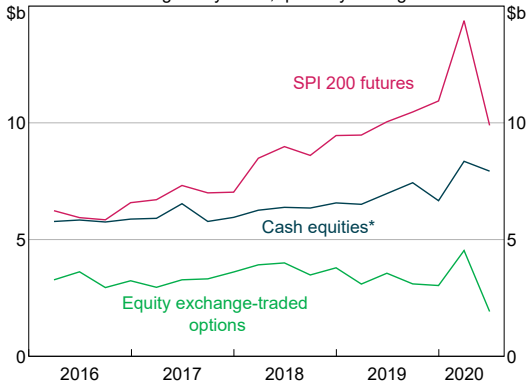
The ASX CCPs clear cash equities as well as exchange-traded futures and options. Trading activity in both equity derivatives – equity exchange-traded options (ETOs) and ASX SPI200 – and cash equities spiked in the first half of 2020 (Graph 22). The average daily value of trading activity in equities in the March quarter was nearly 35 per cent above the 2019 daily average; the number of trades was also elevated, with the highest volume day in cash equities more than double the pre-February peak. These unprecedented volumes caused some processing delays at ASX Clear. The surge in activity was associated with significant volatility in the equities markets in the March quarter, before stabilising in the June quarter (Graph 23).

<sup>9</sup> CCPs also call variation margin to cover the exposure to actual changes in market prices to prevent the build-up of current exposures. It is collected from participants with mark-to-market losses, and typically paid out to participants with gains.

**Graph 22**

**ASX Equities – Trading Activity**

Average daily value, quarterly average

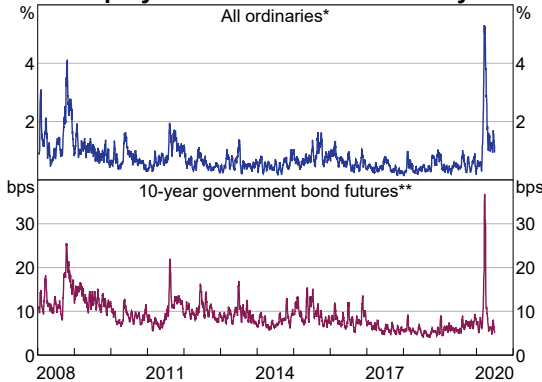


\* ASX Trade and Chi-X  
Sources: AFMA; ASIC; ASX; Bloomberg; RBA

**Graph 23**

**Equity and Bond Market Volatility**

All ordinaries\*



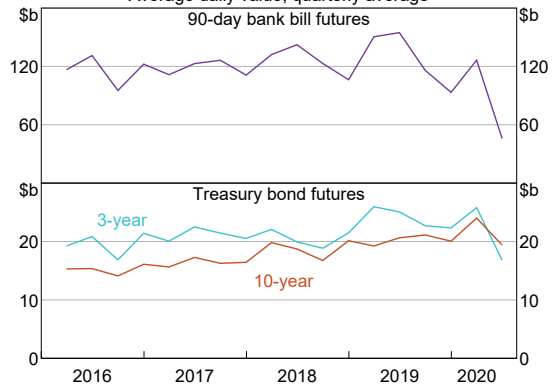
\* 10-day moving average of absolute per cent change  
\*\* 10-day moving average of intraday range  
Source: Bloomberg

After picking up at the start of 2020, trading activity in all three interest rate futures contracts contracted in the June quarter (Graph 24). This was most pronounced in 90-day bank bill futures, for which trading activity was 70 per cent below June 2019 levels. The initial increase in activity in the first quarter of 2020 was associated with periods of significant volatility in interest rates particularly in mid March (Graph 23). The announcement of policy responses, including the Bank’s initiative to purchase government bonds across the yield curve, with

**Graph 24**

**ASX Interest Rate Futures – Trading Activity**

Average daily value, quarterly average



Sources: ASX; Bloomberg

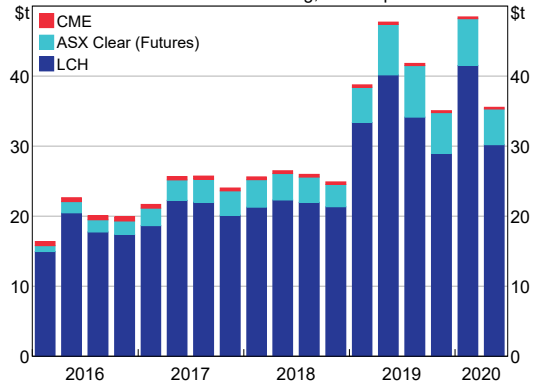
a target for the three-year yield, helped stabilise yields and reduced uncertainty about the future path of interest rates. As volatility and uncertainty declined, trading activity also fell, particularly in the shorter-term contracts.

In OTC markets, ASX Clear (Futures), CME and LCH Ltd all offer central clearing for AUD-denominated IRD. As at June 2020, 85 per cent of centrally cleared AUD OTC IRD outstanding were cleared at LCH Ltd, with most of the remaining share cleared at ASX Clear (Futures) (Graph 25). These market shares have been broadly steady in recent years. ASX Clear

**Graph 25**

**Cleared AUD OTC Interest Rate Derivatives**

Notional value outstanding, end of quarter



Sources: ASX; CME Inc; LCH Ltd

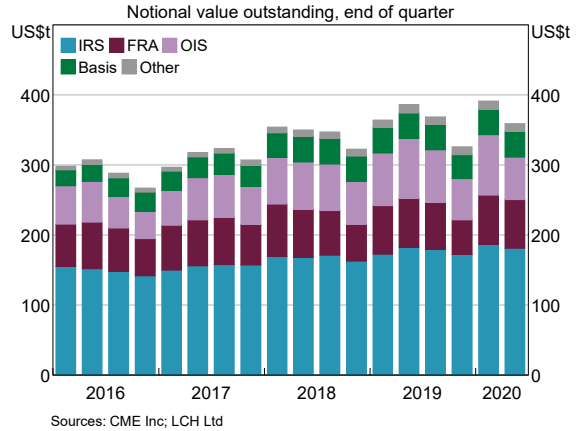


(Futures) has eight participants in its OTC service and SwapClear has six Australian-incorporated entities participating directly, while CME has no Australian direct participants. A number of Australian-based banks, superannuation funds and other institutional investors clear products at all three CCPs indirectly as clients of other direct participants.

The notional value of all centrally cleared AUD-denominated OTC IRD declined in the second half of 2019 before picking up in early 2020. This was driven by activity in overnight index swaps (OIS) (short-term interest rate swaps tied to the cash rate) reflecting changing expectations about the likely path of the cash rate as news of the COVID-19 pandemic emerged (Graph 26). Activity in OIS is typically more volatile than other interest rate swaps, although they contribute less risk because they are relatively short-term in duration. Interest rate swaps and OIS account for the majority of outstanding AUD-denominated OTC IRD positions, though basis swaps, zero-coupon swaps and variable notional swaps are also cleared.

Globally, the notional value of OTC IRD trades outstanding in all currencies also increased in early 2020 (Graph 27). Interest rate swaps make

**Graph 27**  
**Cleared OTC Interest Rate Derivatives**  
**(All Currencies)**



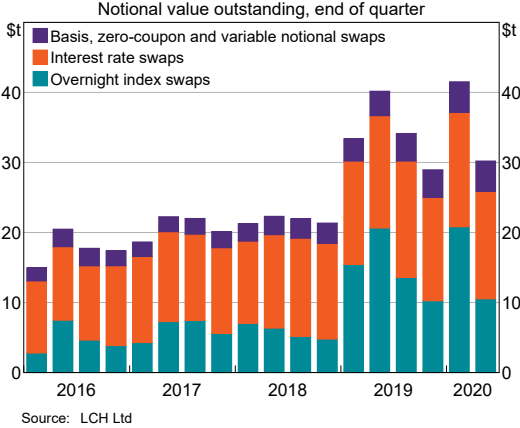
up the largest share of exposures, though the COVID-related pick-up was primarily driven by shorter-dated OIS and forward rate agreements (FRA). AUD-denominated contracts make up a small share of outstanding contracts in all currencies – around 6 per cent at LCH Ltd’s SwapClear service and less than 1 per cent at CME as at the end of June.

**Margin**

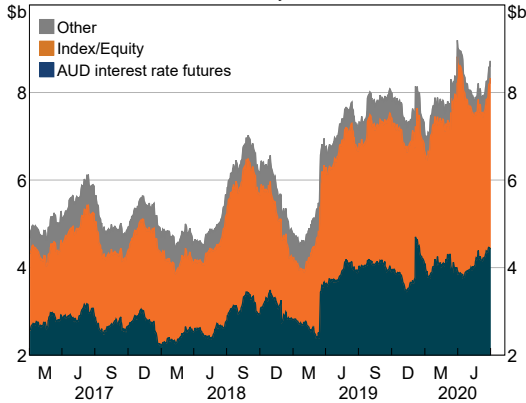
Interest rate futures and the ASX SPI200 futures comprise the majority of exposures at ASX Clear (Futures), as measured by initial margin. The total amount of margin held by ASX Clear (Futures) spiked in March 2020, reaching a peak of \$9 billion, higher than the previous peak of \$8 billion in December 2019 (Graph 28). This increase largely reflected increases in margin rates for both equity futures and OTC interest rate derivatives.

ASX Clear manages exposures from its participants’ trades in cash equities and equity ETOs (other than on the ASX SPI200 futures). Margin at ASX Clear increased substantially in early 2020, as ASX increased the margin rates charged on both cash equities and equity

**Graph 26**  
**SwapClear Cleared AUD Interest Rate Derivatives**  
**Notional value outstanding, end of quarter**



**Graph 28**  
**ASX Clear (Futures) Initial Margin**  
Daily

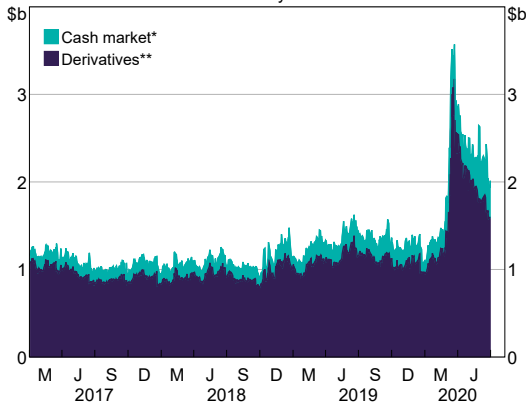


Source: ASX

derivatives (Graph 29). Margin held against cash equities is generally much lower than for equity derivatives because of the short (two day) duration of cash equity trades.

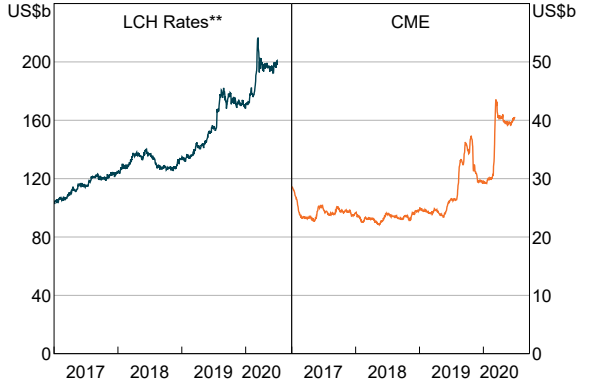
Globally, margin requirements at both LCH Ltd and CME also increased over this period reflecting similar factors to those seen in domestic markets (Graph 30).

**Graph 29**  
**ASX Clear Margin**  
Daily



\* Initial margin  
\*\* Initial and variation margin  
Source: ASX

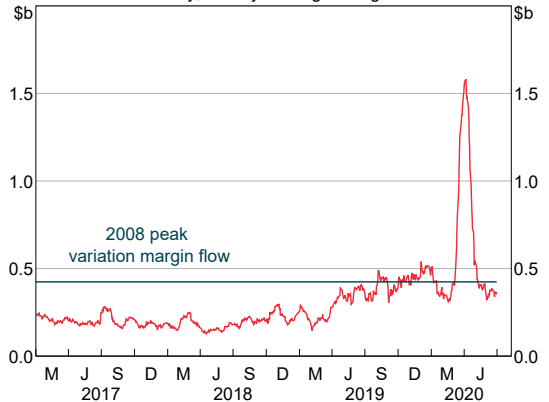
**Graph 30**  
**OTC IRD Total Initial Margin Requirement\***  
Daily



\* Total initial margin includes initial margin and additional margin  
\*\* The LCH Rates margin class includes all SwapClear products and those Listed Rates interest rate futures that have been moved for the purposes of portfolio margining  
Sources: CME Inc; LCH Ltd

Variation margin flows, which prevent the build-up of current exposures as prices move, increased substantially in March for ASX Clear (Futures), CME and LCH Ltd, but have since fallen significantly (Graph 31; Graph 32). The increase in margin flows reflected the elevated volatility in markets, with variation margin directly linked to realised volatility as it reflects the market revaluation of participants' positions.

