

## **Michele Bullock: Financial technology and payments regulation**

Keynote speech by Ms Michele Bullock, Assistant Governor (Financial System) of the Reserve Bank of Australia, at the 5th Bund Summit on Fintech, Shanghai, 8 July 2018.

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Thank you to the Shanghai Finance Institute for the invitation to speak at this summit. The theme of the summit – New Finance, New Technology, New Trends – really captures the excitement of the payments industry at the moment. But it is also a challenging time for regulators who want to encourage innovation but at the same time ensure that payment systems remain safe for users and that there is a level regulatory playing field. Today I am going to talk about some of those challenges and how we are thinking about them at the Reserve Bank of Australia. I will start by briefly setting out the Australian regulatory framework for payments before talking about the key forces shaping payments. I will then talk about some of the potential implications for retail payments and for regulators.

### **Payments Regulation in Australia**

Like in China, the primary regulator of the payments system in Australia is the central bank – the Reserve Bank of Australia. The Reserve Bank's payments system policy is determined by the Payments System Board (PSB), which is chaired by the Governor of the Reserve Bank and includes a number of external members. The key duties of the PSB with respect to the payments system are to ensure that the powers of the Bank are exercised in a way that best contribute to controlling risk in the financial system, promoting efficiency of the payments system and promoting competition in the market for payment services consistent with overall stability of the financial system.

The Reserve Bank has strong powers to regulate payments systems and in some cases it does. For example, certain competition and efficiency issues associated with credit card systems could not be addressed by participants so the Bank introduced regulation that required changes to certain practices in these schemes. But the Bank's preferred approach is to identify areas where competition, efficiency or safety could be enhanced and then encourage industry to address those issues. A good example of this was the development of the New Payments Platform (NPP).

The NPP is an open access infrastructure for fast payments in Australia. It went live earlier this year and is gradually ramping up. It allows users of the payments system to send real-time payments with simple addressing 24/7. It also allows more complete information to be sent with payments. But this wasn't a spontaneous creation of the industry. It was developed in response to a number of strategic objectives for the Australian payments system set by the Reserve Bank. While the industry determined how it would achieve the objectives, the Reserve Bank played a significant role in encouraging and facilitating the cooperation required to develop and build the system.

### **The Forces Shaping Retail Payments**

There are three key forces that are introducing innovation and competition to retail payment systems around the world: new payment channels, new technologies and new participants.

Increasingly, consumers are reducing their use of cash and using electronic payment methods. But they are also making electronic payments through new channels. One example is payment

using mobile devices. These devices have become ubiquitous and are now being used for payment at the point of sale, online payments and ‘in-app’ payments. Wearables and the ‘internet of things’ more broadly are also expanding the devices through which payments can be made. In Australia, most of these new payment channels use the existing payment rails – in particular those of the card schemes.

New technologies are also shaping retail payments. Distributed ledger technology has been receiving a lot of attention lately, with suggestions that new payment mechanisms using this technology might be more efficient (e.g. cross-border payments) and even result in a reduced role for traditional financial institutions. But other technologies that are likely to facilitate innovation in the payments system include cloud computing, artificial intelligence and cryptography. These technologies have the potential to improve payment experiences for customers as well as support new payment instruments. They are also potentially allowing non-traditional players without a large physical footprint to compete with the established financial institutions.

Which brings me to the third force shaping the retail payments system – new participants. There are broadly three types of potential competitors. Most similar to the incumbents are digital banks, sometimes called neobanks. These banks offer banking services typically by mobile app. They are unencumbered by legacy systems and physical branch networks and can use newer technologies, potentially making them more flexible and responsive to consumer needs. Then there are fintech firms, many of which are using technology to address particular frictions and gaps in the payments market. Online payments, point-of-sale technology and cross-border payments are all areas in which fintechs are innovating. And, finally, there are the large global technology companies that can leverage their already extensive networks to offer proprietary closed loop payment services. In China there are two at the forefront of this – Alipay and WeChat Pay. But Google, Apple, Facebook and Amazon all have some payment functionalities within their networks that they could potentially expand.

