

Fintech payments innovation and cross-border payments integration between Australia and China



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Contents

Executive Summary	1
1. Introduction	3
Report methodology	5
Report structure	5
2. China and Australia's payments trends	6
China: volume and value of electronic payments by instrument	6
Declining cash use in China	8
Australia's payments data trends	10
3. The emergence of China's fintech payments giants	13
Mobile technology and use of QR codes driving e-wallet proliferation	13
Retail industry structure and new payments models	14
China's third-party payment business model	15
Social and 'scenario-based' payments	16
Regulatory loosening and regulatory tightening	16
Internationalisation of China's payments networks	17
4. Payments system innovation in Australia	18
Technology and social dynamics	18
Regulatory initiatives in Australia	20
5. China-Australia cross-border payments integration	21
6. Conclusion	24
Acknowledgements	25
About the author	26
References	27

Executive Summary

- Fintech payments innovation in China, driven by in-app mobile payments usage, is transforming the way in which people and businesses pay for goods and services.
- The development and diffusion of payments innovation in China and Australia based on new forms of financial technology have had very different starting points. In China, low cost in-app mobile instruments have been rapidly displacing the use of cash for transaction purposes. While ‘cashlessness’ is increasingly evident in Australia, the shift to digital payments methods has largely followed bank and card-payments provider investment in legacy infrastructure.
- Australia’s retail payments system is not going to replicate the transformation we have seen in China. However, the way in which digitalisation, and mobile-centric technology innovation in particular, has enabled the emergence of major new multi-sided payments platforms in China does provide vision of a possible future for Australia’s retail payments landscape.
- Regulatory supply-side changes to Australia’s retail payments system, such as the development and launch of the New Payments Platform (NPP) in February 2018, are likely to accelerate the use of mobile-centric technology at the expense of card payments in Australia and to open-up new consumer payments services in Australia.
- Despite vastly differing starting points for payments innovation in China and Australia, from the point of view of payments innovation in Australia, these differences entail complementary dynamics. Because Australia is increasingly integrated with China via geography, trade and people-to-people links, we are seeing direct spillovers from the transformation of China’s retail payment system into the Australian payments landscape.
- China’s most successful fintech payments platforms are also internationalising their existing payments businesses by targeting expatriates as well as investing in new payments platforms in the region, such as Paytm in India, and elsewhere. China’s payments internationalisation is opening new trade and investment channels between Australia and China.
- The global availability of China’s retail payments networks is the primary channel by which Chinese consumers in Australia, whether tourists, international students or residents with Chinese bank accounts, are making retail payments for goods and services in Australia. The opening of China’s payments channels and their integration with local payments systems could contribute to a tipping point in the emergence of new retail payments models in Australia.
- New online payments providers, who are currently serving the mainland Chinese expat market or China-focused small and medium enterprise (SME) market in Australia, are well positioned to move from payments into offering local banking services in Australia under the new tiered bank licensing regime.
- China’s global fintech payments players may also seek to acquire or invest in new payments providers in the Australian market in direct competition with local banks and card-providers.



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1. Introduction

This report seeks to provide a more detailed understanding of the ways in which digitalisation and globalisation in China and Australia are transforming retail payments systems, including the way in which people and businesses pay for goods and services. It looks at retail payments system innovation, including the emergence of new financial technology (fintech) payments models in China and Australia, and their increasing integration.¹ It also looks at the opportunities and challenges for participants in the emerging payments space between Australia and China.

The digital transformation of China's retail payments system has hinged on mobile-centric payments innovation outside of the traditional banking system. Cash use for everyday transactional payments has sharply declined in China in favour of using in-app mobile payments. In contrast, the digitalisation in Australia's more 'mature' retail payments system has largely centred on ongoing investment in legacy card-based payments infrastructure by its major banks and card-providers. While technological, social and regulatory pressures are leading to changes in Australia's retail payments system, payments innovation in Australia is not going to simply replicate what we have seen in China. However, the emergence of new multi-sided payments platforms in China does provide a glimpse into a possible future for changes in Australia's retail payments landscape.

Australia is seeing direct spillovers from the transformation of China's retail payment system into the Australian payments landscape, via the flows of goods, services and people.

Moreover, because of Australia's geography, trade and people-to-people integration with China, Australia is seeing direct spillovers from the transformation of China's retail payment system into the Australian payments

landscape, via the flows of goods, services and people. The Australia-China payments relationship provides a concrete example of the way in which the digitalisation of payments also entails the globalisation of payments systems.

As is well known, China's economy is undergoing a transformation. Take the consumption share of growth in China's gross domestic product (GDP): whereas the consumption share of growth accounted for a 48-percentage point share of China's GDP in 2010, by 2017 it had risen to 54 percent. By the end of 2018 it had risen to a staggering 76-percentage point share of China's GDP (CEIC Data, 2019). The traditional drivers of investment and exports have been relegated to playing second fiddle. On the production side of the economy, rapid growth in the services sector means that it now accounts for a 52-percentage point share of GDP, 18-percentage points higher than the industrial sector. The days of China only being a 'factory to the world' are in the past. These structural changes, along with the Chinese government firmly placing the notion of 'innovation-led development' on the policy agenda in 2016 as part of its 13th Five Year Plan, has led to an explosion of activity in China under the fintech banner.

While recent Chinese moves to tighten the regulatory regime around fintech has attracted significant attention in Australia, less appreciated is that fundamentally the Chinese government sees fintech as a means to transform the financial sector, which has lagged other sectors of the economy in catching up to the global efficiency frontier. This means that the regulatory trend in China will likely continue to be supportive of the orderly expansion of fintech, not crush its development. Moreover, what is seldom appreciated outside of China is that fintech innovation in China over the past decade has been dominated by innovation in retail payments and the emergence of a new payments-as-a-platform service model. Indeed,

¹ Retail payments systems are used to make purchases and transfer funds between people, businesses and governments. Retail payments are typically lower value payments and account for almost 99 percent of payments by volume in Australia, for instance (Productivity Commission, 2018). Payments systems also include wholesale payments, which are typically higher value transactions made between financial institutions, including inter-bank payments and foreign exchange markets. This report does not deal with wholesale or inter-bank payments between Australia and China (e.g., RMB trade settlement) which has been addressed in other studies. See, for instance, Walsh and Weir (2015).

private non-bank payments providers in China have come to dominate fintech in more ways than one.

In 2018 the volume of non-bank electronic payments in China reached over 531 billion transactions.

First, by sheer scale. China's fintech payments sector is the by far the largest fintech sector in China by the volume of transactions and the value of funds intermediated. In 2018 the volume of non-bank electronic payments in China reached over 531 billion transactions, while the value of those payments reached RMB208 trillion (about US\$30 trillion).² Bear in mind that these are retail payments transactions and not wholesale or inter-bank payments. Compare this to say, the rise of online peer-to-peer and marketplace lending in China (Deer et al., 2016), which peaked at an estimated RMB1 trillion (US\$150 billion) in loans in 2015 (Zhang et al., 2016).

Second, the growth in scale of fintech payments, first through e-payments and then via mobile in-app payments platforms, enabled

these new non-bank payments platforms to expand in scope into adjacent bank product markets. Thus, payments innovation in China has been the basis of subsequent moves by these new payment platforms and other new entrants into adjacent banking services. The trajectory has been from retail payments into lending via small and micro business and consumer finance, online money market funds (e.g., YueBao), online insurance, online banking, and more recently into providing enterprise financial technology infrastructure for traditional financial institutions, including the commercial banks.

Further, China's most successful e-commerce platforms and mobile payments platforms are now also internationalising their payments businesses to serve their customers directly as they travel offshore, as well as investing in new payments platforms in the region, such as Paytm in India, and elsewhere.