**Graph 31**  
**ASX Clear (Futures) Variation Margin Flow\***  
Daily, 21-day moving average



\* Value of one side of variation margin flow  
Source: ASX

**Graph 32**  
**LCH and CME Variation Margin Flow\***  
 Daily, 21-day moving average



\* Value of one side of variation margin flow  
 Sources: CME Inc; LCH Ltd

### Uncleared margin rules

Consistent with the G20's OTC derivatives reforms that introduced mandatory central clearing of OTC IRD trades between internationally active dealers, Australian banks centrally clear over 80 per cent of their OTC IRD transactions.

Firms that are not subject to mandatory clearing requirements have also been taking up clearing as a result of changing incentives. These incentives include factors such as increased liquidity and netting benefits for centrally cleared derivatives, as well as changing regulations such as higher capital and margin requirements for OTC derivatives that are not cleared. The uncleared margin rules require counterparties to post initial margin for non-centrally cleared OTC derivatives trades and have been implemented progressively. In light of the operational and financial challenges posed by COVID-19, global and domestic regulators have extended the deadlines for the final two implementation phases by one

year.<sup>10,11</sup> By imposing higher costs for OTC derivatives trades that are not centrally cleared, it is expected that a number of firms captured by the final phases will begin or continue to shift towards clearing.

### Benchmark reform

In line with the Financial Stability Board's (FSB's) recommendations to improve the robustness of interest rate benchmarks, CCPs are expanding the list of products eligible for clearing to include swaps that reference new risk-free rates (RFRs). LCH Ltd's SwapClear service and CME's IRS service offer clearing of USD swaps referencing the secured overnight financing rate (SOFR); LCH Ltd also clears euro (EUR) swaps referencing the euro short-term rate (€STR).<sup>12</sup> Clearing of these products is expected to further increase as the industry converts the interest rates used to discount cash flows on contracts settled in these currencies from the interbank offered rate (IBOR) to the new risk-free rate. The discount rate for EUR swaps was converted to €STR in July 2020; the switch to SOFR discounting for USD swaps is scheduled for mid October 2020. This will not be required for AUD swaps; these are already discounted using the risk-free rate rather than the IBOR benchmark, which will continue to be published.<sup>13</sup>

10 Basel Committee and IOSCO (2020), 'Basel Committee and IOSCO announce deferral of final implementation phases of the margin requirements for noncentrally cleared derivatives', Press Release, 3 April. Available at <<https://www.iosco.org/news/pdf/IOSCONEWS560.pdf>>.

11 APRA (Australian Prudential Regulatory Authority (2020), 'APRA announces new commencement dates for prudential and reporting standards', 16 April. Available at <<https://www.apra.gov.au/news-and-publications/apra-announces-new-commencement-dates-for-prudential-and-reporting-standards>>.

12 ASX Clear (Futures) does not offer clearing of USD or EUR swaps and so has not introduced new RFR products.

13 Alim and Connolly (2018), 'Interest rate benchmarks for the Australian dollar', RBA *Bulletin*, September, viewed 10 September 2020. Available at <<https://www.rba.gov.au/publications/bulletin/2018/sep/interest-rate-benchmarks-for-the-australian-dollar.html>>.

# Retail Payments Regulation and Policy Issues

The Reserve Bank determines policy for retail payments systems and undertakes research into retail payments issues under its remit to promote a safe, competitive and efficient payments system. Recent policy work has been focused on a comprehensive Review of Retail Payments Regulation that was commenced in late 2019. The review is looking at a range of topics, including competition and efficiency issues in the card payments market, the effectiveness of the Bank's existing card payments regulations, and some policy issues raised by innovation and the entry of new players into the payments market. With the transition away from cash and towards electronic payments, the Bank has also been examining whether there are any policy issues regarding access to cash services, as well as the cost, reliability and security of electronic payment services. The importance of this work has increased in light of the changes stemming from the COVID-19 pandemic. The Bank also continues to monitor the rapid pace of innovation in the payments system and changes in market structure.

## Card Payment Costs and Compliance with the Bank's Card Regulations

As Australians have shifted away from cash and cheques, card payments have grown rapidly. When choosing to pay with a card, households are increasingly using debit cards, which have become the most frequently used payment method in Australia. Given the rapid growth in the use of cards, the Board has continued to focus on holding down the cost of card payments, including by encouraging the provision of least-cost routing (LCR) functionality and monitoring the effectiveness of and compliance with the Bank's card payments regulations. The Bank is

also considering a number of issues relating to competition in the card payments market as part of its comprehensive Review of Retail Payments Regulation.

### Least-cost routing

During the past year, the Bank has continued to encourage the provision of LCR functionality to merchants as a way to promote competition in the debit card market and help merchants reduce their card payment costs. LCR, also known as merchant choice routing, refers to terminal functionality provided by acquirers that enables merchants to route contactless dual-network debit card transactions to whichever network on the card costs them less to accept. From a merchant's perspective, the

cost of accepting debit card payments can vary depending on which network the transaction is processed through, even though there is little or no difference from a customer perspective (see 'Box B: The Cost of Card Payments for Merchants'). With the majority of debit cards on issue in Australia being dual-network cards and there being a significant increase in the share of debit card transactions over the past decade, many merchants could benefit from cost savings by implementing LCR. Changing payment patterns in response to the COVID-19 pandemic, notably the shift from cash to contactless card payments, have also underscored the potential benefits of LCR.

Following pressure from the Reserve Bank over a number of years, most of the major acquirers had introduced some form of LCR functionality by the middle of 2019. The Bank has continued to monitor the rollout of LCR capabilities during the past year and the take-up among merchants. To date, take-up across most acquirers appears to have been fairly low and concentrated among larger merchants. To some extent, this may reflect a decline in potential cost savings to some merchants as the international card schemes have lowered some debit interchange fees in response to the competitive pressure flowing from LCR (see the section on 'Interchange Fees' below). However, the low take-up may also reflect a general lack of awareness among merchants of the potential benefits and implications of LCR, suggesting a role for more active promotion and education by acquirers. Moreover, some acquirers still only offer LCR on a limited range of the terminals they support and their LCR implementations vary in the degree of sophistication and potential cost savings they offer merchants. For example, only a few acquirers offer a version of LCR that maximises merchant savings by enabling

'dynamic' (or smart) routing based on transaction value and payment network; most require merchants to nominate one scheme for all debit transactions, although it is typically the case that one scheme is not the lowest cost for all transactions. Some smaller merchants may not have any incentives to implement LCR because they are on simple pricing plans that effectively charge the same rate for transactions on all schemes; the Bank is not aware of any acquirers taking advantage of the potential costs savings from LCR to improve the value offered by these types of plans.

Some merchants that have adopted LCR have identified various issues that limit its effectiveness. These include the existence of some cards with outdated chips that cannot be routed and issuer-imposed limits on the value of eftpos transactions preventing the routing of some transactions to eftpos. In addition, there have been a few reports of customers of some smaller financial institutions being charged fees for exceeding a fixed number of monthly eftpos transactions permitted under a legacy account product. Industry participants have indicated to the Bank that they are working to resolve these issues to support a more effective LCR experience.

The Bank has also been monitoring the response of card schemes and financial institutions to the rollout of LCR. While the competitive pressure associated with LCR appears have resulted in lower interchange rates for some merchants, particularly larger ones, there is some evidence that this has been accompanied by increases in rates on some other types of debit transactions, including where LCR is not an option. The Bank has also heard concerns from some merchants that they may be penalised by higher interchange rates on their credit transactions if they adopt

LCR for debit transactions. The Bank has been engaging with the Australian Competition and Consumer Commission (ACCC) on some of the competition issues associated with LCR.

Overall, while LCR has had the desired effect of improving competition in the debit card market and lowering payment costs to some merchants, there are still many merchants, particularly smaller ones, that may not be gaining the full benefits from this initiative. Consequently, as part of the Review of Retail Payments Regulation currently underway (see below), the Bank is considering whether any additional actions might be warranted in relation to LCR to enhance competition and efficiency in the debit card market. The importance of this work has increased in light of the shift from PIN to contactless transactions as a result of the pandemic.

### Interchange fees

Wholesale interchange fees, which are paid by acquirers to issuers per transaction, are a significant component of the cost to merchants of accepting a card payment. The Bank's interchange standards cap the level of interchange fees that designated schemes can set for transactions on Australian-issued cards. Weighted-average interchange fees are required to be below a benchmark of 0.50 per cent for credit cards, and 8 cents for debit and prepaid cards. The weighted-average benchmarks provide flexibility to the schemes to set different rates for different card, transaction and merchant types. The benchmarks are supplemented by ceilings on individual interchange rates to limit the disparity between fees applicable to larger 'strategic' merchants and smaller businesses. These ceilings are: 0.80 per cent for credit cards; and 15 cents, or 0.20 per cent if the interchange fee is specified in percentage terms, for debit and prepaid cards.

Compliance with the interchange benchmarks is observed quarterly, based on transactions in the preceding four quarters. In the event a scheme has exceeded the benchmark, it must reset its interchange fee schedule, such that had those fees applied over the preceding four quarters, the benchmark would not have been exceeded.

The international schemes have typically set their credit interchange fees such that the weighted-average rate is very close to the benchmark in most quarters, which has resulted in the need to reset their schedules frequently. In 2019/20, Visa was required to reset its credit interchange fee schedule twice, while Mastercard was required to reset in every quarter. Some submissions to the Bank's Review of Retail Payments Regulation noted that the frequency of resets created significant costs for participants in the payments system (see below). Schemes could reduce the frequency of required interchange fee resets by setting their rates more conservatively relative to the benchmark.

By contrast, there were no resets required for debit and prepaid cards in 2019/20, as weighted-average interchange fees remained below the benchmark for all designated schemes. In fact, weighted-average interchange fees generally trended down over the year, as schemes continued to respond to competitive pressures created by LCR. These responses included reductions by all the schemes in interchange fees for card-present transactions on standard consumer cards at non-strategic merchants, while Visa also reduced its fees for some strategic merchants. From July 2020, eftpos introduced new 'package rate' interchange categories for transactions on dual-network debit cards (DNDCs), which offer lower fees to merchants that route transactions to eftpos. By contrast, interchange fees for online debit transactions, for which LCR is not currently

available, have remained relatively high. For example, the international schemes' fees for online transactions with standard consumer cards are both at the debit ceiling.

Over 2019/20, the schemes made a number of other voluntary changes to their interchange fee schedules. These included changes designed to encourage the adoption of tokenisation technologies to reduce fraud (see the section 'Payment Security Initiatives' below for further details).

### Net compensation

To prevent circumvention of the interchange fee benchmarks and ceilings, the Bank's interchange standards contain a requirement that issuers may not receive 'net compensation' from a scheme in relation to card transactions. This requirement is intended to limit the possibility that schemes may use payments and other incentives to issuers (funded by higher scheme fees on acquirers) to effectively replicate interchange fee payments. This requirement was first introduced in July 2017. Following consultation with the industry, the Bank varied the standards effective July 2019 to:

- require the use of accrual accounting in determining net compensation
- clarify the definitions of various elements of net compensation, and
- make clear that only sponsoring issuers in multiple-issuer aggregator arrangements are required to comply.

These variations were intended to improve clarity and minimise compliance burden, but did not change the purpose or substantive effect of the standards. Following a review of 2018/19 compliance certifications, the Bank issued further guidance on the definitions of certain aspects of the net compensation provisions in May 2020, which was designed to support a consistent interpretation of the requirements across the

industry. The certification process for 2019/20 indicated that the 'net compensation' provision was working as intended.

### Surcharging

The Bank's surcharging standard protects the right of merchants to impose a surcharge on payments made using cards from designated schemes.<sup>14</sup> But it also ensures that consumers are not excessively surcharged, by limiting surcharges to the merchant's average cost of accepting a card payment for the relevant scheme.