Moves to require banks to share the data of their customers with other participants (open banking) have the potential to further promote competition and innovation. In Australia, we are in the process of implementing an open banking regime that will put consumers in control of their banking data. It is expected that consumers will be able to use these data to access better products and services. For example, consumers could ask their bank to share their credit card transaction history, interest rate, fees and other relevant data with a product comparison website. Using this information, the website could provide a tailored assessment of the best possible credit card for that particular individual, including an accurate estimate of potential savings compared with their current card. While there are a number of challenges in implementing this ambitious reform, such as ensuring data security and customer privacy, these can be addressed. The Reserve Bank is confident about the potential of open banking to deliver benefits for consumers.

### **Implications for the Retail Payments System**

With all this innovation and competition in the financial system, and the payments system in particular, a logical question is: what are the implications for policy and regulation? I will address four here:

- ♦ Challenges in balancing innovation and regulation
- ♦ Implications for efficiency of the payments system
- ♦ Security
- ♦ Resilience

### ***Financial regulation***

An important challenge for regulators is how to limit barriers to innovation while maintaining safe and efficient payments systems. This requires regulators to be alert to any detrimental impact that regulations might have on innovative new technologies and participants. But new entrants might also find that it is difficult to get access to the underlying payments infrastructure. And some innovations might require participants that are otherwise competitors to cooperate, making it difficult to get an innovative product or system off the ground. The Reserve Bank therefore sees a need to play a proactive role in facilitating cooperative projects and monitoring potential access issues.

Most regulators around the world seem to be encouraging innovation while taking a proportionate approach to regulation. This often involves a graduated approach to regulation, depending on the activities of the new participants. For example, many jurisdictions have some type of regulatory 'sandbox' in which new participants can develop their services without the full weight of regulation. Some jurisdictions authorise payment service providers under less onerous conditions than apply to full financial institutions.

In Australia, the Australian Prudential Regulation Authority (APRA) and the Australian Securities and Investments Commission (ASIC) are also taking a graduated approach to new entrants. ASIC has a regulatory sandbox framework that is specifically designed to provide eligible fintech businesses the flexibility to test new products and services without the need for a licence. Similarly APRA has established a framework for licencing 'Restricted ADIs', which allows potential entrants to the banking sector to conduct limited banking business for a period of time under a simpler prudential framework while they develop their capabilities and resources. Importantly though, under both these frameworks, new entrants are expected to eventually meet the same requirements as other financial service providers, ensuring a level playing field.

There are two issues in the Australian payments system that are potentially going to be of interest to financial regulators. The first is access. New payment service providers will need access to the underlying payments infrastructure to compete with the incumbent financial institutions. Non-bank providers of payment services already have access to accounts at the Reserve Bank for the purposes of settlement. But they will also need access, either direct or indirect, to payment clearing systems. While they might be able to commercially negotiate an agency arrangement, this could add to their costs and they might therefore prefer direct access. If incumbent financial institutions control access, they might seek to put up unreasonable barriers to entry. Regulators will need to be alert to potential anti-competitive conduct.

The second area is stored value products. Traditionally, payment services have been provided by regulated financial institutions through transaction accounts. These institutions are prudentially supervised to ensure that the public can have confidence that they will be able to meet their financial commitments under all reasonable circumstances. In addition, in most countries, including Australia, retail deposits would be protected if a bank were to fail. But some of the new entrants are holding client funds on their books as 'stored value'. This raises a number of policy questions. Should the funds being held be treated like deposits? If not, do the firms holding the funds need to be regulated in some other way to protect consumers? If the new entrants are very large, like the big technology companies, they could potentially hold substantial amounts of value in their closed systems. What are the implications for systemic risk of such a market structure? Regulators are still working through these questions.

### ***Efficiency***

The potential for new products to improve payment services will depend on the extent to which there are gaps or frictions in the payment process. Three areas that are often identified are micropayments, 'programmable money' and cross border payments.