A key idea of this report is that despite vastly differing starting points for payments innovation in China and Australia, from the perspective of payments innovation

² The value of China's non-bank payment transactions might seem high at RMB208 trillion (US\$30 trillion) in 2018. This was twice the value of China's 2018 official GDP at RMB90 trillion (US\$13 trillion at the exchange rate at the time of writing) (CEIC Data, 2019). The reason for this is that the total value of payments intermediated does not measure the creation of new value, which GDP claims to measure (Krishnakumar 2019). For example, if five friends split a bill for RMB300 and four of the friends pay the fifth friend RMB60 for their share, the new value created or GDP measure is RMB300, but the total value of transactions would be RMB300 + 4 * 60 (240) = RMB540 in payments.



in Australia, these differences entail complementary dynamics. Together with the shift to mobile-centric technology and changing consumer expectations, these dynamics include the new digital cross-border and cross-currency payments channels in context of sustained migration, educational and trade flows between China and Australia. The combined effect is the emergence of a set of cross-border payments synergies which are likely to contribute to fintech payments innovation in Australia. At a business level these synergies include the development of cross-border payments channels – especially those from Chinese fintech payments platforms like Alipay, WeChat Pay, and UnionPay – which serve inbound mainland Chinese consumers to Australia. Several new fintech payments companies are developing new payments services in Australia by connecting local merchants with Chinese consumers through offering payments services from China’s non-bank payments providers. Small and medium-sized enterprises (SMEs) in Australia targeting the mainland Chinese consumer market are also driving the demand for fast, convenient cross-border and cross-currency payments.

One question raised by this report is whether the opening of China’s payments channels and their integration with local payments systems could contribute to a tipping point in the emergence of new retail payments models in Australia, or whether these new models will remain confined to China’s expat and tourist market in Australia. There are points of leverage generated by the impact of global payments networks on local payments eco-systems. As Dahlberg et al. (2015) point out, whereas mobile networks operators and banks tend to be limited to local customer reach, global payments actors such as Alipay, WeChat Pay, and Union Pay from China as well as Apple, Google, Samsung, Visa and Mastercard can act globally and have global network effects. More broadly, this report asks how the innovations we have seen in China’s payments system could contribute to the emergence of new innovative retail payments models in Australia.

Report methodology

This report draws on quantitative and qualitative sources. It uses official payments data on the retail payments transaction volume and value provided by the People’s Bank of China and the Reserve Bank of Australia respectively as well as a range of other official and independent market-research data where available. The data story is complemented by primary interviews with industry stakeholders in Australia including officer holders from the Australian Payments Network, Fintech Australia, from the main Chinese payments companies with operations in Australia, UnionPay International and Alipay, as well as the newer China-Australia cross-border payments providers Royal Pay and NoahPay.

Report structure

Section 2 of this report examines the key trends in retail payments in China and Australia by comparing the volume and value of payment instruments in use in each market. In both China and Australia, cash use is declining for low value transactions, but the shift to non-cash payments instruments differs between the two countries. In China, in-app mobile instruments have been rapidly displacing the use of cash for transaction purposes, whereas in Australia, card-based payments have predominated in the shift to digital payments methods. Section 3 and Section 4 look at the dynamics of retail payments system innovation in China and Australia respectively, including their markedly different institutional environments. These include patterns of technological change, social expectations, and regulatory and legal responses around payments providers and data. Section 5 looks in detail at the retail payments channels opening between China and Australia and the key role of China’s private non-bank payments provider networks in cross-border and cross-currency integration, especially between mainland Chinese consumer and merchants in Australia, as well as the strategies by these and other payments providers to connect with local payments systems including incumbent banks, card networks and large merchants.

2. China and Australia's payments trends

This section looks at the main trend in retail payments transactions in China and Australia based on publicly available payments data. In China and Australia, the use of physical cash use is declining for transactional purposes but the shift to electronic and digital non-cash payments instruments differs in both countries. In China, the use of in-app mobile payments instruments from non-bank payments institutions have been rapidly displacing the use of cash and card-based payments for transactional purposes. In Australia however, the shift towards digital payments methods has centered around card-based payments displacing cash use for transactional purposes. Although China's payments data isn't directly comparable to Australia's payments data, the comparison does reveal the broad trends around digitisation and changing payments methods.

China: volume and value of electronic payments by instrument

China's payments system is supervised by China's central bank, the People's Bank of

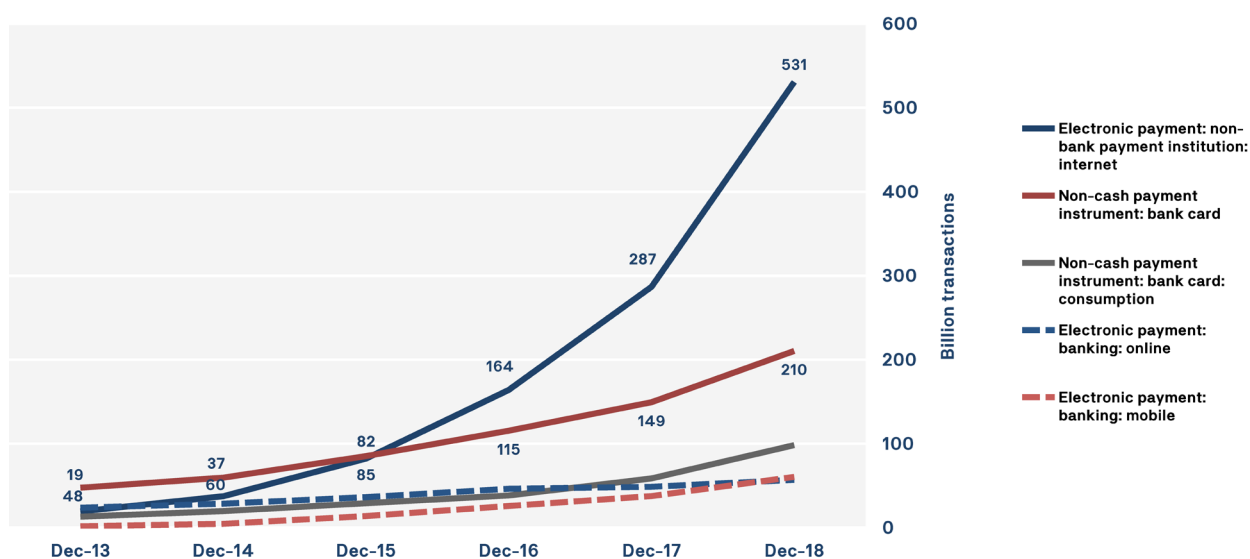
China (PBOC). The PBOC provides three main data series on China's payments: 'Non-Cash Payments Instruments'; 'Electronic Banking'; and 'Card Payments'.³ The data series 'Non-Cash Payments Instruments' includes high value commercial payments as well as card-based payments data. As this report is focusing on retail payments it excludes high value commercial payments instruments, that is, notes, cheques, commercial drafts and banker's acceptance bills from its estimates of aggregate transaction and value shares which are discussed below.

Over the period 2013 to 2018, the volume of non-bank electronic payments (internet) increased from 19.3 billion to over 531 billion transactions per year – a 27-fold increase over six years.

Figure 1 shows the total volume of electronic payments by instrument in China in millions of transactions per quarter from 2013 to 2018 (CEIC Data, 2019). The volume of electronic payments via non-bank payment institutions (internet) is the single largest volume of e-payments by instrument. In mid-2016 non-bank payment institution transactions overtook the electronic banking payments transactions

³ The PBOC's payments data is publicly available on the PBOC website. All PBOC data in this report was accessed via the CEIC Data China Premium database (2019).

Figure 1. China - volume of non-cash payments by instrument, total annual transactions, 2013-2018



Source: CEIC Data (2019)

by instrument, that is, online, mobile and telephone. This was followed by a significant increase in non-bank payment transactions from mid-2017. Over the period 2013 to 2018, the volume of non-bank electronic payments (internet) increased from 19.3 billion to over 531 billion transactions per year – a 27-fold increase over six years.

The increase in the volume of non-bank payment institution transactions was, however, distinctly more rapid than the increase in the total value of payments, which indicates that these non-bank electronic payments are mostly high volume, low value payments. While the total volume of non-bank payments increased by 27 times, the total value of non-bank payments increased by almost 20 times from RMB10.4 trillion in 2013 to RMB208 trillion in 2018.