To support surcharging decisions, statements from acquirers and payment facilitators are required to include easy-to-understand information on the average cost of acceptance for each designated scheme. These requirements are complemented by powers given to the ACCC to monitor and enforce the ban on excessive surcharging. In addition, a number of card schemes that are not designated, and therefore not subject to the surcharging standard, have formally undertaken to keep their surcharging rules consistent with the standard.

The Bank's monitoring indicates that there has been a high level of compliance with the surcharging framework by schemes and acquirers. The ACCC has also indicated that there was a reduction in the number of surcharging complaints it received during 2019/20 and it did not commence any new formal enforcement proceedings relating to excessive surcharging during the year after dealing with a handful of cases in the prior few years.

Data from the Bank's 2019 Consumer Payments Survey (CPS) suggest that surcharges on card purchases remain relatively uncommon.

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<sup>14</sup> Under Australian consumer law, merchants are permitted to surcharge all payment methods (including cash). However, if a merchant's customers cannot avoid paying a surcharge through all accepted payment methods, the merchant must incorporate that surcharge amount into its advertised or displayed prices, rather than adding it on as a surcharge during the payment process.

Nonetheless, surcharging is more frequent in some merchant categories (for example, travel) and credit cards are more likely to incur a surcharge than debit cards.

## Review of Retail Payments Regulation

In November 2019, the Bank commenced a holistic Review of Retail Payments Regulation with the publication of an Issues Paper and the start of a stakeholder consultation.<sup>15</sup> The Bank has conducted comprehensive reviews of its regulatory framework every five years or so, with the last one taking place in 2015/16. This timing recognises the trade-off between providing stability to the regulatory framework and responding to policy issues that emerge as the market evolves. Several developments suggested that it was particularly timely for the Board to review the regulatory framework. Two recent inquiries – one by the Productivity Commission (PC), another by the Black Economy Taskforce (BETF) – made some recommendations relevant to the Bank’s payments regulations. The retail payments landscape has also changed appreciably in recent years, reflecting technological change, payments innovation, the entry of new providers and changing payment preferences of end users. The Review was originally intended to be completed during 2020 but was temporarily put on hold in March in order to reduce the demands on industry stakeholders during the COVID-19 pandemic. The Bank now expects to complete the Review in 2021.

The Issues Paper sought stakeholder feedback on a wide range of topics that could be covered by the Review. While some of the issues are directly

relevant to the Bank’s existing card payments regulation, the Review is intended to be broader ranging and will also consider whether there are any gaps in the retail payments system that should be addressed and whether there are any regulatory issues outside the narrower scope of card payments. Some of the specific topics raised in the Issues Paper included:

- the possibility of lowering the interchange fee benchmarks, particularly in light of recommendations in the recent PC and BETF inquiries<sup>16,17</sup>
- the costs to industry of frequent resets of interchange fee schedules by schemes to comply with the benchmarks, and whether alternative approaches to compliance may be less disruptive while still achieving the same policy objectives
- whether regulation should be extended to inter-regional interchange fees and whether, from a level-playing-field perspective, there is also a case to apply regulation to three-party schemes (which are not covered by interchange regulation)
- the functioning to date of LCR of contactless payments using DNDCs and whether further steps should be taken in relation to LCR to enhance competition and efficiency in the debit card market
- broader issues related to DNDCs, including whether changes in technology (such as the shift towards digital payments) have changed the case for promoting the continued issuance of DNDCs and what policy actions might be required to

<sup>15</sup> For more information, see 'Review of Retail Payments Regulation'. Available at <<https://www.rba.gov.au/payments-and-infrastructure/review-of-retail-payments-regulation/pdf/review-of-retail-payments-regulation-issues-paper-nov-2019.pdf>>.

<sup>16</sup> See Recommendation 17.1 of the PC’s final inquiry report on Competition in the Australian Financial System. Available at <<https://www.pc.gov.au/inquiries/completed/financial-system/report/financial-system.pdf>>.

<sup>17</sup> See Recommendation 3.3 of the BETF’s Final Report. Available at <[https://treasury.gov.au/sites/default/files/2019-03/Black-Economy-Taskforce\\_Final-Report.pdf](https://treasury.gov.au/sites/default/files/2019-03/Black-Economy-Taskforce_Final-Report.pdf)>.



promote competition and efficiency in an environment where single-network cards became more prominent

- the implications of the growing importance of mobile devices and digital platforms for competition, efficiency and risk in the Australian retail payments system, including issues around the provisioning and tokenisation of DNDCs
- whether further policy action is warranted to enhance competition in the provision of acquiring services to merchants, including through greater price transparency
- whether ‘buy now, pay later’ providers should be required to remove any no-surcharge rules, consistent with earlier actions relating to card systems that applied such rules
- a range of broader strategic issues, including the future role of cash, the potential future role for a retail central bank digital currency, the implications of the prospective issuance of ‘global stablecoins’, the future of the cheque system, and the case for coordination or consolidation of the domestic payment schemes.

The Bank received over 50 written submissions in response to the Issues Paper and consulted with a wide range of interested parties before the Review was formally put on hold in March. It is expected that industry consultation could recommence in coming months, once the demands on stakeholders associated with the COVID-19 pandemic have eased. The Bank is planning to publish a conclusions paper during 2021 and will separately consult on any significant policy proposals coming out the Review.

Regulatory and legal developments in relation to interchange fees in some other jurisdictions may be relevant to aspects of the Bank’s

ongoing Review. In Europe, the European Commission recently assessed the effectiveness of its interchange fee regulations, which were implemented in 2015/16 and include caps on interchange fees. It concluded that the regulations had successfully reduced merchant payment costs, resulting in either improved services for consumers or lower consumer prices. It also found no evidence that lower interchange fees had led to higher cardholder fees or less innovation in card payments. In the United Kingdom, the Supreme Court in June found that interchange fees set by Visa and Mastercard breached European Union competition laws, by restricting competition in the acquiring market. The court concluded that these fees amounted to a collective agreement to fix a minimum price floor for merchant service fees, resulting in a large share of merchant service fees being immunised from competitive bargaining.

## Declining Cash Use and the Supply of Cash Services

As discussed in the ‘Trends in Payments, Clearing and Settlements’ chapter, a structural decline in the use of cash for payment transactions has been underway in Australia for at least a decade. This trend can be largely explained by Australians opting for newer and more convenient electronic payment methods over cash. There are no indications to date that the shift away from cash has been the result of end users finding it difficult to access cash withdrawal or deposit services. Indeed, the amount of cash in circulation has continued to grow, reflecting the demand to hold cash for precautionary purposes and as a store of value. Moreover, the vast majority of merchants have continued to accept cash as a means of payment.

Recently, the outbreak of the COVID-19 pandemic appears to have accelerated the decline in the use of cash, with many consumers increasing their use of contactless payment methods or choosing to shop online. Many businesses have also been keen to encourage the use of contactless payments over cash; a few have gone as far as to stop accepting cash or imposing surcharges on the use of cash. While it is difficult to predict how enduring these recent changes in payment behaviour will be, it seems likely that some people will maintain their increased use of electronic payments going forward, implying a permanent step-down in cash use.

The ongoing decline in cash use could change the economics of providing cash distribution services with potentially adverse implications for the supply for cash services by banks and other participants. Given that many businesses and households still rely heavily on being able to access and use cash, the Board believes it is important to maintain adequate access to cash deposit and withdrawal services across the country, particularly in regional and remote areas where the reliance on cash is often higher. Accordingly, the Bank has been engaging with banks and cash-in-transit operators on the challenges of supplying cash distribution services as cash use declines. These discussions have highlighted a range of actions that have been taken, or are being considered, to improve efficiency and reduce the costs of providing cash services. Rationalisation of some ATMs (see below) and branch services has been part of the response.

Despite a reduction in the number of cash access points over recent years, analysis by Bank staff indicates that the vast majority of Australians continue to have good access to cash withdrawal and deposit services through bank branches, ATMs and Australia Post 'Bank@Post'

outlets. The Board will continue to monitor access to cash services and trends in the use and acceptance of cash, and will consider whether any policy actions may be required to support the continued provision of cash services during the transition away from cash.

### Developments in the ATM Industry

One area where the declining transactional use of cash has been having an impact is the ATM industry. As discussed in the 'Trends in Payments, Clearing and Settlement' chapter, the number and value of ATM cash withdrawals has been declining for more than a decade. This has prompted banks and other ATM deployers to begin to rationalise their ATM fleets over recent years, with the total number of active ATMs in Australia declining by about 15 per cent to March 2020 since the peak in 2016. For banks, the focus initially was on rationalising their off-branch fleets, and some banks have recently begun to sell their remaining off-branch fleets to third-party operators, supported by commercial arrangements that enable the banks' customers to continue using the machines fee-free. By contrast, banks have generally sought to maintain their branch ATM fleets, and they are also continuing to invest in upgrading the capabilities of these machines to handle a wider range of services, including cash deposits, as part of broader branch modernisation strategies.

The Bank has indicated that it has an open mind to the consolidation of ATMs under one or more ATM utilities, whether jointly owned by participants or outsourced. In an environment of declining ATM use and rising costs of ATM deployment, such arrangements may be a more efficient way to sustain a broad coverage of ATMs, which is particularly important for regional and remote areas that often have fewer options for accessing cash services.

The Bank has been keen to ensure that its ATM Access Regime does not pose any unnecessary impediments to consolidation in the industry. The Board reviewed the ATM Access Regime last year and decided to retain it in its current form, with another review to take place within the next couple of years. Even though the policy case for retaining the Access Regime may not have been as strong as when it was introduced over a decade ago, the Board concluded that it could still serve a useful purpose of promoting fair access to the ATM industry. This was consistent with the views of a number of stakeholders who wanted the Access Regime to be retained, at least until changes associated with the ongoing consolidation of the industry had played out. Notwithstanding this, the Board recently indicated that it would be open to considering specific exemptions to the interchange restrictions in the Access Regime, so that sensible consolidation initiatives that can help sustain a broad coverage of ATMs are not inhibited. The Bank will continue to engage with industry participants to understand developments in the ATM industry, and is happy to respond to any stakeholders who have concerns about the impact of the Access Regime.

## The Future of the Cheques System

As discussed in the chapter 'Trends in Payments, Clearing and Settlement Systems', the use of cheques in Australia has continued to decline at a rapid rate in recent years, and the changes associated with COVID-19 are likely to further accelerate the transition away from cheques as more people adopt digital alternatives. Given the largely fixed costs of maintaining the cheques system, the average cost of processing cheque transactions will continue to rise as cheque use falls further. Therefore, from an efficiency perspective, the Board believes there would be benefits in proactively managing the decline in

the cheques system, with a view to closing it at some point in the future.

While any decision to withdraw from providing cheque services will ultimately be a matter for financial institutions based on their customers' needs, the Bank has been engaging with the industry on the steps that would be required to wind down the cheques system. Key among these will be sustained efforts by financial institutions to raise awareness of viable alternatives to cheques for customers that still use them and to support those customers in transitioning to alternative payment methods. There are also a number of legislative barriers that will need to be addressed. For example, there is some state and federal legislation that still mandates the use of cheques as a means of payment in certain circumstances or that otherwise would prevent financial institutions from stopping accepting cheques. The Bank will continue to work with the industry to support an orderly wind-down of the cheques system in a way that enables the payment needs of remaining cheque users to be adequately met.

## Regulatory Framework for Stored-value Facilities

During 2019/20 the Board continued to be briefed on the Bank's work with the Council of Financial Regulators (CFR) to review the regulatory framework for stored-value facilities (SVFs) in Australia. These products encompass a wide range of facilities that enable customers to store funds electronically for the purpose of making payments. The CFR's review was initiated in mid 2018 and was carried out by a working group chaired by the Bank that included representatives from the Australian Prudential Regulation Authority (APRA), the Australian Securities and Investments Commission (ASIC) and Treasury.

Broadly speaking, the objectives of the review were to consider whether aspects of the regulation of SVFs could be simplified and made more transparent, and to ensure that the regulatory arrangements do not pose undue obstacles to innovation and competition, while maintaining appropriate levels of consumer protection. The review addressed recommendations from the PC's 2018 Inquiry into Competition in the Australian Financial System and the earlier 2014 Financial System Inquiry.