The concept of micropayments – of, say, one-hundredth of a Yuan or an Australian dollar – is not new (indeed, the concept has been around for decades). In recent years, demand for a

micropayment service has typically been from internet content providers looking for alternatives to the advertising or monthly subscription-fee business models. But, looking ahead, the development of an 'internet of things' potentially greatly broadens the demand for the ability to make and receive very small payments at low cost. A challenge in addressing this gap has been how to recover costs – or even be profitable – when the value of each transaction is so small.

'Programmable money', that is, payments that occur automatically if certain terms or conditions are met, could improve efficiency by minimising the need for human intervention. For example, online payments for goods could be held as a deposit with an independent third party and automatically released once goods are confirmed as delivered. Other possible applications include payments that occur within business supply chains.

Cross-border payments are widely regarded as an area in which significant potential efficiency gains exist. Current processes are slow and costly, involving significant compliance burden and a number of different financial institutions in different jurisdictions. New technologies and new business models could be used to address some of these frictions.

While there are clearly potential efficiency gains from addressing some of these gaps, there are reasons for regulators to keep an eye on developments that might result in inefficient outcomes. Some of these arise from the existence of network effects. A very large network that incorporates payments as one part of its services might be able to lock in the payments business, even if it is more costly than alternatives, because customers are unwilling to leave the ecosystem.

The trend towards embedding payments in apps or other devices could also lead to inefficient outcomes. While automated payments are likely to be convenient for consumers and merchants, they might also make it more difficult for alternative payment methods to compete and reduce the sensitivity of users to changes in the relative prices of payment instruments.

### ***Security***

With increasing commercialisation of consumer data, interest in people's personal banking data (including payments) is likely to grow. For example, it has been suggested that if individuals could easily and securely share their personal banking information (while retaining ownership of the data), new services could be developed to facilitate personalised financial services. More generally, the advent of 'big data' analytics to generate insights into behaviours of individual consumers has increased interest in access to data on consumer payments behaviour.

But with more data being stored and shared, data security (and cybersecurity more generally) will be important ongoing issues for the industry and for regulators. Incumbent financial institutions invest a lot in securing their customers' data and in managing fraud in payment systems. Mostly they do this without the need for regulators to be involved because it is in their interests to ensure that they maintain the trust of their customers. But with new participants and new technologies, there is a risk that security vulnerabilities and opportunities for fraud will arise. The strength of the system is only as good as its weakest link so it is essential that all participants in payment systems and the financial system more broadly manage and mitigate these risks. Regulators may have a role to play in encouraging the adoption of minimum standards.

### ***Resilience***

The final area I want to focus on is resilience of payment systems. Traditionally, central banks and regulators have paid a lot of attention to the resilience of high-value payment systems because of the systemic disruption that would likely occur if such systems were to suffer from an outage. High-value payment systems are therefore subject to high standards of operational resilience.

Retail payment systems have not usually been required to meet similarly high standards. But, with electronic payments becoming increasingly important, the resilience of the electronic retail payment systems is becoming quite critical to the smooth functioning of economies. With people carrying less cash, an outage in a retail payment system can mean that customers can't undertake transactions. In Australia, for example, an outage at a major bank recently meant that its merchant customers had to turn customers away if they didn't have cash (and many didn't). These sorts of outages disrupt commerce and erode trust of consumers in payment systems. Regulators are therefore starting to focus on the operational risks associated with retail payment systems and whether the operators and the participants are meeting appropriately high standards of resilience.

## **Conclusion**

There is a lot of change happening in retail payments and it is happening quickly. Financial technology is facilitating the development of new payment products and the entry of new participants, and potentially transforming the customer experience. It has the potential to enhance competition and increase efficiency in the payments system. Recognising this, regulators in Australia and other countries are encouraging innovation. Nevertheless, regulators need to keep up with this fast changing world and the implications for efficiency, and safety of the payments system.