The average value of transactions, or the average transaction size, shows that China's non-bank payments are mostly low value payments. Indeed, the average size for non-bank electronic payments has steadily fallen from a peak of RMB691 (US\$113) in late 2013 to RMB359 (US\$52) per transaction at the end of 2018. These changes correspond with the mass adoption of mobile handsets which enabled the widespread use of in-app payments, typically

via Alipay and WeChat Pay for low value transactional payments, leading to a fall in the average transactions size.

The average size for non-bank electronic payments has steadily fallen from a peak of RMB691 (US\$113) in late 2013 to RMB359 (about US\$52) per transaction at the end of 2018.

There is also a clear shift in the overall share of non-cash payments instruments away from card-based payments towards non-bank payment institutions, that is, in-app payments. Table 1 and Figure 2 show the volume of card and electronic by share of total transactions from 2013 to 2018 (CEIC Data, 2019). In 2013 bank card payments accounted for a 45-percentage point share of non-cash payments transactions, yet this fell to 22 percent of non-cash transactions by the end of 2018. The volume of online banking payments (e-banking payments) had also fallen as a share of the total from a 22-percentage point share to a six-percentage point share of transactions. Mobile-banking transactions, that is, bank-based mobile payments, rose from a low two-percentage point share in 2013 to a six-percentage point share of non-cash transactions in 2018.

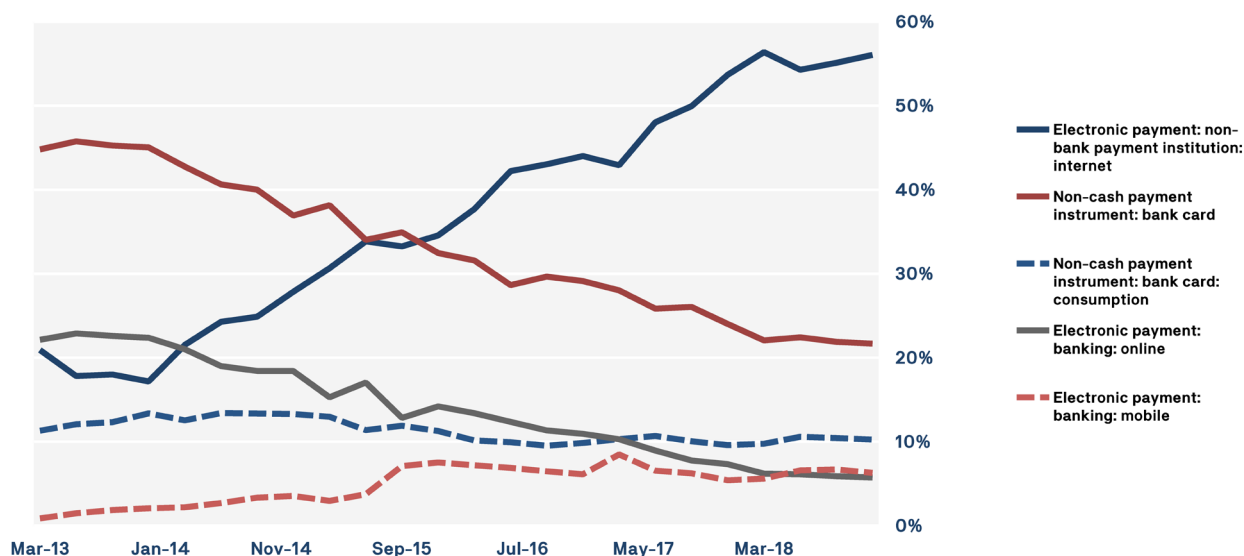
Table 1. China - volume of non-cash payments by instrument (share of total), 2013-2018

Year	Bank card	Bank card: Consumption	Banking: Online	Banking: Mobile	Non-bank payment institution: Internet
2013	45	12	22	2	18
2014	40	13	19	3	25
2015	35	12	15	6	33
2016	30	10	12	7	42
2017	26	10	8	6	49
2018	22	10	6	6	55

Source: Author's estimates based on PBOC card payments and non-cash payments data (excludes cheques, telephone banking)

Note: Bank card payments are retail transactions linked to transaction accounts (i.e., debit cards), whereas bank card consumption payments are credit card-based payments (credit cards).

Figure 2. China – share of non-cash payment volume (transactions), 2013-2018



Source: CEIC Data (2019)

The most striking change in non-cash payments trends in China, however, is the decline in the share of card-based payments use and the rise in the share of non-bank internet-based payments instruments to become the single largest instrument (by number of transactions) used for non-cash payments. The volume of non-bank internet payments transactions rose from an 18-percentage point share of non-cash payments in 2013 to a 55-percentage point share of non-cash payments in 2018. As explored below, the declining share of card use in non-cash payments transactions is primarily driven by the huge rise in the use of non-bank payments instruments, that is, of non-bank in-app or e-wallet payments, primarily via the use of WeChat Pay and Alipay.

The exception to this trend is the demand for credit-based consumption cards. The share of bank card consumption (credit payments) by volume has declined only slightly from a 12-percentage point share to a 10-percentage point share between 2013 and 2018. This decline is relative to the total volume of non-cash retail payments, and the value of credit-based consumption payments has risen faster than its decline in volume share. This suggests there is a demand for consumption-based credit which is not being met by non-bank payments.

Table 2 shows the average transaction size of non-cash payment instruments in China between 2013 and 2018. The largest average transaction size is the value of online banking payments at RMB41,000 (US\$6310) in 2018. Online banking payments are relatively high value transactions that include business and higher value consumer payments. In contrast, the average transaction size for non-bank payments instruments (which are substituting for previous cash-based transactions) is low and, indeed, has fallen from RMB538 (US\$88) to RMB483 (US\$73) between 2013 and 2018. The average transaction size of bank card and mobile banking payments are of a similar order of magnitude. Mobile banking payments are payments via bank-owned mobile-payments apps. There are several hundred mobile banking apps in China with major first, second and third tier banks all having their own mobile banking app. The average transaction size of mobile banking payments was RMB5377 (US\$815) in 2018.

Declining cash use in China

There is no publicly available official data on trends in cash use in China, but anecdotal and survey evidence suggests the use of paper cash for consumer payments has dramatically declined in recent years, especially in the cities and urban areas. Recent surveys of

Table 2. China – non-cash payments average transaction size

Average transaction size (RMB)	2013	2014	2015	2016	2017	2018
Bank card	8922	7615	7908	6539	5200	4886
Bank card: Consumption	2455	2180	1908	1496	1185	1120
Banking Online	44576	48127	57676	45749	43099	41655
Banking: Mobile	5662	5140	12179	6239	5391	5377
Non-bank payments	538	658	603	609	508	483
Average transaction size (USD est.)	2013	2014	2015	2016	2017	2018
Bank card	1451	1236	1259	987	768	738
Bank card: Consumption	399	354	304	226	175	169
Banking: Online	7254	7810	9187	6904	6362	6311
Banking: Mobile	921	835	1949	941	797	815
Non-bank payments	88	107	96	92	75	73

Source: Author's estimates based on PBOC data, accessed via CEIC Data (2019)

Note: Estimated USD equivalent at average market exchange rates for each corresponding period.

consumer payments usage in China show a sharp shift out of cash and into mobile-based in-app payments, particularly Alipay and WeChat Pay. According to a Financial Times (FT) Confidential Research survey of 1000 Chinese urban consumers in 2017, 98.3 percent had used mobile payments solutions in the previous three months (Nikkei Asian Review, 2017). Figure 3 shows the 2016 and 2017 survey results of Chinese urban consumers payments methods.⁴