The outcome of the review was a set of recommendations for a revised regulatory framework for SVFs that was provided to the Government for consideration in October 2019. The recommendations were aimed at modernising the regulatory arrangements for SVFs, recognising the potential for such facilities to play a more prominent role in the payments system in the future (as has occurred in some other jurisdictions). The CFR's recommendations sought to simplify the regulatory framework in a way that would be conducive to innovation, while providing appropriate consumer protections. While the Government has yet to formally respond to the recommendations, the Bank, APRA and ASIC have continued to administer their respective regulatory requirements in relation to SVFs and been actively engaging with a number of current and prospective providers of SVFs about the Australian regulatory requirements.

## Review of Regulation of E-conveyancing Platforms

E-conveyancing refers to the digitisation of property conveyancing transactions, including for the lodgment of property dealings with land registries, financial settlement, and payment of associated duties and taxes. Australia's first e-conveyancing platform, Property Exchange

Australia Limited (PEXA), was formed out of a joint initiative by state governments and began operating in 2014. A second platform, Sympli, began offering services in late 2019. E-conveyancing is available in most states and territories, and use of e-conveyancing platforms has been made mandatory for almost all types of real property transactions in New South Wales, Victoria, Western Australia and South Australia, with other states and territories likely to follow suit.

The regulatory framework for e-conveyancing is currently administered by the Australian Registrars' National Electronic Conveyancing Council (ARNECC), which comprises the state and territory Registrars General. While the Bank does not have a formal supervisory mandate in relation to e-conveyancing, the Council of Financial Regulators recently agreed to form a working group with the ACCC and ARNECC to review elements of the regulatory framework for e-conveyancing systems, with the aim of identifying enhancements that would promote consumer protection, resilience and competition in the e-conveyancing market. The Board will monitor this work and consider whether it has any implications for the Bank's role in the regulation and oversight of payments systems and financial market infrastructures (FMIs). The Bank has also been participating as an observer in state-led work on the interoperability of e-conveyancing systems.

## Promoting the Reliability of Electronic Retail Payments

Reliability is a key feature of an effective electronic payments system. Outages to retail payment services that impede the sending and receipt of payments can cause significant inconvenience, and in some cases harm, to households and businesses and can be

disruptive to other payments providers. With the increasing use of electronic payment services and the reduction in people carrying cash, the reliability of electronic payment services has become more critical to the smooth functioning of the economy.

Data collected by the Bank indicate a significant increase in the frequency and duration of retail payments outages in recent years (see 'Trends in Payments, Clearing and Settlement Systems'). To promote improved reliability in retail payments services, the Bank began working with the industry in late 2019 to enhance its quarterly data collection for retail payments incidents, and develop a standard set of statistics on operational outages to be publicly disclosed by individual institutions. The initiative has been supported by APRA, which is contributing to the process. Better and more transparent information about the reliability of retail payment services is intended to raise the profile of this issue among financial institutions and their customers, and enable improved measurement and benchmarking of operational performance. These benefits should support public confidence in the electronic retail payments system over the longer term.

Recognising the considerable operational impact of the COVID-19 pandemic on retail payments providers, in March 2020 the Bank postponed its engagement with the industry on the reporting and disclosure frameworks for retail payments incidents. It expects to recommence industry discussions in the latter part of 2020, with the aim of introducing the new requirements from around mid 2021.

Operational reliability in retail payments depends not only on end user services provided by individual institutions, but also on the underlying infrastructure that supports payments. This includes shared payments

infrastructure for processing card and electronic bank transfers, as well as services provided by the telecommunications and energy sectors. While outages to these infrastructures have been more isolated than those at individual institutions over the past few years, they can have a major impact if they occur – in many cases infrastructure outages represent a 'single point of failure' that would disrupt the services of all payment providers at the same time. As part of its focus on the systemic resilience of retail payments, the Australian Payments Council is developing a strategy to address system-wide operational risks in a more coordinated way. The Board is continuing to monitor the efforts by the retail payments industry to ensure their systems and services are resilient and reliable.

## Payment Security Initiatives

Security is another key feature of an effective electronic payments system. Retail payment fraud imposes significant costs on consumers, businesses and financial institutions, and can potentially undermine confidence in the use and acceptance of electronic payments. Overseeing industry efforts to enhance the security of retail payments is therefore a priority for the Board. Bank staff regularly brief the Board on developments in payment fraud as well as technology-led innovations that may enhance payment security.

A major focus for the industry in recent years has been addressing rising fraud on card-not-present (CNP) transactions (see 'Trends in Payments, Clearing and Settlement Systems' for data on card payment fraud). The industry has pursued various initiatives to combat CNP fraud, including upgrading security where merchants hold card data, tokenising card details and improving fraud detection tools. In addition, the industry, led by AusPayNet, has recently implemented a

coordinated framework that aims to reduce CNP fraud through stronger authentication of online transactions. A core aspect of the framework is a requirement for Strong Customer Authentication (SCA) at Australian issuers and merchants who consistently exceed specified fraud thresholds.<sup>18</sup> Acquirers are responsible for monitoring and reporting on merchant fraud rates and ensuring merchant compliance with the framework. Breaches of the requirements by merchant acquirers or issuers can result in mandatory SCA requirements for all CNP transactions and possible fines.

While the various card-related security initiatives appear to be having some success in reducing card fraud, losses associated with customer data theft and scams are becoming more significant. Data from the ACCC indicate that financial losses from scams have been growing rapidly in recent years (despite the fact that many scams go unreported by victims); there has also been an increase in scam activity and losses recently associated with the COVID-19 pandemic. One type of scam that has gained prominence is 'authorised push payment' (APP) fraud, which involves fraudsters deceiving people into making payments to them – for example, by posing as a legitimate business seeking payment. APP fraud poses particular challenges because by authorising the payment to a fraudster (albeit unwittingly), the victim may not be able to easily recover their funds via their bank, and these types of payments are not covered by the consumer redress requirements of the ePayments Code.

In response to the growth of new types of fraud and scams, payments providers have been

increasing their efforts to educate customers of the risks and the precautions that can be taken. In addition, AusPayNet's recent fraud report highlighted the issue of scams and provided some data on scam reports and losses.<sup>19</sup> And to help prevent and investigate fraud, several organisations, including the major banks and the Australian Government, have been sharing intelligence and data on financial and cyber crime via the Australian Financial Crimes Exchange. Other countries have also taken steps to reduce the risk of losses from payment fraud and scams. For example, the United Kingdom has launched a voluntary industry code designed to improve processes for preventing, detecting and compensating victims of APP fraud. It also recently implemented a Confirmation of Payee service, which enables a payer to check that the intended payee is the true owner of the account before authorising a payment. This is similar to the PayID service for the New Payments Platform (NPP) in Australia, where the payer can check the account name of the PayID before confirming a payment.

The payments industry has a good track record of collaboration to address payment security issues and the Board has been encouraging the industry to continue to work together to address any emerging problems in relation to fraud and scams. Further industry efforts to raise awareness of scam risks and to strengthen fraud detection and prevention will be especially important as more transactions take place online and use of real-time payment methods like the NPP grows.

One development that could help in reducing fraud in Australia is the introduction of digital identity services. The Bank strongly supported the work of the payments industry over the past few years to develop the TrustID digital identity

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<sup>18</sup> SCA involves verifying that the person making the transaction is the actual cardholder using two or more independent authentication factors drawn from: something that only the customer should possess (e.g. a card or mobile device); something that only they should know (e.g. a PIN or password); and something the customer is (e.g. a biometric feature such as a fingerprint or facial profile).

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<sup>19</sup> See Australian Payments Network (2020), 'Australian Payment Fraud 2020', Final Report, August. <<https://www.auspaynet.com.au/resources/fraud-statistics/2019-Calendar-year>>.

framework, which was designed to facilitate the emergence of a network of competing but interoperable digital identity services. These are services that would allow users to establish their identity online with a preferred service provider and then to use this digital identity to prove who they are when interacting online with businesses or government. With the growing digitalisation of the Australian economy, the availability of digital identity services has become increasingly important to improve the security and convenience of online transactions, including payments, and could also significantly reduce the costs to businesses of identifying customers. Following the release of the first version of the TrustID framework in mid 2019, an industry working group led by AusPayNet has been working to develop the framework's governance and accreditation arrangements. The Board has continued to monitor developments in digital identity during the past year and is hoping to see some digital identity services launch in the near future.

Over the past few years, the Australian Government's Digital Transformation Agency has developed a Trusted Digital Identity Framework (TDIF) that provides a set of rules and standards to support the creation and use of digital identity services to conveniently and securely access government services online. Recent updates to the framework have helped to align aspects of the TDIF and TrustID framework; eventually, a digital identity established by a private sector provider (say a bank) may be able to be used to securely access government online services. Two digital identity providers have already been accredited under the TDIF and over the past year and the number of government services where a digital identity can be used has increased rapidly, with more state and federal government services in the pipeline.

## Innovation in Payments and the Digital Economy

The Bank has continued to engage with a range of stakeholders on issues related to innovation in the payments system and the digital economy, including by holding discussions with representatives from the financial technology (fintech) and regulatory technology (regtech) sectors, providing submissions to relevant public consultations and through staff attendance at industry events.

In 2019/20, the Bank made two public submissions to inquiries dealing with issues related to innovation in the payments system. In late 2019, the Bank made a submission to the Senate Select Committee on Financial Technology and Regulatory Technology. This submission outlined recent trends and innovations in the Australian payments system and provided an overview of the Bank's recent policy work relating to the fintech and regtech sectors, including in relation to payments system access issues.

In early 2020, the Bank made a submission to the Treasury's Inquiry into Future Directions for the Consumer Data Right (CDR). The Inquiry had called for views on how the CDR could be expanded to enhance competition and innovation in the digital economy. The Bank's submission highlighted its strong support for the CDR in the financial sector, and noted some areas where expansion of the CDR could facilitate innovation and promote competition in a range of financial services, including payments. In particular, the Bank lent support to the expansion of the CDR in the banking sector to include 'write access', provided any security concerns could be appropriately addressed, and for the Inquiry to also consider linkages with digital identity services. Expanding the CDR to encompass 'write access' could facilitate the

development of services that make it easier for consumers to switch to financial products that better suit their needs or enable them to securely authorise third parties to initiate payments on their behalf. The link to digital identity services could facilitate consumers receiving the full benefit of services delivered under the CDR, including reducing frictions associated with switching accounts and authorising access to their data under the CDR. The Bank also noted that the CDR could reduce the reliance of the financial sector on 'screen scraping', which has raised security concerns in the past because it typically requires consumers to disclose their internet banking credentials to third parties.

## NPP Access and Functionality

The Board continues to have a strong interest in the development and use of the NPP. In mid 2019 the Bank published the conclusions from a public consultation undertaken jointly with the ACCC on functionality and access arrangements for the NPP. The report contained a number of recommendations directed at NPP Australia Limited (NPPA) and NPP participants. Some of the recommendations aimed to encourage the timely rollout of NPP services and the development of new functionality, while others were focused on access arrangements for new participants. NPPA supported all of the recommendations and published a report on how it planned to address them in October 2019.

In response to the recommendations on access, NPPA agreed to modify its participation requirements so that non-authorised deposit-taking institutions (non-ADIs) could join as settlement participants. However, it retained the ADI requirement for full and clearing participants reflecting the importance it placed on prudential supervision in helping to manage the risks associated with direct connection to

the infrastructure. NPPA also took steps to lower the initial cost of joining the NPP by halving the shareholder subscription requirement for settlement participants, introducing the option of partly paid shares, and removing the obligation for new joiners to pay pre-program design costs. Starting from 2023, NPPA will also reduce the issue price for new shares by 75 per cent, over a five-year period. In terms of assessing applications for participation, NPPA has extended the mandate of its board-level Governance Committee (comprising the CEO and independent directors) to evaluate new applications to join and has agreed to increase transparency around the outcomes of applications. In line with another Bank and ACCC recommendation, a third independent director was appointed in February, bringing the total number of directors to 13.

