



RESERVE BANK OF AUSTRALIA

Speech

Fast Payments in Australia

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Thank you to the organisers for the opportunity to speak at this session of Seamless Payments. There is a lot going on in the payments space at the moment, driven by the burgeoning use of technology to make consumer and merchant experiences with payments more convenient and dare I say 'seamless'. Today I am going to talk about a significant piece of national infrastructure that will be really important in this context – the New Payments Platform, or NPP as it is known. But before I talk specifically about the NPP and the future, I want to do a little retrospective – where have we come from?

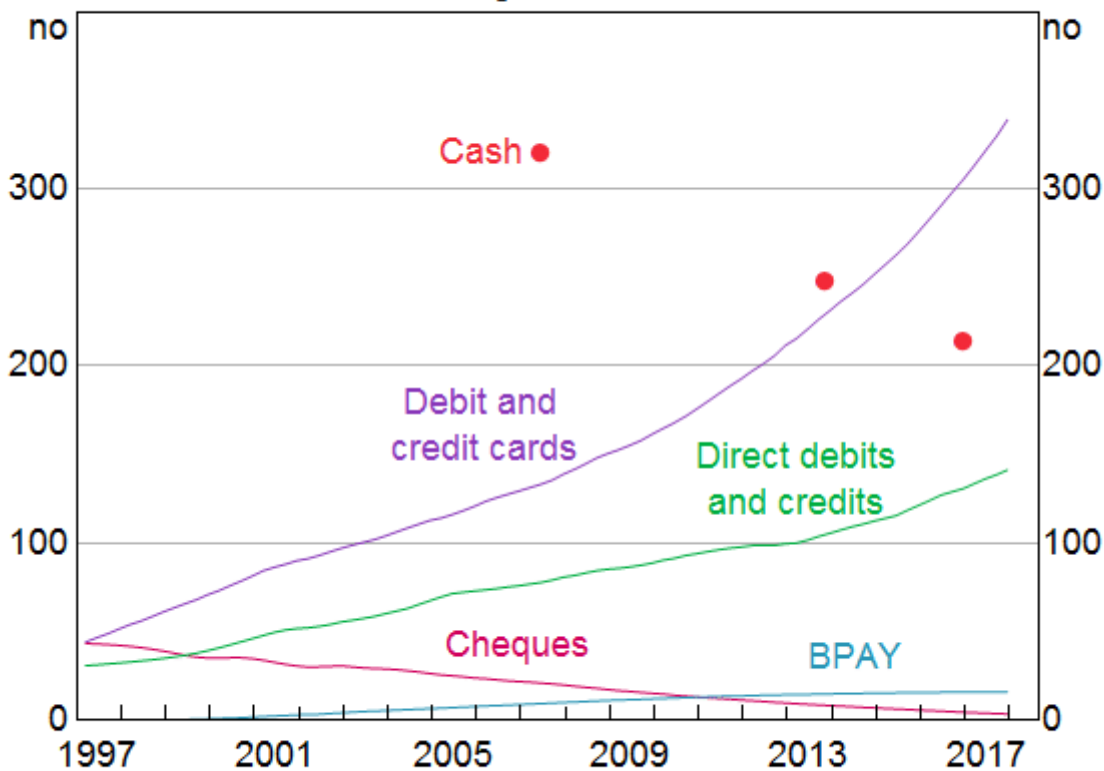
Developments in the Payments System

Over the past 20 years, the way we pay in Australia has changed dramatically. In particular, the use of cash and cheques, which were the most common method of payment in the mid 1990s, has declined and the use of electronic payment instruments has risen very sharply. While we don't have data on cash transactions in the mid 1990s, we are confident that cash use was at least as high, if not higher than the 70 per cent of day-to-day transactions that cash accounted for in the Reserve Bank's first survey of consumer payments in 2007. Our most recent survey in 2016 suggests this share has fallen to around 35 per cent. We have better information on non-cash transactions. In the mid 1990s, there were around 110 non-cash transactions per capita per year. The most used non-cash payment instrument was the cheque. There were around 45 cheque transactions per person per year, accounting for a little more than one-third of all non-cash transactions. At that time, the now ubiquitous payment cards accounted for a further third of non-cash payments – around 40 per person per year, split fairly evenly between debit and credit cards.