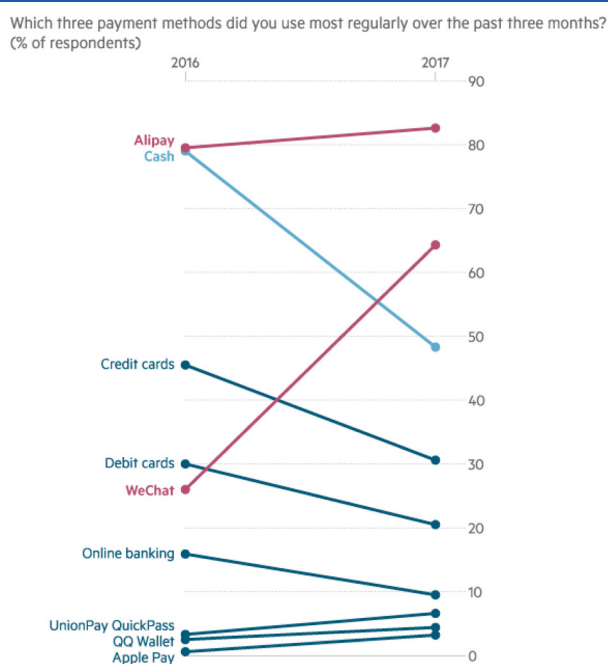
In-app mobile payments from non-bank payments providers were the most commonly used payment method. Alipay was used by 80 percent of those surveyed in the 2016 survey and 82.6 percent of respondents in the 2017 survey. The most notable change between the responses in 2016 and 2017 was the rise

in WeChat Payments primarily at the expense of cash, but also at the expense of cards and online banking. According to the 2016 survey results, 79 percent of respondents had reported using cash in the past three months, yet in the 2017 survey, only 48 percent of respondents said they had used cash in the past three months. Most of this change appears to be explained by the sharp rise in the use of WeChat Pay, from 27 percent in the last three months of 2016 to 64.3 percent of respondents in the 2017 survey.

Similar survey results of declining cash use in consumer payments were reached by a joint Deutsche-Bundesbank-Zhejiang University survey in 2017. The study surveyed 532 retail merchants in the affluent cities of Shanghai, Beijing and Hangzhou about the value of

⁴ According to FT Confidential Research, the survey data was collected via an online survey of 1000 urban consumers in Chinese cities at the same time each year. Survey questionnaires were emails sent to 1000 randomly sampled respondents. The sample population was different each year. Sample respondents were segmented into first-tier, second-tier and third-tier cities and lower, based on their location. Since respondents in lower-tier cities were more difficult to survey online, the survey team set a quota for each city tier to ensure representation of each city tier. The breakdown was one-third first-tier, one-third second tier, and one-third third-tier.

Figure 3. Consumer payments methods in China, 2016-2017



Source: FT Confidential Consumer Payments Survey data in Nikkei Asian Review (2017)

transactions in their stores by payment method (Korella, 2017). The reported value of transactions by Alipay, Wechat and other non-bank payments apps was over 55 percent of the total value of transactions in the survey period. Cash was used for between 18 and 21 percent of the value of transactions. Card-based transactions accounted for about 20 to 25 percent of the value of transactions in the survey sample. The slight difference in results depended on whether Hangzhou was included in the overall results. It must be acknowledged, of course, that the survey respondents were merchants in relatively affluent cities, and that the role of cash is likely to be higher in rural areas.

A 2016 Financial Times Confidential Research survey of 1000 Chinese urban consumers found 79 percent of respondents had reported using cash in the past three months, yet in the 2017 survey, only 48 percent of respondents said they had used cash in the past three months.

While cashlessness is higher in China than many other countries, and cashlessness continues to rise in the country, cashlessness has not yet reached the same levels as Sweden

or Norway. Despite its rapid transformation, China's economy remains dualistic in structure with a large and growing advanced digital and industrial economy which is increasingly cashless on the one hand, and relatively large rural and informal economies which remain cash intensive on the other. China's central bank issued a guidance in 2018 requiring all retail merchants in China to accept cash payments, while the Hefei branch of the PBOC in the capital of Anhui province issued a statement that merchants who rejected cash payments would be punished (Ren, 2018). Moreover, China's authorities continue to show concern about the exclusion of people in rural areas from financial services and have recently called for extending the use of mobile payments to all rural residents (China News Network, 2019). Despite the lack of financial inclusion in rural areas, the sharp decline in cash use in China's cities and urban areas is a major reason why China's authorities are investigating the viability of issuing a central bank digital currency for retail use (Deer, 2018).

Australia's payments data trends

In contrast to China, digitalisation of consumer payments in Australia has largely taken place via card-based payments methods

Table 3. Consumer payment methods in Australia, 2007–2016

Number of payments	Percent of payments			
	2007	2010	2013	2016
Cash	69	62	47	37
Cards	26	31	43	52
BPAY	2	3	3	2
Internet/Phone banking	N/A	2	2	1
Paypal	N/A	1	3	3
Cheque	1	1	0.4	0.2
Other	1	1	2	4
Value of payments	2007	2010	2013	2016
Cash	38	29	18	18
Cards	43	43	53	54
BPAY	10	10	11	8
Internet/Phone banking	N/A	12	10	10
Paypal	N/A	1	2	4
Cheque	6	3	2	2
Other	3	3	5	3

Source: Doyle and Fisher (2017)

Note: Excludes payments over \$9999

underpinned by incumbent bank and card providers' investments in card-based payments infrastructure, especially at the point of sale. Table 3 shows the most recently available public survey data from the Reserve Bank of Australia (RBA) on the share of consumer payments transactions by instrument across the volume and value of transactions (Doyle and Fisher, 2017).

While cash is traditionally used as a store of value and for transactions, cash use in Australia for transactional purposes is declining. According to the RBA's Consumer Payments Survey (2017) cash use declined from

a 69-percentage point share of transactions in 2007 to a 37-percentage point share in 2016. Cash use is likely to have declined further by 2019.

Cash transactions in Australia have been displaced by card-based payments. The same RBA Consumer Payments Survey (2017) showed that card-based payments rose from 26 percent to 52 percent of all consumer payments transactions in 2016. The 2019 share of card-payments is likely to be higher still. The subsidised investment in contactless, or 'tap-and-go' bank-card technology for debit and credit card payments by incumbent banks

and bank card providers has been a key driver of this change (Doyle and Fisher, 2017). BPAY and online banking are also digital payments methods, and while these accounted for a very small share of total transactions in 2016, according to the RBA survey responses, they accounted for eight and 10 percent of the value of transactions, respectively.

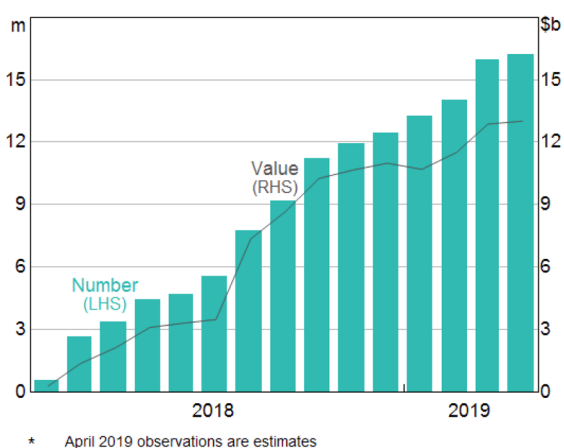
In contrast to China, mobile payments account for a very low as share of total consumer payments mobile payments in Australia. Less than four percent of transactions made by RBA (2017) survey respondents were mobile payments in 2016, and these were reported in the ‘other’ payment instrument category. More recent consumer use survey data is likely to show a rise in mobile payments use in Australia.⁵ Moreover, significantly high mobile phone penetration in Australia (with about nine out of 10 people owning mobile handsets) and the shift to near-field communications (NFC) technology-enabled devices, in addition to the spread of 4G data, is seeing the increased growth of mobile device and mobile money payments in the retail space. Because the adoption of NFC technology and the emergence of non-bank mobile money wallets in Australia are taking place in a ‘mature’ payments system,

control over data and access has emerged as a barrier to a more rapid shift to mobile money instruments in Australia.