NPPA also addressed recommendations aimed at the timely rollout of new capabilities by introducing a 'mandatory compliance framework', under which NPPA can designate core capabilities that NPP participants must support within a specified period of time, with penalties for non-compliance. NPPA also published its first roadmap of future NPP functionality in October 2019. One important element of the roadmap, which is mandatory for all participants, is the development of a 'Mandated Payments Service'. This service will allow end users to establish and manage standing authorisations for NPP payments to be initiated from their accounts by third parties. This will provide a transparent, convenient and secure way for consumers and businesses to make and receive recurring and 'debit-like' payments through the NPP.

Another roadmap initiative that has the potential to generate efficiencies for NPP users is the development of customised message



standards that will support automation and straight-through processing for payroll, tax, superannuation and e-invoicing payments sent through the NPP. While it will be optional for participants to send these payment types, the Bank anticipates that financial institutions will compete to provide their customers with the ability to make and receive these data-rich payments. NPPA has also enhanced and extended its Application Programming Interface (API) framework during the past year, providing tools that will assist financial institutions to develop APIs that will enable third parties to utilise the functionality of the NPP.

NPPA published an update in April, which indicated that there had been progress towards delivery of the capabilities in the roadmap during the first six months, despite the impact that the COVID-19 pandemic was having on the financial sector. The prolonged impact of the pandemic will, however, likely delay the implementation of some of the capabilities in the roadmap.

The Board has welcomed the constructive response by NPPA to the recommendations in the joint Bank/ACCC consultation. Over the past year there has been an increase in the number of entities connected to the NPP, including a number of non-ADI entities that have been indirectly connected and are providing innovative payment solutions to their customers. The roadmap includes important new capabilities that have the potential to deliver significant value to consumers and businesses and support further innovation. The Board has also been actively monitoring the rollout of core NPP services by the major banks; despite initial delays, all of these banks are now providing the ability to send and receive NPP payments to the bulk of their retail and business customer accounts. The Bank will continue to monitor and respond to any policy issues that

arise in relation to NPP access and functionality. As indicated in the 2019 consultation report with the ACCC, the Bank and the ACCC will undertake a second public consultation on NPP access and functionality starting in 2021.

## Migration to ISO 20022 Messaging Standard

Migrating the message formats used for domestic and cross-border payments to a new format based on the ISO 20022 standard is a key strategic issue for the Australian payments industry.<sup>20</sup> Currently, payments over the Society for Worldwide Interbank Financial Telecommunication (SWIFT) network use a proprietary format. SWIFT has planned migration of cross-border payments using its network to ISO 20022 by November 2025, after which it will cease support for the currently used message formats for these payments. A number of jurisdictions have made plans to adopt ISO 20022 in their domestic payments systems ahead of that date. SWIFT has stated that its goal is to eventually migrate all messages sent across its network (including those used in domestic systems) to the new format.

Accordingly, in 2019 the Bank and the Australian Payments Council (APC) undertook an industry consultation to develop a plan for migration of Australian payment systems to ISO 20022. The Bank and APC received submissions from a wide range of industry stakeholders and published the conclusions to the consultation in February 2020.

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<sup>20</sup> ISO 20022 is an internationally recognised messaging format developed and maintained by the International Organization for Standardization (ISO). It is an open standard that is increasingly being used for messaging in various parts of the financial industry, including for payments initiation, clearing and settlement. Some of the beneficial features of ISO 20022 are that it is flexible, data-rich and network independent. Its growing international adoption is expected to promote interoperability, innovation, efficiency, risk control and resilience in payment, clearing and settlement processes.

The Conclusions Paper confirmed that the scope of the domestic migration would be the High Value Clearing System (HVCS), which is used by financial institutions to clear high-value customer payments, correspondent banking flows and the Australian dollar leg of foreign exchange transactions (with settlement occurring in the Reserve Bank Information and Transfer System (RITS)). The NPP already uses ISO 20022 messaging, and the industry did not consider the conversion of other domestic payment systems (such as the direct entry and the cheque clearing systems) to be worthwhile given the prospective or actual decline in their use. Migration of the HVCS will be a major undertaking for the industry, and rather than migrating all messages in a 'big bang' approach, the project will include a coexistence phase where both ISO 20022 and the existing message formats will be supported for certain payment types. During this phase, ISO 20022 messages with enhanced data content must be used for domestic payments relating to correspondent banking and cross-border flows where the original payment instruction is in ISO 20022 format, but other HVCS transactions can continue to use the existing message formats.

Since the release of the Conclusions Paper, SWIFT has announced a one-year delay to the start of its cross-border payments migration. In line with this change the domestic coexistence phase will begin in November 2022 and is expected to conclude by November 2024, one year ahead of the cross-border deadline. These timeframes are broadly in line with international targets for the migration of domestic payments systems.

In Australia, the industry-led migration project has now commenced. The project is being managed by AusPayNet and overseen by a steering committee comprising an independent chair, the CEO of AusPayNet and senior

executives from the four major banks, four other financial institutions, and the Reserve Bank. The Board will receive regular updates from the steering committee, enabling it to monitor progress with the migration and respond if necessary.

## Enhancing Cross-border Retail Payment Services

Having efficient and competitive cross-border retail payment services in Australia is important for economic activity and financial inclusion. Retail payments are increasingly crossing borders, whether that be businesses servicing foreign clients or buying supplies from abroad, or individuals sending money overseas or making purchases from foreign retailers. Yet traditional services for cross-border retail payments are far more expensive than those for domestic payments, even considering the additional risks and complexities involved for providers. High prices partly reflect a lack of competition among traditional providers, as well as poor price transparency; there can be additional fees incurred after the transaction, and customers may not be aware of how the 'retail' exchange rate they are being quoted compares with the wholesale exchange rate.<sup>21</sup> In addition, longstanding frictions in the correspondent banking arrangements raise input costs and slow down processing times for bank-intermediated international money transfers.

In this context, the Board has supported a focus on the efficiency of cross-border retail payments as a strategic priority for the Bank's payments policy work. One aspect of this work has been the Bank's engagement with digital

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21 A recent ACCC inquiry made several recommendations to enhance competitive dynamics and pricing practices in cross-border retail payment services. See ACCC (2019), 'Foreign currency conversion services in Australia', Final Report, July. Available at <[https://www.accc.gov.au/system/files/Foreign\\_currency\\_conversion\\_services\\_inquiry\\_-\\_final\\_report\\_0.PDF](https://www.accc.gov.au/system/files/Foreign_currency_conversion_services_inquiry_-_final_report_0.PDF)>.

non-bank providers of cross-border payments that have entered the Australian market in recent years seeking to provide services at lower cost than the incumbents. Another area of focus for the Bank has been the very high cost of money transfers to the South Pacific region. For example, the mark-ups over the wholesale exchange rate for transferring funds to South Pacific countries tend to be noticeably higher than for remittances outside the region. The high cost of sending money to the South Pacific is a particular problem as many people there rely on remittances from family and friends in Australia and New Zealand. The Bank is working closely with the Reserve Bank of New Zealand, other South Pacific central banks and multilateral organisations to develop a regional Know-Your-Customer (KYC) framework, which will cover the governance, technical and legal requirements in each jurisdiction. In the longer term, service providers may be sought to operate within the framework. The objective of this work is to help to improve the efficiency and effectiveness of the KYC arrangements for entities servicing the South Pacific. This should support the flow of remittances from Australia and New Zealand to the South Pacific, and also help reduce the cost of these flows.

The Bank is also contributing to a number of global workstreams seeking to enhance the efficiency of cross-border retail payments, most notably the work of the Financial Stability Board (FSB) and Committee on Payments and Market Infrastructures (CPMI) for the G20. This work has identified several focus areas to help address the frictions in existing cross-border payment arrangements, such as coordinating regulatory and supervisory frameworks across jurisdictions (e.g. in relation to anti-money laundering/counter terrorism financing (AML/CTF) regulatory requirements)

and improving existing payment infrastructures and arrangements (e.g. enhancing direct access to payment systems and extending operating hours). The final phase of this workstream, to be completed by October 2020, involves developing a 'roadmap' with coordinated actions and timelines for implementing the various proposed improvements.

## Policy Issues Related to Stablecoins

The Bank is continuing to monitor developments related to so-called stablecoins, a number of which have been launched or proposed in recent years. Stablecoins are a type of cryptocurrency that are designed to avoid the price volatility experienced by many other cryptocurrencies, such as Bitcoin, typically by backing the stablecoins on issue with safe assets or using algorithmic techniques to try and match the supply of coins with demand. By seeking to reduce price volatility, the intention is to make the stablecoin more attractive to hold as a store of value and medium of exchange. Stablecoins that became widely used in multiple countries could make cross-border payments less expensive and overcome some of the challenges associated with financial exclusion. However, without appropriate oversight and regulation, stablecoins have the potential to be used for money laundering or illicit activities and could raise consumer protection and privacy concerns. A stablecoin that became widely used could also have adverse implications for monetary and financial stability, at least in smaller economies. Recognising the importance of these issues, Bank staff are participating in several global regulatory groups focused on stablecoins, including an FSB working group that is developing recommendations on the appropriate regulatory and oversight approach for global stablecoin arrangements.

At present, there are few Australian dollar-denominated stablecoins and use of stablecoins as a payment method has been very limited in Australia. The Libra project is one of the most high-profile stablecoin initiatives to have been emerged in recent years. The project was originally conceived by Facebook but is now overseen by the Libra Association, a consortium of 27 predominantly payments and technology companies (including Facebook) based in Switzerland. The stated goals of the Libra project are to create an efficient global payments system and improve financial inclusion. The plan is to issue Libra 'coins' on a blockchain-based network that users will access via third-party digital wallets and other services to make payments to other users. The intention is that all of the coins issued will be fully backed by assets held in cash or cash-equivalents and short-term government securities and managed by a Swiss-based entity. It was initially proposed that there would only be multi-currency Libra coins, but the project has since been updated to include the possibility of issuing single-currency coins (initially for the US dollar, pound sterling and euro), which may be more appealing to users who wish to hold a stablecoin denominated in their local currency.

In April the Libra Association applied for a payment system licence from the Swiss Financial Market Supervisory Authority (FINMA). FINMA is considering the application, but the outcome and duration of the process is currently unknown. Given the international scope of the project and the need for a coordinated approach, FINMA has established a regulatory college to incorporate feedback from other supervisory authorities and central banks from around the world. The Bank is participating in these discussions on behalf of other Australian financial regulators. Separately, the Bank and other Australian regulators have been engaging

with Facebook on its plans to launch a digital wallet for the Libra payment system called Novi (recently rebranded from Calibra), through which Australians would be able to purchase and hold Libra. These discussions have focused on how Novi – and the Libra payment system more broadly – would be treated under Australian regulatory requirements.

## Central Bank Digital Currency

Over the past year, central banks in a number of jurisdictions have continued to undertake research into central bank digital currencies (CBDC) and conduct experiments in this area. For example, Sweden's Riksbank has begun considering technical solutions for an 'ekrona' in response to a sharp decline in the use and holding of cash. And the Bank of Canada has begun contingency planning for the potential introduction of a general purpose, cash-like CBDC.

The Bank does not currently consider that there is a strong case to issue a CBDC for retail (or household) use. There is a range of safe and convenient electronic payment methods already available to households, with new ones being developed, and so it is not clear there would be strong demand for a CBDC as an alternative means of payment. Moreover, a government guarantee of deposits with banks and other authorised deposit-taking institutions up to \$250,000 per account means most people already have access to a safe form of digital account-based money. The introduction of a CBDC that is widely available and with no balance limits could also have significant implications for the size and structure of the financial system, and for financial stability and the central bank's balance sheet. For example, in times of financial sector stress, the relative ease

of switching from commercial bank deposits to a CBDC (compared with switching to physical banknotes) could heighten the risk of runs on the banking sector, which might have adverse implications for financial stability.

However, the Bank has been exploring some of the technological and policy implications of a form of wholesale CBDC, in particular a settlement token based on distributed ledger technology that could be used in transactions between financial institutions and other wholesale market participants. Some of this work has taken place in the Bank's in-house Innovation Lab and included the development in 2019 of a limited proof-of-concept (POC) for a wholesale settlement system running on a private, permissioned Ethereum network. The POC simulated the issuance of central bank-backed tokens to commercial banks in exchange for exchange settlement account balances, the exchange of these tokens among the commercial banks, and their eventual redemption with the central bank.