Graph 1

Transactions per Capita

Rolling annual sum



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

Now the landscape looks completely different. There are now around 500 non-cash payments per person per year. The number of cheques written is now equivalent to around 4 per person per year and continuing to fall sharply. Cards, on the other hand, now account for around two-thirds of all non-cash payments and the use of debit cards, in particular, has grown very strongly. But direct debits and credits, which go through the direct entry (DE) system, have also grown steadily over the past two decades. While the growth in direct credits was initially mainly driven by bulk payments such as payrolls and welfare, more recently they have been increasingly used to make person-to-person payments directly between bank accounts and to pay invoices.

But while tried and tested, and cheap, the DE system had a number of issues that became increasingly constraining as our e-society grew. First, while DE payment files are exchanged multiple times during a business day, there is usually a considerable delay - often some hours - between when a payment is initiated and the time the funds are available in the beneficiary customer's account. Payments initiated on weekends and public holidays had to wait even longer until sometime on the next business day. Second, there were only 18 characters of free text to indicate what the payment was for. This can be a significant limitation, particularly for one-off payments where the beneficiary requires a material amount of information to ensure the payment is dealt with appropriately. And finally, payers had to know (and payees had to divulge) the Bank-State-Branch (BSB) number and the account number and name to make the payment.

These issues, among other concerns about barriers to innovation in the payments system, ultimately led to the Reserve Bank's Strategic Review of Innovation in the Payments System, the conclusions of

which were published in 2012. The strategic objectives set out in that review included a number of requirements of the payments system of the future:

- the ability to make real-time retail payments
- the ability to make and receive low-value payments outside normal banking hours
- the ability to send more complete remittance information with payments
- the ability to address payments in a relatively simple way.

Sound familiar? These are indeed all the things that the NPP will deliver. So where are we?

The NPP – Australia's Fast Payments System

As you know, the NPP launched to the public in mid February. It is the culmination of more than 5 years' work from inception to launch. It involved unprecedented cooperation between financial institutions to build the capability to send and receive individual payment messages between themselves in real time, with settlement also occurring transaction-by-transaction through the Reserve Bank's Fast Settlement Service. But it also required banks to upgrade their internal systems to allow posting to customer accounts within a few seconds. The resources involved in delivering the system as a whole were substantial.

Australia is obviously not the first country to build a fast payments system. FIS in its 2017 report on fast retail payment systems noted that there were some retail payment systems with real-time features as early as the 1970s and 1980s. [\[1\]](#) The report listed 25 countries with live real-time systems in 2017. It listed a further 10 systems under development, at that time including Australia. FIS also provided a useful taxonomy to compare and contrast the various systems – its Faster Payment Innovation Index (FPII). The index rates faster payment systems on the basis of the features they provide. At a basic level, in order to be classified as a fast payment service the system must provide interbank, account-to-account payments in less than one minute end-to-end and be irrevocable. But, the more value-added services and openness to innovation, the higher the rating.

The Australian NPP was not rated in this report since it was not live at the time. But it certainly will offer many of the features that rate highly in the FPII. For example, the taxonomy lists ISO standard and 24/7 availability as being highly desirable features enhancing customer value – the NPP offers both these. It lists fast settlement, the ability to include remittance information with payment and the ability to assign an alias to a bank account as being some of the optional features that maximise customer value. The NPP also delivers these features. There are other capabilities that the NPP does not currently provide – like 'pull payment' capability – but the infrastructure will allow other services to be offered in the future.

One of the things that is unique about our NPP is the architecture. There are three facets to this. The first is that the infrastructure for exchanging messages is based on a distributed architecture rather than a centralised hub. Participating institutions implement payment gateways that exchange messages with other payment gateways. There is no centralised infrastructure that processes and switches messages. One key advantage of this architecture is that there is no central point of failure.

It also means that many of the functions that might typically be performed in a hub, such as fraud monitoring and exceptions processing, are done by the individual participants. This might be desirable for institutions that want to maintain control over these processes.

The second facet of the architecture that is quite innovative is the separation of the clearing and settlement infrastructure from commercial overlays. The infrastructure has been set up as a utility, and pricing will be on a cost recovery basis. This infrastructure can then be utilised by any number of commercial 'overlays' to deliver services that use the NPP's real-time clearing and settlement capabilities. The first of these is Osko – initially offering person-to-person payments but within a year or so offering payment with document and request to pay. It is also expected that other innovative services will look to leverage the real-time payment capability of the NPP.