Supply-side changes to Australia’s retail payments system, such as the development and launch of the New Payments Platform (NPP) in February 2018, are also likely to accelerate the use of mobile-centric technology at the expense of card payments in Australia. The NPP enables 24/7 instant payments between users, new forms of payment identification, and added service layers based on payment data. While NPP use in Australia is in its infancy, the adoption of fast payments systems in Sweden and elsewhere have been accompanied by the further decline of cash use in favour of mobile payments. Figures 4 and 5 show the increase in monthly flows via the NPP and the annualised transactions per capita via fast payments systems in Australia, Sweden and the UK. Section 4 discusses issues around the NPP and fast payments adoption in more detail.

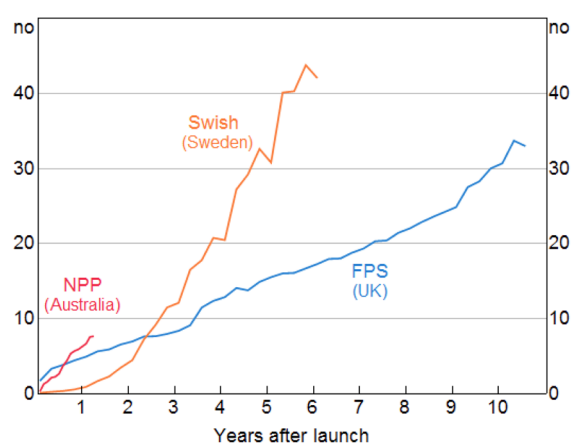
5 Mobile payments may use different payment networks, or rails. A distinction can be drawn between payments made with mobile devices using card-based payment rails and using mobile money instruments. Mobile devices, such as mobile phones or other devices like mobile-enabled watches (e.g., Apple Watch) or NFC-enabled bands, can be linked to payments instruments such as bank cards (debit or credit). Card-based payments rails can be contrasted to mobile money instruments which allow users to store value and transfer payments from mobile money or e-wallets, such as Alipay or WeChat Pay, or depending on where the payment is being drawn, from Apple Pay or Google Pay. Because a large share of mobile payment transactions in Australia are based on card-based payment rails, the RBA’s payments system statistics report these as card rather than mobile payments.

Figure 4. New Payments Platform – monthly flows



Source: Bullock (2019)

Figure 5. Use of fast payments systems – transactions per capita



Source: Bullock (2019)

3. The emergence of China's fintech payments giants

The development and diffusion of payments innovation in China and Australia based on new forms of financial technology have had very different starting points. This section provides an overview of the dynamics of recent payments innovation in China before looking at recent trends in payments system innovation in Australia. The aim here is not to provide a comprehensive analysis of each country's financial technology development, but to provide the basis for a comparative analysis of the payments and financial technology environments in China and Australia.

China's payments networks have developed along dualistic lines like much of the rest of its economy, that is, divided by activities and institutions which can be considered as private or state-owned, formal or informal, traditional and modern. From 2015 private mobile payment networks became the largest share of non-cash payments in China by number of transactions (CEIC Data, 2019). These private mobile payment networks compete with the traditional bank-card network run by UnionPay and the state-owned commercial bank system. Card-based payment fees, which would have been collected by the traditional banks and UnionPay have been captured by private payments providers, which charge much lower payments fees. China's experience shows how developing markets can leapfrog legacy technology infrastructure like card-based payments systems directly to advanced payments technologies such as mobile technology platforms, which also use low-cost technology solutions like QR (quick response) codes. These are discussed further below. Fintech-based payments development in China has not so much been about disrupting or disintermediating traditional financial institutions as filling a large-scale financial infrastructure 'gap' left by the legacy state-owned commercial banking system. Despite undergoing significant restructuring and commercialisation in the 2000's, China's legacy bank system and policy environment remained focused on channelling large volumes of low cost credit to meet the industrial needs of large-scale and often state-owned

enterprises, while proving slow to adapt both to the potential of new technologies and the rapidly growing needs of consumers and retail business customers.

Fintech-based payments development in China has not so much been about disrupting or disintermediating traditional financial institutions as filling a large-scale financial infrastructure 'gap' left by the legacy state-owned commercial banking system.

As with the diffusion and adoption of other forms of technology innovation, the development of fintech payments providers in China can be broadly understood to have developed through successive waves or tranches of technological innovation and investment. Indeed, the locus of the first wave of financial technology innovation in China for retail banking services came not from the legacy bank systems, but in the form of electronic payments technology developed by China's first major e-commerce player Alibaba and the development of its online payments platform, Alipay. Founded in 2004, Alipay removed two major frictions from the existing payments system needed to make online e-commerce and online person to person payments. A critical barrier to making online payments online is the need for trust – for a buyer to transact they need to trust that they will get what they paid for. Moreover, existing bank-to-bank transfers were not only cumbersome and slow, but didn't solve the trust problem. Alipay solved the trust problem by holding the funds in escrow until the goods had been received and approved by the buyer. Buyers could also rate sellers and their goods by their quality, service and the like. Online payments with Alipay were fast and convenient compared to paying via a bank, which could involve queuing and extensive paperwork. The result was that Alipay and other new third-party payments entrants significantly lowered transaction costs to buying and selling online.

Mobile technology and use of QR codes driving e-wallet proliferation

China's third-party payments providers like Alipay and later WeChat Pay were also early adopters of mobile-centric technology. Indeed,



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the critical technology factors driving the rate of mobile-wallet proliferation in developing countries have been mobile technology advances: namely the mobile penetration rate and cost of data and in China and much of Asia, as well as the use of QR codes which eliminate the need for expensive point of sale (POS) terminals and even the need for electricity supply (Capgemini and BNP Paribas, 2018). The latter was a critical technology decision by China's non-bank payments providers. Thus, while legacy payments providers tied to the banks were rolling out card-based payments technologies and expensive POS terminals, QR codes offered a cheap and effective alternative for the mass of small retail providers which dominated China's retail sector.

The use of QR codes was a critical technology decision by China's non-bank payments providers. While legacy payments providers tied to the banks were rolling out card-based payments technologies and expensive POS terminals, QR codes offered a cheap and effective alternative for the mass of small retail providers which dominated China's retail sector.

QR code-based payments now predominate in China's third-party payments, especially in offline payment scenarios and have been heavily promoted by Alipay and WeChat Pay.

According to iResearch China (2019), the value of offline QR code payments in China reached RMB6.4 trillion in 2017. By contrast, the value of NFC payments which use more recent mobile hardware technology reached RMB4.89 billion in 2017, approximately 0.08 percent of the value of QR code payments. UnionPay even ventured into QR code payments by issuing an official QR code standard for the industry in 2017 and its own mobile app with a QR code reader that can be linked to UnionPay cards. QR codes are likely to continue driving offline payments growth in China as they are increasingly adopted to enable fast and convenient offline payments. For example, state-owned transport providers in China now widely allow people to pay for transport and enter train stations by scanning QR codes.

Retail industry structure and new payments models

The undeveloped structure of China's retail and wholesale distribution sectors was also a critical factor in determining the subsequent success of its e-commerce industry and the emergence of new payments models. Much like with banking, e-commerce in China did not so much as disrupt traditional retailers, which were small and fragmented with poor supply chains, as develop a completely new retail infrastructure. The development of e-commerce in China was in large part so successful because it provided infrastructure

for all sides of the market, that is, for suppliers, distributors and final consumers. Thus, China's first generation of e-commerce companies encountered a very different retail industry structure to that encountered by the first generation of e-commerce platforms in the United States or Australia. In these countries, the retail industry was well-established with producers and suppliers served by large, highly-developed retail distribution and sales channels, either organised vertically through large retail chains or via trade distribution fairs. This meant that, outside of small niche producers, there was little incentive for producers and suppliers to shift their distribution and sales channels to the first wave of e-commerce platforms like eBay or online payments processors like PayPal. Indeed, in the US it was after at least another decade, with the widespread diffusion and adoption of fixed-line internet, cloud computing services and mobile phone technology, that the uptake of direct online sale and delivery platforms (e.g. Amazon) would begin to systematically supplant existing supply and distribution channels in the US retail industry, and change the incentives for merchants to adopt new payments models.