The Bank has also recently embarked on a collaborative project with a number of external parties to develop a POC that will build on the Bank's in-house project. This POC will explore the implications of 'atomic' delivery versus payment settlement of a tokenised asset within a single distributed ledger, other programmability features of CBDC and tokenised assets, and the use of CBDC tokens by non-bank wholesale market participants that would not ordinarily have access to exchange settlement accounts. The project will also explore the ability of a distributed ledger technology-based platform to address features like security, privacy and resilience, which would be important in any enterprise-grade application such as a CBDC system.

# Oversight, Supervision and Regulation of Financial Market Infrastructures

Financial market infrastructures (FMIs) are institutions that facilitate the clearing, settlement and recording of financial transactions. The Bank has a role in overseeing and supervising three types of FMIs: central counterparties (CCPs) and securities settlement facilities (SSFs)<sup>22</sup> – together referred to as clearing and settlement (CS) facilities – as well as systemically important payment systems (SIPS).

## The Bank's Regulatory Regime for Financial Market Infrastructures

The *Corporations Act 2001* assigns to the Bank a number of powers and functions related to the supervision and oversight of CS facilities. Under the *Reserve Bank Act 1959*, the Payments System Board is responsible for ensuring that these powers and functions are exercised in a way that will best contribute to the overall stability of the financial system.

In accordance with the Reserve Bank Act, the Payments System Board also plays a role in the governance of the Bank's oversight of SIPS.

### Clearing and Settlement facilities

The scope of the licensing regime for CS facilities is set out under Part 7.3 of the Corporations Act, with CS facilities operating in Australia required to be either licensed or exempted. This requirement applies to CS facilities incorporated both domestically and overseas. Licensee obligations are specified in the Corporations Act and administered by the Australian Securities and Investments Commission (ASIC). Supplementary conditions

may be imposed on CS facility licensees by the responsible Minister; compliance with these obligations is overseen by ASIC and the Bank. In particular, the Bank is responsible for:

- providing advice to the Minister regarding applications for CS facilities, variations to, or imposition of, conditions on licences, or the suspension or cancellation of licences
- determining Financial Stability Standards (Standards) for the purposes of ensuring that CS facility licensees conduct their affairs in a way that causes or promotes overall stability in the Australian financial system
- assessing how well a licensee is complying with its obligation under the Corporations Act to comply with any applicable Standards and do all other things necessary to reduce systemic risk, to the extent that it is reasonably practicable to do so.

Under the Reserve Bank Act, the Payments System Board is responsible for ensuring that the Bank exercises these powers and functions in a way that will best contribute to the overall stability of the financial system.

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<sup>22</sup> Referred to internationally as securities settlement systems.

## Financial Stability Standards

The Bank has determined two sets of Standards – one for CCPs and one for SSFs.<sup>23</sup> Each licensed CS facility is obliged 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 the operation of the facility, and conduct their affairs in order to promote the overall stability of the Australian financial system. The Standards set principles-based requirements and regulatory expectations, rather than prescribing detailed rules and obligations.

The Bank's Standards draw on the *Principles for Financial Market Infrastructure* (PFMI), which are internationally agreed standards for FMIs set by the Committee on Payments and Market Infrastructures (CPMI) and the Technical Committee of the International Organization of Securities Commissions (IOSCO). The Bank also applies guidance developed by CPMI and IOSCO when interpreting its Standards.<sup>24</sup> This guidance provides clarity and detail on the existing requirements within the PFMI and covers areas of emerging risk and in which there were inconsistencies in the way the PFMI had been interpreted. The guidance encourages FMIs to adopt best practices and seeks to foster international consistency where that is appropriate. The Bank also considers issues arising from discussion papers such as the recent CPMI and IOSCO paper on default management auctions.<sup>25</sup> There were no changes to the Standards or associated guidance during 2019/20.

23 Available at <<https://www.rba.gov.au/payments-and-infrastructure/financial-market-infrastructure/clearing-and-settlement-facilities/standards/>>.

24 For the full list of guidance the Bank has adopted, see the notes to the Financial Stability Standards, available at <<https://www.rba.gov.au/payments-and-infrastructure/financial-market-infrastructure/clearing-and-settlement-facilities/standards/>>.

25 CPMI-IOSCO, 'Central counterparty default management auctions – Issues for consideration', June 2020. Available at <<https://www.bis.org/cpmi/publ/d192.pdf>>.

A peer review conducted by CPMI and IOSCO in 2015 concluded that the Bank has implemented the PFMI in a consistent or broadly consistent manner for the FMIs that it supervises or oversees.<sup>26</sup> In 2019, the IMF published its Financial System Stability Assessment report, which concluded that supervisory oversight of FMIs in Australia is well established.

## Systemically important payment systems

A key element of the Payments System Board's responsibility for the safety and stability of payment systems in Australia is the supervision or oversight of SIPS. The Payments System Board's policy is that SIPS are expected to observe the PFMI. The Bank's policy statement on its approach to the supervision and oversight of SIPS sets out the criteria used to judge the systemic importance of payment systems in Australia, and describes how its approach differs between domestically focused and international SIPS.<sup>27</sup>

Consistent with the Bank's policy statement, the Bank carries out an annual review of whether other payment systems should be considered systemically important. To date, the Bank considers that the Reserve Bank Information and Transfer System (RITS) is the only domestically focused payment system that is systemically important.

Where payment systems are systemically important in Australia but are based overseas, and are primarily used to effect cross-border payments (including in Australian dollars), the Bank relies on the regulator in the international SIPS' principal place of business if certain

26 CPMI-IOSCO, 'Implementation monitoring of PFMI: Level 2 Assessment Report for Australia', December 2015. Available at <<http://www.bis.org/cpmi/publ/d140.pdf>>.

27 The Policy Statement on the Supervision and Oversight of Systemically Important Payment Systems is available at <<https://www.rba.gov.au/payments-and-infrastructure/financial-market-infrastructure/high-value-payments/policy-statement-on-supervision-and-oversight-of-systemically-important-ps.html>>.

conditions are met. CLS Bank International (CLS) is currently the only international SIPS overseen by the Bank.

## The Bank's Financial Market Infrastructure Oversight and Supervision Activities

Day-to-day oversight and supervision of FMIs is undertaken by the Bank's Payments Policy Department, in accordance with the approach published on the Bank's website.<sup>28</sup> In carrying out these activities, the Bank works closely with ASIC.

The Bank's oversight and supervision activity is overseen by an internal body of the Bank, the FMI Review Committee. The Payments System Board is provided with the FMI Review Committee's annual report and with reports on the Bank's oversight and supervisory activities.

The FMI Review Committee is chaired by the Assistant Governor (Financial System), who is also Deputy Chair of the Payments System Board. Other members of the FMI Review Committee include the heads of the Payments Policy, Payments Settlements and Domestic Markets departments, as well as senior staff members with expertise in FMI-related matters but who are not currently directly involved in the Bank's oversight and supervision of FMIs. A core part of the committee's role is to ensure that oversight activities are carried out in a manner consistent with policies established by the Payments System Board. The committee meets quarterly ahead of Board meetings, and deals with matters by written procedure as needed.

In light of the financial and operational challenges presented by COVID-19, the Bank adjusted its supervision of FMIs to place greater focus on these challenges. To assist with this reprioritisation, staff reduced the scope of the annual assessments of ASX and LCH Ltd for 2020 and deferred the publication of an assessment of CME by 12 months.<sup>29</sup>

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28 The Reserve Bank's Approach to Supervising and Assessing Clearing and Settlement Facility Licensees is available at <<https://www.rba.gov.au/payments-and-infrastructure/financial-market-infrastructure/clearing-and-settlement-facilities/standards/approach-to-supervising-and-assessing-csf-licensees.html>>.

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29 For the latest annual assessments of CS facility licensees, see <<https://www.rba.gov.au/payments-and-infrastructure/financial-market-infrastructure/clearing-and-settlement-facilities/assessments.html>>.



## Box C

# COVID-19 and Financial Market Infrastructures

The COVID-19 pandemic continues to present a range of operational and financial risk management challenges for FMI in Australia and overseas. The FMIs operating in Australia have generally performed well and have not experienced service disruptions. Each has successfully activated business continuity measures to maintain operations while minimising risks to staff. This typically involved splitting a small number of critical staff across multiple operations sites and transitioning the majority of staff to work from home arrangements.

FMIs saw increases in the value and volume of transactions they cleared and settled in March and were able to manage the operational challenges this presented. RITS and CLS continued to operate smoothly and meet their operating capacity targets. Similarly, LCH Ltd's SwapClear service, CME's interest rate swap (IRS) service and most of the ASX CS facilities operated as normal through the period while many staff worked from home.

There were, however, some operational issues that impacted clearing and settlement. Some CCP participants delayed making payments due to operational constraints, while ASX's CHES clearing and settlement system for cash equities experienced delays to its end-of-day processing on 13 March due to high levels of activity. In response, ASX implemented changes to improve the processing times and capacity for CHES. The Bank has indicated its expectation that ASX will appropriately invest in this system before it is replaced as planned

in coming years while ASIC has set out its expectations for equity market participants to support the fair and orderly operations of Australian equity markets.<sup>1</sup>

CCPs also faced risks associated with the increase in volatility in domestic and international financial markets. In Australia, the All Ordinaries index fell by 9.5 per cent on 16 March, the highest single-day decline since 1987, while the 10-year Australian government bond yield fell by 35 basis points on 20 March after the Bank announced a program to purchase government bonds and a target for the 3-year yield. In light of these events, CCPs have been reviewing their suite of stress-test scenarios, which are expected to include extreme but plausible market movements.

Most CCPs responded to the heightened volatility by increasing the amount of initial margin they collect. Margin levels at ASX increased significantly (see 'Trends in Payments, Clearing and Settlement Systems' chapter) as it increased margin rates on equity derivatives, with similar actions taken by overseas CCPs for equity and commodity derivatives. Such 'procyclical' increases in margin requirements during periods of market stress can create liquidity challenges for market participants. This is a topic international regulators are focusing on and the Bank has recommended that ASX strengthen its procyclicality framework. While LCH Ltd and CME did not make any changes to their margin

<sup>1</sup> See <<https://download.asic.gov.au/media/5591066/20-116mr-letter-to-all-equity-market-participants.pdf>>.

models for their services licensed to operate in Australia, increased market volatility and activity flowed through to higher margin levels.

The market movements also resulted in large variation margin flows, which are passed from participants who have made losses from price movements to those who have made gains. ASX Clear (Futures) collects variation margin throughout the day but is unable to do so late in the day or during the overnight trading session. This exposes it to price movements between the last margin call at 1.30 pm and 8.00 am the following morning. The Bank has recommended that ASX take additional measures to address this risk as a matter of priority.

While most participants at CCPs were able to meet increased margin requirements, there have been a small number of participant and client defaults globally, though none in Australia. Given the heightened operational risks from managing a default scenario remotely, the Bank will continue to monitor the preparations that FMI's operating in Australia have made. More broadly, the Bank is continuing to maintain a close engagement with FMI's operating in Australia and international regulators on matters related to the impact of the COVID-19 pandemic and any lessons learned. More detail on the risk management implications of COVID-19 for FMI's is being provided in the Bank's 2020 assessments.

The following summarises material developments over 2019/20 for the six CS facilities and the SIPS overseen and supervised by the Bank.

## ASX

The four domestic CS facility licensees required to meet the Standards are all part of the ASX Group. In September 2020, the Bank published its latest assessment of these facilities.<sup>30</sup> This assessment concluded that the CS facilities 'observed' or 'broadly observed' all relevant requirements under the Standards, with the following exceptions: ASX Clear (Futures) was rated 'partly observed' for the margin standard while ASX Clear and ASX Settlement were rated 'partly observed' for the operational risk standard. The steps taken by ASX to address the Bank's regulatory priorities for the annual assessment period ending June 2020, as well as other material developments, are set out below.

<sup>30</sup> The Bank's 'September 2020 Assessment of the ASX CS Facilities' is available at <<https://www.rba.gov.au/payments-and-infrastructure/financial-market-infrastructure/clearing-and-settlement-facilities/assessments/>>.

## Operational risk management

### *CHES replacement*

During 2019/20, ASX continued its work preparing to replace CHES, its core system for clearing, settlement and other post-trade services for the Australian cash equity market. In March, ASX announced it would delay the commencement date of the new system. The decision was influenced by the uncertainty associated with the COVID-19 pandemic, feedback from stakeholders that they had insufficient time to prepare for implementation, and the need for ASX to complete aspects of its own readiness. ASX has consulted on a revised target launch date for the new system in April 2022.