The third relatively unusual facet is the real-time transaction-by-transaction settlement of retail payments 24 hours a day, 7 days a week. Australia has had a real-time gross settlement system for high-value payments for weekday settlements for the past 20 years. And this is indeed best practice around the world for high-value payments. But not many countries currently provide real-time settlement of retail payments, and even fewer offer it 24/7. Many fast retail payments services, for example, settle payments in batches through the day or only during business hours. The advantage of utilising real-time settlement in our fast payment service is that it extinguishes settlement risk and removes the need for other controls over settlement risk, such as caps on exposures. The fact that these controls are not required removes some limitations that might otherwise need to be considered by overlay service providers as they design their products.

So now we have this world-class infrastructure, what for the future?

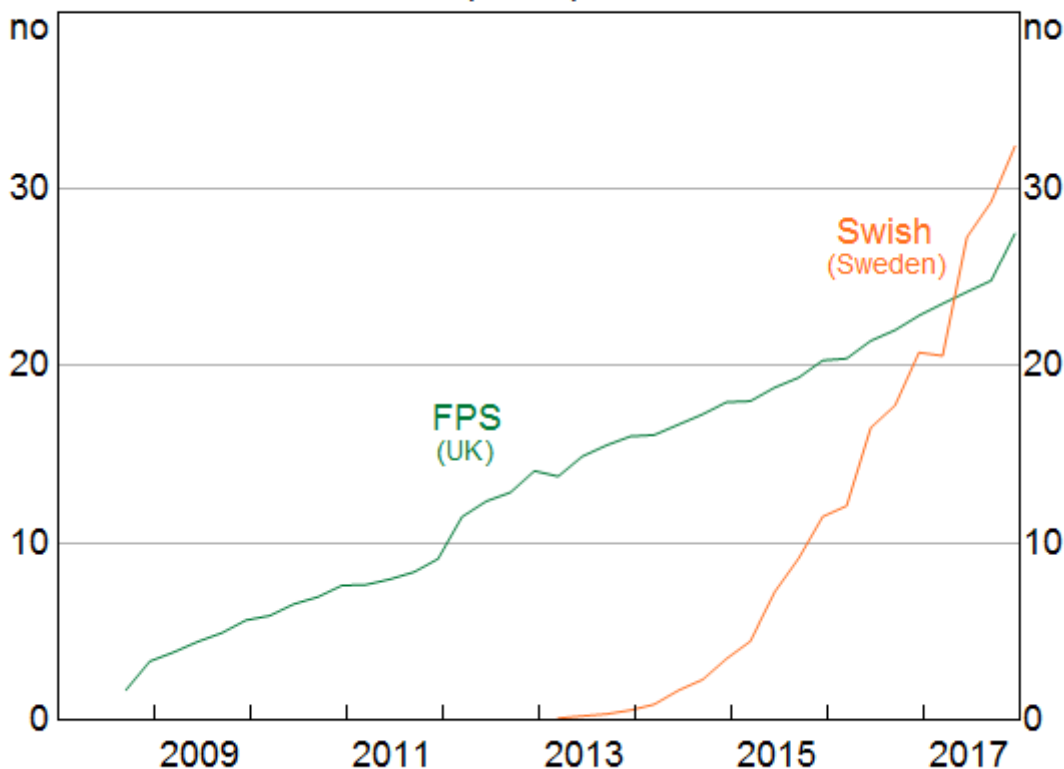
The first point to note is that it is still early days. Given the complexity of the build and the long-term nature of this important piece of infrastructure, the launch was never intended to be a 'big bang'. While there had been extensive testing ahead of launch, including an extended period of live proving, moving into production always uncovers some issues. A cautious approach to ramping up volumes was therefore an appropriate way to manage the operational risks.

Second, the experience of fast payment systems around the world suggests that volumes will increase quite slowly at first. It took the UK Fast Payment Service around 3½ years to get to 10 transactions per person per annum and Swish, the Swedish system, just under 3 years to get to this level. There are probably a couple of reasons for the initially relatively slow growth in volumes. It will take some time for people to become familiar with the new system – people are typically quite set in their payment habits. Furthermore, like all networks, there are positive externalities the more participants there are. That is, as more financial institutions offer fast payments and the reach of the system grows, it provides greater value to both individuals and businesses. If none of my family and friends can receive payments through the NPP I am less likely to sign up for an alias and use it. But the more people I can pay using the system (and the more people I can receive money from) the higher value I get from the system.

Graph 2

Use of Fast Payments Systems

Transactions per capita, annualised



Sources: Bankgirot; FPSL; ONS; RBA; Statistics Sweden

Third, as noted earlier, the system has been set up to encourage the development of commercial 'overlays' using the real-time payment capability to deliver value-added services to consumers and businesses. Aside from the additional Osko services in prospect, possible overlays might include services for superannuation, e-invoicing and motor vehicle sales. I am sure there are many innovative minds turning to the possibilities.