China's third-party payment business model

A critical feature of the new platform economies is that they are digitally driven organisations with new operating models based on their power over data, that is, information flows.

China's third-party payments provider are payments-as-a-platform businesses that integrate transactions alongside multiple other services. The China third-party payments model provides very low-cost payments as a way of attracting and retaining customers at scale and then selling add-on services on the other side of the business. A critical feature of the new platform economies is that they are digitally-driven organisations with new operating models based on their power over data, that is, information flows. This has allowed China's retail payments platforms to move into lending, wealth management, customer-centric digital banking services, as well as into providing big data and artificial intelligence (AI) capabilities to merchant and enterprise customers. Acquiring and developing valued added services for merchants are also central to China's third-party payments model. Merchant value-added services include: offering payment



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and big data capabilities to help merchants acquire and retain customers via targeted paid advertising on the platform and managing loyalty schemes; using payments and finance capabilities to help merchants deal with capital turnover problems by providing supply chain finance; real-time transfer payments; and other merchant services such as capabilities for merchants to manage daily business operations, including enterprise resource planning (ERP) and account checking systems (iResearch China, 2019a).

Peer-to-peer payments accounted for a 60-percentage point share of China's mobile payments by transaction value in the last quarter of 2018. This was followed by mobile consumption at a 20.8-percentage point share, mobile finance at 16.9 and other uses at a 2.3-percentage point share of transaction value.

Social and 'scenario-based' payments

While the first wave of China's third-party payments platforms originated in e-commerce, a second major wave of mobile payments growth in China was driven by the mass user adoption of the social messaging application, WeChat. WeChat includes a mobile payment service, WeChat Pay, that allows users to make person-to-person payments as well payments to merchants, and much more. According to the mobile internet research company Trustdata, WeChat was the top ranked mobile application in China with 1.01 billion monthly active users (MAU) in the month of April 2019, while Alipay ranked second with 615 million MAU. WeChat Pay and Alipay offer a range of 'scenario-based financial services' (Chen, 2016). The idea of 'scenario-based financial services' is that payments are embedded into platforms that meet the 'real-life' needs and wants of users, such as the need to book a train or a taxi, or donate to crowdfunding charity, or to transfer money to a friend while eating out (Hess, 2017). Peer-to-peer payments accounted for a 60-percentage point share of China's mobile payments by transaction value in the last quarter of 2018. This was followed by mobile consumption at a 20.8-percentage point share, mobile finance at 16.9 and other uses

at a 2.3-percentage point share of transaction value (iResearch China, 2019b).

Regulatory loosening and regulatory tightening

The regulatory pattern around private payments innovation in China has been similar to the regulatory pattern around internet finance and peer-to-peer lending, with an initial rush by providers into a largely unregulated environment, followed by regulatory tightening some years later as problems in the sector became too big to ignore. The first private e-payments network was developed and scaled by Alibaba, and within a few years several hundred private payments providers had entered the space, often linked to e-commerce platforms. The period around the SARS epidemic in 2003 encouraged many people to go online at a time when there was enough internet and mobile infrastructure to support it. This was also accompanied by a boom in e-commerce, private online payments and internet finance. Only several years later did these payments provider come under regulatory scrutiny accompanied by the developed of licensing and compliance systems.

China's authorities have moved to tighten regulatory control systems over private third-party payment platforms in two phases. First, by developing and enforcing a licensing system for non-bank payment institutions through ongoing rectification campaigns. Second, by restricting the value of users' funds that could be held in payment e-wallets, limiting the value of users' daily and monthly e-wallets transactions, and requiring e-wallets to be linked to real name bank accounts. Although policy rationale was to prevent risks to user funds, it is likely that the policy also aimed to prevent the third-party private payments provider from directly competing with the state-owned banks over control of retail deposits.

Further, in 2017, the Payment and Clearing Association of China (中国支付清算协会) under the regulatory supervision of the PBOC, established a 'Non-bank Payment Organisation Internet Payments and Clearing Platform' (非银行支付机构网络支付清算平台) to break the link between non-bank payment institutions and

their direct payments settlement arrangements with the banks. From June 2018, any non-bank internet payment settlement involving bank accounts had to be settled through the new non-bank payments clearing platform, rather than settled directly between non-bank payments companies and the banks. The public rationale for the new settlement regime was to level the playing field for non-bank payments companies seeking access to bank settlement (Dong, 2017). Establishing a regulatory mechanism to gain surveillance of the non-bank payments data flows, which had remained outside of the regulatory system, was also a motivation (Sun, 2017).

Under the new regime, non-bank payments institutions (NPIs) were also required to deposit the balance of user funds in an official depository system (PBOC, 2017). Previously, China's NPIs were reportedly depositing users' funds into bank term deposits accounts under their own name – and earning interest on those funds from the banks. Under the new depository system, NPIs were initially required to submit an average 20 percent of their clients' funds into the centralised deposit system, with the ratios of funds submitted to increase until all clients' funds held by NPIs would eventually be submitted (PBOC, 2007). While the official rationale was to protect clients' funds, the effect was to reduce profits of the NPIs and further curtail their de facto competition with the bank deposit system.

While the era of largely unregulated mobile payments expansion is over in China, the era of 'competitive cooperation' between fintechs and banks is well underway.

More broadly, while the era of largely unregulated mobile payments expansion is over in China, the era of 'competitive cooperation' between fintechs and banks is well underway. According to Guo Shuqing, the most senior figure in China's banking regulatory system,⁶ almost 'all fintech companies have formed partnerships with large and medium-sized banks' (Guo, 2019), while banks are developing and investing with financial technology

companies in fundraising, account opening, payment and settlement and inclusive finance.

Internationalisation of China's payments networks

Since at least 2016, China's new payments giants, especially Ant Financial (which operates Alipay), Tencent (which operates WeChat Pay) and UnionPay, along with other fintech and big tech players, have increasingly looked towards offshore expansion. In doing so they have followed classic patterns of international banking expansion. This expansion has been primarily motivated by pursuing defensive expansion aimed at following their customers abroad. As relatively well-off mainland Chinese tourists and former residents have travelled or moved abroad for study and migration, China's main payments providers have sought to ensure that their growing number of expatriate customers are able to pay for travel, education and expenses via their Chinese in-app payments accounts or UnionPay card.

How big is the scale of offline overseas transactions using China's third-party payments institutions and UnionPay? According to data from China's Ministry of Culture and Tourism, Nielsen and iResearch China (2019), overseas offline transaction payments by UnionPay, were estimated at US\$43.68 billion in 2015, rising to US\$48.2 billion in 2017. Offline overseas mobile payments through institutions such as Alipay and WeChat were estimated to have risen US\$26.33 billion in 2015 and to US\$32.8 billion in 2017, while overseas cash payments were estimated at US\$34.9 billion in 2015 and US\$34.59 billion in 2017.

In addition to ensuring their payments network enabled their customers to pay abroad, China's non-bank payments providers have also pursued investments in local e-wallet payments provider in rapidly expanding developing markets like India, Malaysia and elsewhere. Ant Financial's recent funding round of US\$14 billion was aimed to fund global expansion, notably via major investments in India's Paytm. Tencent has also engaged in global investments: to expand the use of WeChat Pay in launching a local digital wallet, for instance,

⁶ Guo Shuqing is the chair of the China Banking and Insurance Regulatory Commission (CBIRC) and party secretary of the PBOC.

as well as buying stakes in fintechs globally, such as the N26 neo-bank in Germany (KMPG, 2019). Tencent has also invested smaller stakes in a host of other payments or near-banking companies, including Airwallex, which was initially an Australia-based start-up. Section Five of this report looks more closely at the cross-border links between China's payments networks and the Australian market.