The importance of replacing the current CHES system has been highlighted by the processing delays experienced in March (see 'Box C: COVID-19 and Financial Market Infrastructures'). Details on ASX's work to replace CHES are provided in the Bank's 2020 Assessment of ASX.

### **Building Stronger Foundations**

During 2019/20 ASX concluded a three-year program, known as Building Stronger Foundations, to address the findings of an independent external review of ASX's technology governance, operational risk and control frameworks (the review) conducted at the instigation of ASIC and the Bank. The program also incorporated ASX initiatives to improve enterprise risk management and governance practices identified prior to the review. ASX closed the Building Stronger Foundations program having substantively completed implementation of the 36 recommendations identified by the review in the areas of risk management, technology governance, enterprise architecture and incident management. Details on ASX's progress in addressing specific areas for improvement are provided in the Bank's 2020 Assessment.

### **Business risk capital**

In its 2019 assessment of ASX, the Bank recommended that ASX address a number of potentially serious gaps affecting its CS facilities' access to capital held to cover operational, business and investment risks. During 2019/20 ASX transferred the required amounts of capital so that it is held directly by the CS facilities, removing the risk that in certain circumstances they would be unable to access this capital from the related company that held it previously. However, the Bank has recommended that ASX take further steps to mitigate the risk that the new arrangements could result in a shortfall in investment risk capital for one of the CCPs, and to formalise its approach to SSF business and operational risk capital. Details on the new arrangements for operational, business and investment risk capital are provided in the Bank's 2020 Assessment.

### **Default management and recovery**

In 2019/20, the Bank conducted a detailed assessment of the default management and recovery arrangements of the ASX CS facilities. These arrangements are important so that the facilities can continue to meet their obligations to non-defaulting participants in the event that a participant defaults on its obligations.

The assessment concluded that ASX's default management and recovery framework are mostly aligned with the requirements of the Bank's Standards and that ASX has appropriate processes and systems in place to enact these arrangements. However, the Bank has recommended that ASX Clear review the risk that participants may default on their obligations or choose to resign from ASX Clear due to difficulty in meeting their recovery and replenishment obligations following the default of another participant. The detailed findings from the review are provided in the Bank's 2020 Assessment.

### **LCH Ltd**

LCH Ltd is a London-based CCP licensed in Australia to provide clearing services for over-the-counter (OTC) interest rate derivatives (IRD) and inflation rate derivatives.

In December 2019, the Bank published the *2018/19 Assessment of LCH Limited's SwapClear Service*.<sup>31</sup> This assessment concluded that LCH Ltd met the CCP Standards and either met or made progress towards meeting the Bank's regulatory priorities. The Bank carried over both regulatory priorities from the 2018/19 assessment. Steps taken so far by LCH Ltd to address these priorities, as well as other material developments, are set out below.

<sup>31</sup> Available at <<https://www.rba.gov.au/payments-and-infrastructure/financial-market-infrastructure/clearing-and-settlement-facilities/assessments/lch/2019/lch-assess-2019-12.html>>.

## Operating hours in Australia

LCH Ltd has continued its work to extend the operating hours of the SwapClear service, while ensuring the safety and resilience of its operations. The SwapClear service is typically closed for four hours of the Australian business day, and trades executed during that time are not cleared by SwapClear until the Australian afternoon when the SwapClear service opens. In September 2019, LCH Ltd extended its flexible opening time for the SwapClear service by one hour to 4.00 am UK time, though the official opening time remains at 6.00 am UK time. The Bank's regulatory priority requires LCH Ltd to provide the Bank with an approved timeline of how it will continue to extend operating hours in the medium term. LCH Ltd has been providing regular updates to the Bank on the progress of this work.

## Protected Payments System contingencies

LCH Ltd has continued its work to improve its Protected Payments System (PPS) contingency arrangements. The PPS is used by LCH Ltd to settle cash payments, such as variation margin, to and from participants. LCH Ltd has previously identified that its contingency arrangements could be improved to ensure that payments can continue to be made in a timely manner in the event of a PPS bank outage or failure. LCH Ltd has made progress towards improving the effectiveness of its arrangements by implementing enhancements to its processes and by exploring contingency arrangements that are timely and robust for its members. The Bank's regulatory priority requires LCH Ltd to formally test the enhancements to its PPS contingency arrangements. LCH Ltd has been providing regular updates to the Bank on the progress of this work.

## Areas of supervisory focus

In addition to the regulatory priorities set out in the 2018/19 Assessment, the Bank also identified two areas of supervisory focus for its supervision of LCH Ltd. These related to how LCH Ltd manages operational and cyber risks, and the governance of LCH Ltd's model validations. These areas had either undergone significant change that the Bank intended to monitor, or warranted further analysis. The Bank has been engaging with LCH Ltd and the Bank of England on these areas of focus and will provide a formal update in its 2019/20 Assessment of LCH Ltd.

## CME

CME is a Chicago-based CCP that provides clearing services for a number of products from its US operations. CME does not currently have any direct Australian-based clearing participants, although Australian firms access CME's clearing services indirectly as clients of direct participants. CME has held a CS facility licence in Australia since 2014, permitting it to offer clearing services to Australian-based institutions as direct clearing participants for OTC IRD and non-AUD-denominated IRD traded on the CME market or the Chicago Board of Trade market (for which CME permits portfolio margining with OTC IRD). In 2019 CME's licence was varied to also permit the provision of clearing and settlement services for commodity, energy and environmental derivatives traded on the financial market to be operated by FEX Global Pty Ltd (FEX).

The Bank monitors CME's progress in addressing regulatory priorities set by the Bank and other material developments on an ongoing basis. Consistent with the Bank's supervisory approach for overseas licensees, the Bank relies on reports and information from CME's home regulators to the extent possible. Given the nature and scope

of CME's current activities in Australia, the Bank does not conduct a regular detailed assessment of CME against all of the CCP Standards, instead publishing a targeted assessment focused on regulatory priorities and material developments.

The Bank's next assessment of CME was scheduled to be published in early 2021. Given that the operational and risk management response to COVID-19 placed significant additional demands on both CME and its home regulators, the Bank deferred its assessment of CME by 12 months. The Bank's last assessment of CME, published in March 2019, indicated that outstanding regulatory priorities had been broadly addressed, pending certain follow-up activities. Since then, changes to the end-of-waterfall rules for the CME OTC IRS clearing service have been implemented. The Bank has also commenced work on areas of supervisory focus related to how CME's practices align with international guidance on financial and cyber resilience.

### Reserve Bank Information and Transfer System

RITS is Australia's high-value payments system that is used by banks and other financial institutions to settle their payment obligations. RITS is owned and operated by the Bank. The most recent assessment of RITS against the PFMI, prepared by the Bank's Payments Policy Department and endorsed by the Board, was published in June 2020.<sup>32</sup> Payments Policy Department is the functional area responsible for oversight of RITS and is separate from areas of the Bank responsible for operating RITS.

The assessment concluded that as at the end of March 2020, RITS observed all of the relevant principles other than the Operational Risk

principle, which it broadly observed. To observe this principle, the assessment recommended the Bank, as operator of RITS, complete implementation of initiatives to support the continued operational stability of RITS.

Key RITS developments during the assessment period are set out below.

### IT operational stability review

In June 2019, the Bank completed a review of its IT operational practices following a number of new systems coming into production across the Bank and some incidents that affected usual operations. The aim of the review was to ensure the reliability of technology services and, in turn, the Bank's business operations, including RITS. While the review did not identify any significant concerns with the operational stability of RITS, the Bank identified that implementation of the review recommendations was necessary in order to reduce risks to the stability of systems supporting RITS. The recommendations are being implemented via the Bank's Technology Stability Improvement Program (TSIP), which includes a number of initiatives aimed at improving the operational stability of RITS. In the 2020 RITS assessment, Payments Policy Department recommended the Bank complete the implementation of these initiatives and will assess the Bank's progress as part of the 2021 assessment. More detail on the Bank's TSIP is provided in the Bank's 2020 Assessment of RITS.

### Implementation of 2019 assessment recommendations

During the year, the Bank fully addressed the recommendations from the 2019 RITS assessment. These recommendations included actions to support the ability of RITS to recover within two hours of a disruption as well as taking steps to validate this ability via contingency testing. The recommendations

<sup>32</sup> Available at <<https://www.rba.gov.au/payments-and-infrastructure/rits/self-assessments/2020/>>.

were made in light of the lessons learned from the 30 August 2018 data centre power outage, which abruptly cut off technology systems operating from that data centre, including those supporting RITS.<sup>33</sup>

### Cyber resilience

The Bank continued its work to further strengthen the cyber resilience of RITS over 2019/20. This included work to address security standards established by SWIFT as part of its Customer Security Programme. An external assessment determined RITS to be fully compliant with all mandatory controls. The Bank is also continuing exploratory work on options for further enhancing the capability to recover RITS from cyber attacks in a timely manner.

In December 2019, the Bank conducted a cyber table-top exercise with a range of industry participants to rehearse existing industry contingency procedures. The exercise focused on communication and collaboration arrangements in the event of an attack on participants' payments systems.

The Bank has continued work on implementing CPMI's strategy to improve the security of participants and other 'endpoints' in wholesale payment systems.<sup>34</sup> The Bank already meets elements of the strategy described in this report and is in the process of implementing further enhancements to RITS's endpoint security as an ongoing process of continuous improvement for the system.

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<sup>33</sup> Further information can be found in the 2019 RITS assessment, available at <<https://www.rba.gov.au/payments-and-infrastructure/rits/self-assessments/2019/>>.

<sup>34</sup> The report 'Reducing the Risk of Wholesale Payments Fraud Related to Endpoint Security' is available at <<https://www.bis.org/cpmi/publ/d178.htm>>.

### 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, an Edge Act Corporation, is chartered in the United States and is regulated and supervised by the Federal Reserve. The Federal Reserve has established a cooperative oversight arrangement for CLS, in which the Bank participates. In July 2019, CLS launched its CLSNow service, which facilitates same-day payment-versus-payment FX settlement outside the CLS Settlement session. This service replaced the Same-Day Settlement Session that was deactivated in October 2019.

### SWIFT

SWIFT provides critical messaging and connectivity services to both RITS and CLS, as well as other FMIs and market participants in Australia and overseas. Oversight of SWIFT is conducted by the SWIFT Oversight Group (OG), which consists of the G10 central banks and the ECB. Since SWIFT is incorporated in Belgium, the OG is chaired by the National Bank of Belgium. The Bank is a member of the SWIFT Oversight Forum, a separate group established to support information sharing and dialogue on oversight matters among a broader set of central banks. Through the SWIFT Oversight Forum, these central banks receive information on the OG's conclusions and have an opportunity to input into the OG's oversight priorities and policies. Oversight of SWIFT is supported by a set of standards – the High-level Expectations – which are consistent with standards for critical service providers in the PFMI.

During 2019/20, cyber resilience remained an important focus of SWIFT and its overseers. All SWIFT members (in Australia, this includes the major banks and other large financial institutions) are required to self-attest their level of compliance with the mandatory security controls in SWIFT's Customer Security Programme and are encouraged to support this attestation with an independent assessment of compliance. SWIFT has delayed making this independent assessment mandatory by 12 months to the second half of 2021, in light of the disruption to many SWIFT participants as a result of COVID-19.

SWIFT also announced that it would delay the start date of its phased migration to ISO 20022 messages for cross-border payments to the end of 2022. The migration is still scheduled to be completed in November 2025 (see the 'Retail Payments Regulation and Policy Issues' chapter).

## Policy Development

The Bank works with other regulators (both domestically and abroad) on issues relevant to the regulation and oversight of FMI. In Australia, much of this work has been coordinated by the Council of Financial Regulators (CFR) and, internationally, the Bank engages with relevant international standard-setting bodies. Where relevant to the Board's responsibilities, the Board is kept updated on developments and members' input and guidance are sought.

## International

A focus of international policy work on FMI over recent years has been on monitoring and implementing guidance in relation to CCP resilience, recovery and resolution. This work has been conducted under a joint CCP workplan developed by CPMI, the Financial Stability Board (FSB), IOSCO and the Basel Committee

on Banking Supervision.<sup>35</sup> The Bank has been closely engaged in this international policy work, as well as other work areas, including monitoring of implementation of the PFMI and the development of a strategy to reduce the risk of wholesale payments fraud.