This brings me to an issue that has caused some concern among potential new players in this space – access to the NPP. They observe that the system has been built by the financial institutions and is governed by a board made up of those institutions, including the four major banks. They worry that these institutions will either make participation very difficult or costly or, alternatively, will have the inside running on developing and launching commercial overlay services.

I think there are a few reasons to be optimistic that access will not be an issue. To begin with, as I noted earlier, the NPP is a utility. It is aiming to cover costs, not make a profit. Further, given that many of its costs are fixed, it is in the interests of NPP Australia (NPPA) to get as many payments through the system as possible to lower the per-transaction cost.

The structure of the board and the constitution also provide some protection. The board is comprised of eight participant financial institutions (the four major banks plus four elected representatives of smaller institutions), two independent non-executive directors (of which one is chair) plus a director representing the Reserve Bank. Each director has one vote and the constitution notes that an objective of NPPA is to promote the public interest, including through fair access.

But it is also worth noting that the NPP at its core is an infrastructure that facilitates clearing of payment messages between financial institutions and settlement of those obligations across accounts at the Reserve Bank. In this sense, it is similar to other clearing and settlement systems – cheques, direct entry or payment cards, for example. It is not necessary, or even necessarily efficient, for all financial institutions to participate *directly* in clearing and settlement. In the NPP, for example, there are three aggregators that provide indirect access to institutions that do not want to incur the cost of participating directly. Indeed, there are already around 50 smaller banks, credit unions and building societies that are able to offer fast payments to their customers using the aggregators.

Similarly, it is not necessary for non-financial institutions that want to use the real-time capability of the NPP to participate directly in clearing and settlement. Just as they use the rails of other payment systems through a financial institution to offer their services to customers, they will be able to use the NPP. NPPA is already engaging with start-ups on how they might utilise the infrastructure. More generally, if a business doesn't like the price for fast payments it is getting from its bank, there are many other institutions that can offer an alternative.

In the end, though, if it looks as though lack of access is stifling competition, the Reserve Bank has the power to designate and set an access regime. As I said, I am fairly optimistic that we will not have to. But it is always an option.

Security and Real-time Payments

Finally, let me say a few words about fraud. It has been noted that in a world of real-time payments, fraud can also be done in real time. Unlike the current system, where there is at least a few hours to review and halt a fraudulent payment, in a fast payment system the money can be expected to be gone. The risk isn't new – it just happens faster. This was an issue that was thoroughly considered in the development of the NPP, drawing on experience from overseas systems, particularly the United Kingdom.

There are a few ways in which the NPP and participants are attempting to address fraud risks. Banks have their own fraud detection systems and controls associated with interbank transfers. These include such things as transaction limits, two-factor authentication and algorithms designed to identify suspicious transactions. These will continue to be in place with the NPP. But in addition, when making an NPP payment to a PayID, the sender will be shown the name of the account to which they are paying and have an opportunity to confirm that they wish to make the payment. This is an extra step that will assist payers to make sure they are paying who they think they are. There are also verification processes in place for registering PayIDs (the system that allows customers to assign an alias to their bank account) to ensure people are who they say they are. Indeed PayID registration can only take place from within a customer's internet banking portal or app. The NPP also has a fraud liability framework in place that is consistent with existing consumer protection frameworks, and allocates liability where fraud is the result of inadequate verification practices. But like all payment systems, customers need to be alert to the potential for fraudsters to trick them out of details that would allow a fraud to occur – like their passwords. [\[2\]](#) Educating consumers on these risks remains an imperative for the regulators and for the financial institutions.

Conclusion

The NPP is an important piece of payments system infrastructure that will pave the way for further innovation in the payments system. It has taken many years of hard work from the industry, undertaken in a great spirit of cooperation. But we now have a world-class fast payments system that I encourage the industry to embrace and create valuable services for their customers.

Endnotes

[1] FIS (2017), 'Flavours of Fast', Final Report, June.

[2] I am using the term 'fraud' broadly here, to include not only situations where there is a theft or misuse of account information, or the compromise or hacking of customer authentication details, but also to cover 'scams', where the victim is tricked or persuaded into making a transfer to the fraudster's account. These might occur via forged invoices, from bogus emails from foreign jurisdictions offering a share of a large sum of money, various social media scams. The ACCC's Scamwatch', available at <<https://www.scamwatch.gov.au/>>, website provides a range of information and warnings for consumers.