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4. Payments system innovation in Australia

While the emergence of new fintech payments models from outside of the traditional payments system has been the central driver of payments system innovation in China, this has not been the case in Australia. Although digitalisation is impacting the payments landscape in Australia, it is doing so in the context of a pre-existing 'mature' retail payments system. Digitalisation in Australia's retail payments system has entailed further investment in existing payments rails, primarily into legacy card-based payments infrastructure by incumbent banks and card providers. Because tap-and-go card-based payments and cash satisfy most consumers' immediate transactional needs, the adoption of new mobile payments technologies has been relatively slow to date. Despite this, Australia's high rates of mobile phone penetration, and the increasing diffusion of mobile payments technology, are likely to lead to an inflection point in mobile payments adoption. Frictions remain between incumbents and new mobile money entrants over who has access to and control over mobile payments technology, data and infrastructure. Nevertheless, regulatory-led supply side changes, like the development of the NPP, are opening the retail payments environment in Australia to new payments models.

Technology and social dynamics

The digitalisation of retail payments in Australia has seen a shift by consumers out of using cash for transactional purposes into using card-based tap-and-go payments. There is a strikingly high rate of bank account penetration in Australia, with almost all adults having access to a transaction account with a linked debit card, and a large subset of credit card holders. Card-based payments have increasingly become the norm as incumbent banks and card providers have subsidised investment in generations of card-based payment technology (Doyle and Fisher, 2017). However, the near-universal adoption of mobile phones by consumers fundamentally changes the technological landscape for retail payments from card-based payments to a more



open landscape of mobile-centric payment innovation. According to Deloitte's 2018 Mobile Consumer Survey in Australia, almost nine out of 10 adults who responded to their survey now own a smart phone, while a quarter of those respondents also said they used a mobile device to make payments in store (Deloitte, 2018).⁷ The development of NFC payments technology in for instance, mobile hardware devices and devices accepting NFC payments, is another good example of the way digital technology changes are causing instability in traditional payments systems. Mobile hardware and software companies like Apple, Samsung and Google now offer their own mobile wallets in competition with, and on top of, existing bank card payment solutions. According to Deloitte's (2018) survey, of the 25 percent of respondents who have used a mobile device to conduct payments in-store, 45 percent used wallets by Apple Pay (19 percent), Google Pay (15 percent) and Samsung Pay (11 percent), compared to 32 percent who said they used bank-provided solutions. Because these new mobile wallets process payments from an existing bank card, they are not mobile money

instruments per se. However, their use changes the flow of customer payments data, from one of exclusive access and control by the bank and card provider, to granting access to a new mobile wallet provider.

According to Deloitte's 2018 Mobile Consumer Survey in Australia, of the 25 percent of respondents who have used a mobile device to conduct payments in-store, 45 percent used wallets by Apple Pay (19 percent), Google Pay (15 percent) and Samsung Pay (11 percent), compared to 32 percent who said they used bank-provided solutions. In this context, China's third-party payments platforms are examples of the paradigm shift underway in payments models internationally.

Issues of control and access to new mobile payments capabilities and data have therefore become a source of friction in opening mobile payments to new entrants. In March 2017, the Australian Competition and Consumer

⁷ Deloitte's Mobile Consumer Survey (2018) findings are based on a nationally representative sample of over 2000 consumers aged between 18 and 75, who were polled online in June 2018. Of those surveyed, 42 percent owned Apple mobile handsets and 35 percent owned Samsung mobile handsets.

Commission (ACCC) handed down a decision to deny three of the big four Australian banks (CBA, NAB and Westpac, excluding ANZ) as well as Bendigo and Adelaide Bank their attempt to ‘collectively bargain with Apple and collectively boycott Apple Pay’ (ACCC, 2017). The banks had sought to cut a deal with Apple Pay to gain access to the NFC controller in the iPhone along with certain access terms to the Apple Store. This would have allowed banks to offer their own bank apps to iPhone customers without using Apple Pay. In the wake of the ACCC decision, several banks maintained an unofficial boycott of Apple Pay, but most eventually bowed to consumer pressure to accept Apple Pay on their services (Bajkowski, 2019).

In this context, China’s third-party payments platforms are examples of the paradigm shift underway in payments models internationally, from single-sided bank-centric models, that is, bank-to-customer, to multi-sided systems, in which the customer moves to the centre of open, digitally distributed provider-to-provider models. We can see this playing out in Australia now with the rise of customer-centric payments models, whether by tapping into those models from China like WeChat Pay or Alipay, or via efforts to develop new more customer-centric platforms like Beem It, which is funded by three of the big four Australian banks.⁸ In addition to Apple Pay and Google Pay, Facebook (which owns WhatsApp and Instagram and has over two billion users globally) is now the next major tech giant moving into consumer payments (Detrixhe, 2019).

Regulatory initiatives in Australia

In mature markets like Australia, recent regulatory initiatives have sought to modernise the speed and open the retail payments system to a more multi-sided and responsive environment. While shifts in consumer payments preferences have been evident

for many years, regulatory action has been required to overcome the lack of system-wide initiative to modernise retail payments infrastructure in Australia (RBA, 2012). There have been a range of regulatory initiatives to improve efficiency and remove pricing distortions from the retail payments system in Australia, such as pressure to reduce the level of interchange fees on payments networks. The launch of the NPP in February 2018, however, has been the most important piece of new system-wide payments infrastructure. The NPP provides a base infrastructure which enables participant financial institutions to provide immediate funds to payment recipients on a 24/7 basis via the RBA’s fast payments system, which was previously limited to wholesale payments. The NPP also allows a new ‘PayID’ service using phone, Australian business number (ABN) or email addresses instead of payment addressing via BSB and account numbers, as well the capacity to include richer payments data with each individual transaction (RBA, 2018). While the NPP is in its early days, over two million ‘PayIDs’ have been registered and the number of NPP transactions is growing (Bullock, 2019). Nevertheless, there has also been debate over the extent to which the NPP’s access regime, capital requirements and governance has restricted direct participants to Authorised Depository Institutions (ADIs) and limited the ability of new entrants – particularly non-ADIs such as fintechs – to participate in offering NPP services on a competitive basis with the existing banks (Productivity Commission, 2018).⁹ In response, the RBA, with the input of the Australian Competition and Consumer Commission (ACCC), conducted a public consultation which resulted in 13 recommendations to expand potential access to the NPP to non-ADIs, to introduce a more graduated shareholding membership structure and to widen NPP governance – with the aim of speeding up the roll-out, functionality and participation of new payments providers in the NPP’s fast payments services (RBA, 2019).

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- 8 Beem It is a free bank-based cash dispersal app developed by CBA, NAB and Westpac which enables users with an Australian-linked debit card to make, receive and split free instant payments of up to A\$500 per day. Beem It has also positioned itself for the small business market. Small and micro businesses can accept debit card payments at no extra charge. Sellers are also able to accept by payments by generating a QR code which can be scanned by customers, and businesses can send requests via the app to linked usernames or mobile numbers.
- 9 For details, in addition to the Productivity Commission (2018), see the recent submissions to the Consultation on the New Payments Platform Functionality and Access (RBA, 2018), e.g., NPP Australia (2018) and Fintech Australia (2018).

5. China-Australia cross-border payments integration

This section details the intersection of fintech payments channels between China and Australia. Global availability means China's retail payments networks are the primary channel by which mainland Chinese consumers in Australia, whether tourists, international students or residents with either their own or family with Chinese bank accounts, are making retail payments for goods and services in Australia. Whereas mainland Chinese travelers to Australia previously had to exchange paper money from RMB to Australian dollars either in China or once they arrived in Australia, they are now able to make payments directly to Australian merchants via their existing RMB non-bank payments wallets, such as Alipay or WeChat Pay or via their UnionPay card issued with their China-based RMB bank account.