The CPMI-IOSCO Policy Standing Group has continued its work on default management auctions. This included a published report and cover note outlining the issues it expects industry to progress by June 2022.<sup>36</sup> The CPMI also published a report in December 2019 on member authorities' experiences with cooperation arrangements.<sup>37</sup>

The Bank has continued to be involved in work considering the adequacy of financial resources for CCP resolution and the treatment of CCP equity in resolution. Draft guidance on these issues was released for public consultation in May 2020.<sup>38</sup>

In 2019/20 the Bank continued to contribute to the international monitoring of implementation of the PFMI by the CPMI-IOSCO Implementation Monitoring Standing Group. This included a contribution to peer review exercises that assess the extent to which a jurisdiction's implementation measures are complete and consistent with the PFMI, and the consistency of outcomes in the implementation of the PFMI by FMI.

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35 Available at <<http://www.bis.org/cpmi/publ/d165.pdf>>.

36 The June 2019 CPMI discussion paper is available at <<https://www.bis.org/cpmi/publ/d185.pdf>>, the issues paper and cover note at <<https://www.bis.org/cpmi/publ/d192.pdf>> and <[https://www.bis.org/cpmi/publ/d192\\_covernote.pdf](https://www.bis.org/cpmi/publ/d192_covernote.pdf)>.

37 The CPMI report is available at <<https://www.bis.org/cpmi/publ/d189.pdf>>. IOSCO produced a report in June 2020 on deference practices among FMI regulators, which is available at <<https://www.iosco.org/library/pubdocs/pdf/IOSCOP659.pdf>>.

38 Available at <<https://www.fsb.org/2020/05/fsb-consults-on-guidance-on-assessing-the-adequacy-of-financial-resources-for-ccp-resolution/>>.

## Domestic

In developing domestic policy for FMIs, the Bank works with the other regulators through the CFR, the coordinating body for Australia's main financial regulatory agencies. During 2019/20, the focus of the CFR's work on FMIs has been on enhancements to the regulatory regime and on competition in clearing and settlement of equities.

The Bank and other CFR agencies have developed a proposal for enhancements to the regulatory regime for CS facilities, markets, trade repositories and benchmark administrators. The proposed reforms aim to ensure the effective regulation of the systems, services and facilities that underpin Australia's financial system. They are intended to strengthen the supervision and enforcement powers of ASIC and the Bank, and to redistribute existing powers and decision-making authority between the regulators and the Minister to reflect their respective responsibilities. The introduction of a crisis management regime for licensed CS facilities is also proposed ('Box D: Financial Market Infrastructure Regulatory Reforms').

A consultation paper on these reforms was released in November 2019.<sup>39</sup> Feedback was received from 18 stakeholders, and the CFR agencies met with a number of stakeholders. After considering the stakeholder feedback, the CFR agencies finalised their proposals, which were provided to the Government in July 2020.

The CFR, in cooperation with the Australian Competition and Consumer Commission (ACCC), has developed a policy framework to support competition in clearing and settlement of Australian cash equities. The framework includes minimum conditions for safe and effective competition in cash equity clearing and settlement. It also includes a set of regulatory expectations for ASX's conduct in the provision of such services where it is a monopoly provider. However, significant elements of this framework are currently not enforceable under the existing regulatory framework. Consequently, the CFR and ACCC are working with the Australian Government to implement legislative changes to the statutory framework for CS facilities to make these elements enforceable by regulators.

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<sup>39</sup> Available at <<https://www.cfr.gov.au/publications/consultations/2019/consultation-on-financial-market-infrastructure-regulatory-reforms/>>.



## Box D

# Financial Market Infrastructure Regulatory Reforms

As the regulators of FMIs, ASIC and the Bank (together, the regulators) require strong and reliable powers to carry out their mandates and mitigate the risk of disruption to FMI services. While the regulators currently have a range of powers with respect to FMIs, the options available to address the potential insolvency of an FMI or other severe threats to its continued operation are very limited. It would also be desirable to enhance the day-to-day regulatory regime and improve the ability of the regulators to manage risks that could precipitate a crisis, and to prepare for the orderly resolution of a CS facility. In addition, the current distribution of regulatory powers does not always reflect the responsibilities of each regulator, and the existing legislation provides a number of operational powers to the Minister (which are currently delegated to ASIC).

Reform to the regulatory regime in this area has been pending for some time, and the recent consultation built on a number of earlier consultations. The CFR considers that reform is needed due to the limitations of the current framework, the current heightened global risk environment and the growing systemic importance of FMIs. The reforms would aim to manage risks associated with FMIs and promote reliability and integrity of the markets that FMIs support. The case for these changes has been noted in a number of independent reviews including the 2014 Financial System Inquiry and

the International Monetary Fund's 2019 Financial System Assessment Program review.<sup>1</sup>

The proposals consulted on by the CFR can be grouped into three categories:

- the introduction of a crisis management regime for CS facilities with the objectives of maintaining the overall stability of the financial system and providing for the continuity of critical CS services. A crisis management regime would give a resolution authority the tools to take action in respect of a distressed CS facility and to support the continuity of the facility's critical market functions
- the redistribution of existing regulatory powers and decision-making authority between the Bank, ASIC and the Minister, to better align with each regulator's mandate and to distinguish the regulators' operational responsibilities from the strategic role of Government
- a strengthening of the regulators' supervisory powers, including information-gathering powers, and a broadening in the range of enforcement tools they have available. This will give the regulators significantly more capacity to monitor the ongoing conduct of FMIs, identify risks as they emerge, and take appropriate action to prevent those risks escalating.

<sup>1</sup> See Recommendation 5 of the 'Financial System Inquiry Final Report' (2014). Available at <<http://treasury.gov.au/publication/c2014-fsi-final-report>>. The IMF FSAP 'Technical Note on Supervision, Oversight and Resolution Planning of Financial Market Infrastructures' (2019). Available at <<http://www.imf.org/en/Publications/CR/Issues/2019/02/13/Australia-Financial-Sector-Assessment-Program-Technical-Note-Supervision-Oversight-and-46609>>.

# The Payments System Board's Announcements and Reserve Bank Reports

This section lists developments since mid 2019. The *Payments System Board's Annual Report 2006* contained a list of the Board's announcements and related Reserve Bank reports up to that time. Subsequent annual reports have contained an annual update.

## 2019

Media Release 2019-19, 'Changes to the Exchange Settlement Account Policy', 26 July 2019

Media Release 2019-22, 'Payments System Board Update: August 2019 Meeting', 16 August 2019

Media Release 2019-24, 'Consultation on ISO 20022 Migration for the Australian Payments System – Responses and Options Paper', 12 September 2019

Media Release 2019-26, 'Assessment of ASX Clearing and Settlement Facilities – September 2019', 24 September 2019

Media Release 2019-30, 'Payments System Board Update: November 2019 Meeting', 21 November 2019

Media Release 2019-32, 'Review of Retail Payments Regulation – Issues Paper', 29 November 2019

'A Payments System for the Digital Economy', Philip Lowe, 2019 Australian Payments Network Summit, Sydney, 10 December 2019

'What's on the Cards?', Tony Richards, 2019 Australian Payments Network Summit, Sydney, 10 December 2019

'Opening Statement to the Senate Economics Legislation Committee on Currency (Restrictions on the Use of Cash) Bill 2019', Tony Richards, Canberra, 12 December 2019

'Submission to the Senate Select Committee on Financial Technology and Regulatory Technology', Submission to the Senate Select Committee on Financial Technology and Regulatory Technology, December 2019

'Assessment of LCH Limited's SwapClear Service', December 2019

## 2020

Media Release 2020-03, 'Payments System Board Update: February 2020 Meeting', 21 February 2020

Media Release 2020-05, 'ISO 20022 Migration for the Australian Payments System – Conclusions Paper', 26 February 2020

'Two Years of Fast Payments in Australia', RBA *Bulletin*, March 2020

'Consumer Payment Behaviour in Australia', RBA *Bulletin*, March 2020

'The Cost of Card Payments for Merchants', RBA *Bulletin*, March 2020

Media Release 2020-10, 'Review of Retail Payments Regulation – Postponement', 26 March 2020

'Inquiry into Future Directions for the Consumer Data Right', Submission to the Inquiry into Future Directions for the Consumer Data Right, 23 April 2020

Media Release 2020-14, 'Payments System Board Update: May 2020 Meeting', 22 May 2020

'Panic, Pandemic and Payment Preferences', Michele Bullock, Keynote Address at the Morgan Stanley Disruption Evolved Webcast, Online, 3 June 2020

Media Release 2020-16, 'Assessment of the Reserve Bank Information and Transfer System', 12 June 2020

'Cash Use in Australia: Results from the 2019 Consumer Payments Survey', RBA *Bulletin*, June 2020

# Abbreviations

ABA	Australian Banking Association	Austraclear	Austraclear Limited
ABN	Australian Business Number	BETF	Black Economy Taskforce
ABS	Australian Bureau of Statistics	BNPL	Buy now, pay later
ACCC	Australian Competition and Consumer Commission	CAC Act	<i>Commonwealth Authorities and Companies Act 1997</i>
ADI	Authorised deposit-taking institution	CBDC	Central bank digital currency
AML/CTF	Anti-money laundering/ counter-terrorism financing	CCP	Central counterparty
APC	Australian Payments Council	CDR	Consumer Data Right
API	Application programming interface	CFR	Council of Financial Regulators
APP	Authorised push payment	Chi-X	Chi-X Australia Pty Ltd
APRA	Australian Prudential Regulation Authority	CME	Chicago Mercantile Exchange Inc.
ARNECC	Australian Registrars' National Electronic Conveyancing Council	CNP	Card-not-present
ASIC	Australian Securities and Investments Commission	CLS	CLS Bank International
ASX	Australian Securities Exchange	CPMI	Committee on Payments and Market Infrastructures
ASXFS	ASX Financial Settlements Pty Limited	CPS	Consumer Payments Survey
ASX Clear	ASX Clear Pty Limited	CP	Card-present
ASX Clear (Futures)	ASX Clear (Futures) Pty Limited	CS	Clearing and settlement
ASX Settlement	ASX Settlement Pty Limited	DNDC	Dual-network debit card
ATM	Automated teller machine	EMEAP	Executives' Meeting of East Asia-Pacific Central Banks
AUD	Australian Dollar	ES	Exchange Settlement
AusPayNet	Australian Payments Network	ETO	Exchange-traded option
AUSTRAC	Australian Transaction Reports and Analysis Centre	EUR	Euro
		FEX	FEX Global Pty Ltd
		FINMA	Swiss Financial Market Supervisory Authority
		Fintech	Financial technology
		FMI	Financial market infrastructure

FPS	Faster Payments Service	PGPA Act	<i>Public Governance, Performance and Accountability Act 2013</i>
FRA	Forward rate agreements		
FSB	Financial Stability Board		
FSS	Fast Settlement Service	POC	Proof-of-concept
HVCS	High Value Clearing System	POS	Point of sale
IBOR	Interbank offered rate	PPS	Protected Payments System
ISO	International Organization for Standardization	PSB	Payments System Board
		RBA	Reserve Bank of Australia
IOSCO	International Organisation of Securities Commissions	Regtech	Regulatory technology
		RFR	Risk-free rate
IRD	Interest rate derivatives	RITS	Reserve Bank Information and Transfer System
KYC	Know-Your-Customer		
LCH Ltd	LCH Limited	RPF	Regulator Performance Framework
LCR	Least-cost routing		
MAS	Monetary Authority of Singapore	RTGS	Real-time Gross Settlement
		SCA	Strong Customer Authentication
MOU	Memorandum of Understanding	SIPS	Systemically important payment system
MTO	Money transfer operator	SOFR	Secured overnight financing rate
NPP	New Payments Platform		
NPPA	NPP Australia Limited	SSF	Securities settlement facility
NZD	New Zealand Dollar	SVF	Stored-value facility
OG	Oversight Group	SWIFT	Society for Worldwide Interbank Financial Telecommunication
OIS	Overnight index swaps		
OTC	Over-the-counter		
PC	Productivity Commission	TDIF	Trusted Digital Identity Framework
PEXA	Property Exchange Australia Limited	WGPMI	Working Group on Payments and Market Infrastructures
PFMI	Principles for Financial Market Infrastructure	€STR	Euro short-term rate