While cross-border retail payments between China and Australia may not be central to retail payments innovation in Australia, they are economically significant. An estimated 1.3 million mainland Chinese tourists visited Australia in 2018, spending an estimated A\$11.7 billion (Tourism Research Australia,

2019). Many of these tourists come to visit their relatives who are studying in Australia and much of their spending is educational-related tourist expenditure. A further 255,000 Chinese international students were enrolled in Australian educational institutions in 2018, including 152,000 enrolled at universities, and the remainder at schools and vocational education and training and other award and non-award courses (Department of Education, 2019). These tourists and international students rely heavily on their Chinese UnionPay bank cards or mobile wallets to pay for goods and services in Australia. According to Alipay Australia, as many as half of all mainland Chinese tourists to Australia open their Alipay wallets (Lawson, 2017).

The growth of cross-border e-commerce, via online merchants as well as *daigou* shopping merchants in Australia who buy and sell Australian merchandise to mainland Chinese consumers, has also been enabled by the spillover from China's mobile payments use into Australia. The market in mainland China for online goods and *daigou* sales from Australia may be several times larger, by number of customers, than the inbound mainland Chinese tourist and educational market to Australia.



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According to a Nielsen (2017) report there could be as many as 100,000 to 200,000 *daigou* shoppers in Australia. Many *daigou* services started out on WeChat and have taken advantage of WeChat's live streaming to show shoppers purchases of Australian goods and to reach buyers in mainland China. The *daigou* e-commerce market is primarily served by China's third-party payment platforms, Alipay, WeChat Pay, JD Pay and several others. As with in-store purchases using Chinese non-bank payments networks in Australia, *daigou* shoppers rely heavily on QR codes to make payments for merchandise and to receive payments from their customers.

Alipay, WeChat Pay and UnionPay have adopted different approaches to the Australian market. Because the Australian market itself is relatively small, the main objective in all three cases has been defensive internationalisation, that is, providing payments services to their existing Chinese customers.

Alipay, WeChat Pay and UnionPay have adopted different approaches to the Australian market. Because the Australian market itself is relatively small, the main objective in all three cases has been defensive internationalisation, that is, providing payments services to their existing Chinese customers – tourists and expats (students and migrants) in the Australian market. They have also adopted different approaches to do this.

China UnionPay International (CUPI), a subsidiary of China UnionPay, the primary bank card payments providers in China, has operated in Australia since 2013. CUPI has agreements in place with local payments infrastructure providers, which allows UnionPay cardholders to make payments directly from their UnionPay card accounts without any wait time and at no cost for consumers.¹⁰ UnionPay's primary focus is on enabling retail and merchant payments. UnionPay's primary customers in Australia are holders of Chinese bank cards and local bank, retail payments infrastructure providers and large Australian merchants. Of all China-based

payments facilities, UnionPay's retail facilities are the most widely accepted in Australia. Agreements are in place with all major bank-ATM providers to accept UnionPay cards and with all tap-and-go providers, that is, the same providers that accept Mastercard and Visa. UnionPay also has agreements with Apple Pay, and agreements with major merchants such as Woolworths and Myer (Young, 2017). Like Visa and Mastercard, UnionPay in Australia primarily uses NFC technology which enables contactless tap-and-go payments. UnionPay also says it offers merchant payment facilities for Australia-China business-to-business (B2B) transactions and can issue UnionPay cards to Australian businesses for payments with businesses in China. For instance, the card can be used to pay for imports and receive exports. Payment is instant, which eliminates long delays in trade finance, supply chain and certificates of credit. UnionPay's merchant payment facilities are available for businesses with a minimum of A\$50,000 deposit via China's main commercial bank branches in Australia.

Alipay International has its own direct operation in Australia with which it seeks to connect directly with merchants who have a high volume of mainland Chinese customers, as well as seeking access for Alipay users to existing bank payments networks. As touched upon previously, Alipay notes that about half of all mainland Chinese tourists to Australia each year open their Alipay apps in Australia (Lawson, 2017). Alipay's focus is on serving Alipay users visiting or living in Australia. Recruiting merchants onto the Alipay platform is a key part of the strategy. Alipay targets merchants located in areas with high volumes of Alipay users, including tourist traffic. Alipay has reached agreements with major banks such as NAB and CBA to offer payment services via their infrastructure to Alipay users. WeChat Pay also operates in Australia to regulate its use by local payment services and local merchants. Alipay and WeChat Pay in Australia also partner with local payments providers who offer merchant services in Australia to process Alipay, WeChat Pay and other China-based

¹⁰ Note: UnionPay cards attract among the highest merchant fees for card payments.

third-party payments. While not necessarily targeting local consumers, by targeting local merchants, the effect has been to further open trade and service channels between merchants in Australia and mainland Chinese consumers.

In addition to China's major payments companies, there are a handful of new third-party payments start-ups seeking to serve the China-Australia cross-border retail market. Noah Pay, for example, was founded in 2017 and provides WeChat Pay merchant services for businesses in Australia to accept WeChat Pay payments. Noah Pay's strategic focus is on acquiring wholesale distribution partners. Their first distribution partner is the food delivery service EASI, which is connected to about 5,000 retail food merchants in Australia, many of them Chinese food merchants (Yan, 2019). EASI customers can pay with WeChat Pay or UnionPay, both of which require a bank account in China. WeChat Pay payments are processed by Tencent and settled through the Bank of China in mainland China with local merchant banks in Australia. Noah Pay charges a small merchant percentage fee, which includes the fee charged by Tencent for each WeChat Pay transaction.

There are several other third-party providers seeking to connect local merchants in Australia with one or other of the Chinese payments company networks. Royal Pay, for instance, offers services to local merchants to accept Alipay, WeChat Pay and other third-party payments networks in China, such as JD Pay. Royal Pay started operations in Australia in 2016 and claims to have more than 10,000 merchants using their payment services, which includes multiple QR code deployment options to accept customer payments from Chinese third-party mobile payment users. Royal Pay also claims to have had over five million customers use their services since 2016. In addition to local merchants offering in-store or online purchases, Royal Pay serves the China-Australia cross-border e-commerce market. Eighty percent of consumer payments received via Royal Pay connected merchants have come from consumers in China (Zheng, 2019).

Potential exists for a move by new online payments providers, who are currently serving the mainland Chinese expat market or China-

focused SME market in Australia, to move from payments into offering local banking services in Australia under the new tiered-bank licensing regime. As with other banking markets internationally, China's third-party payments companies may also seek to directly acquire or invest in new payments providers in the Australian market with the capital required and experience of delivering new payments and banking models to compete locally.

6. Conclusion

This report has sought to provide a more detailed understanding of the ways in which digitalisation and globalisation in China and Australia are transforming retail payments systems, including the way in which people and businesses pay for goods and services. The emergence of new fintech payments models in China developed from outside the existing payments system along initially completely independent and parallel payments rails. The development of new mobile payments technologies coupled with deployment through low cost technologies like QR codes was possible in the context of major gaps and frictions in the existing retail payments system. The regulatory environment has been largely favorable to third-party payments innovation in China, which dominates high-volume, low-value, non-cash payments by its Chinese consumers. In contrast, retail payments innovation in Australia over the past decade has tended to have been dominated by investment along legacy infrastructure lines, such as card-based payments infrastructure. System-wide innovation has emerged from two sources, the growth of mobile in consumer payments and regulatory pressure to modernise retail payments system infrastructure.

Because of Australia's geography, trade and people-to-people integration with China, there are direct spillovers from the transformation of China's retail payment system into the Australian payments landscape via the flows of goods, services and people. China's most successful fintech payments platforms are internationalising their existing payments businesses by targeting expatriates as well as investing in new payments platforms in the region. The global availability of China's retail payments networks is the primary channel by which mainland Chinese consumers in Australia, whether tourists, international students or residents with Chinese bank accounts, are making retail payments for goods and services in Australia. China's payments internationalisation has also been critical to cross-border payments for *daigou* shoppers in Australia selling to consumers in China. The integration of China's new payments networks with local payments systems in Australia are contributing to the emergence of new retail payments models in Australia.



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All responsibility for the content, including any mistakes, rests with the author.

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