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KEY POINTS

- Backed by the e-commerce giant Alibaba, Alipay has become the world's largest mobile payment system. Together with Wechat Pay, they dominate China's \$5.7trn mobile payment sector. Alipay has a presence in over 70 countries including the UK, US, Japan, South Korea and Australia.
- Due to the popularisation of mobile payment facilities, many Chinese cities have become a cashless (and cardless) society, as 40% of Chinese people carry almost no cash when going out.
- Alipay relies on the Quick Response code (or QR code) technology, in contrast to the Near Field Communication (NFC) adopted by competitors like Apple Pay.
- Mobile payments and fintech have provoked debate as to legal and regulatory issues such as the regulatory approval regime, data protection, fund security and fintech financing. Most recently, China has set up a unified clearing house for all mobile payment service providers to strengthen the industry supervision.

Author Dr Lerong Lu

Decoding Alipay: mobile payments, a cashless society and regulatory challenges

The financial industry has witnessed the so-called "fintech revolution" in recent years. Due to the emergence of information technologies such as cloud computing, big data, blockchain and artificial intelligence, the landscape of the traditional financial industry has been largely transformed. The interplay between finance and technology has resulted in various new forms of financial services and products, like online P2P lending, digital-based banking, insurtech, bitcoin as well as the burgeoning mobile payment sector. Alipay, the mobile payment service arm of the Ant Financial Services Group (hereafter referred to as Ant Financial), is a perfect example to illustrate the ongoing fintech revolution and how it is disrupting the conventional retail banking model and payment industry.

This article aims to introduce and analyse the world's largest mobile payment system as well as some of the regulatory challenges it poses. It attempts to offer some guidance for legal practitioners in banking and finance, in particular, the multi-billion dollar fintech sector.

ANT FINANCIAL: THE FULL-FLEDGED FINTECH GROUP

According to *the Economist*, China has emerged quickly as the leading country in terms of fintech innovation, accounting for over half of the global digital payment market as well as three quarters of global online lending transactions.¹ Ant Financial has been one of the successful fintech businesses originating from China. In 2016, it had a valuation of \$75bn, which is higher than the market capitalisation of Goldman Sachs.² Clearly Ant Financial is the most valuable fintech corporation in the world, and it is a member of the elite unicorn companies club (a tech start-up having a valuation over \$1bn). Ant Financial was initiated by the e-commerce giant, Alibaba Group, and several other institutional investors. Established in October 2014, Ant Financial is a dedicated fintech corporate group whose businesses cover four main areas: mobile payments (Alipay), mobile wealth management

(Ant Fortune), online-only banking (Mybank) and big data credit ratings (Sesame Credit).³ The rapid growth of Ant Financial is partly due to the strong technology background of the Alibaba Group, as well as its enormous client base and personal data reserve derived from Alibaba's online shopping platforms – Taobao.com and Tmall.com.

ALIPAY: FROM ONLINE TO OFFLINE

Alipay had a very humble beginning. It was first launched in 2003 as a simple built-in payment tool of Taobao.com. Thanks to the rapid development of the online shopping industry over the past 15 years, Taobao has become one of the most popular online shopping portals in China. In 2010, Taobao occupied 80% of China's e-commerce market, with 170 million registered shoppers. It defeated eBay to become the market leader in the country.⁴ Accordingly, Alipay enjoyed an exponential growth as most transactions

on Taobao were settled via Alipay. In May 2011, the People's Bank of China (the PBOC), the central bank, granted third-party online payment licences to Alipay, along with another 26 internet finance companies.⁵ Thus, Alipay was among the first group of fintech companies to obtain official authorisation to operate an online payment system. Until then, it had been largely regarded as an e-payment facility for online shopping.

2011 marked a new era for Alipay, as it expanded its payment service from online to offline. Alipay launched its smartphone APP on both Apple IOS and Google Android platforms, allowing smartphone users to pay for purchases and services in high street retailers, cafes and restaurants. In contrast to mobile payment systems which adopt the Near Field Communication (NFC) technology, such as Apple Pay and Samsung Pay, Alipay and most Chinese fintech companies have chosen the Quick Response code (QR code) to carry out the mobile payment function. QR code is the trademark for a type of matrix barcode (or two-dimensional barcode) first designed for the automotive industry in Japan. Alipay uses QR code because it has a lower infrastructure threshold, making it cheaper and easier to popularise the country in a short time. When making mobile payments in-store, shoppers will use the Alipay APP on their smartphone to generate a one-off QR code, and then the retailers' staff will hold a specially-designed barcode reading gun to scan the QR code, and complete the transaction. An alternative way of receiving payment is for some retailers to print out their Alipay accounts which are presented in QR code, and then stick the printed QR

code near the counter. Consumers can use their smartphone cameras to scan the QR code and make immediate transfers. The latter method does not even require any investment in payment hardware, rendering the mobile payment facility available for everyone including small shops, street vendors and street artists.

BUILDING A CASHLESS (AND CARDLESS) SOCIETY

Alipay, as a cost-effective payment option, has brought great benefits and convenience for both retailers and consumers. The QR codes automatically generated by the Alipay APP are one-off, constantly changing to enhance the level of security. Users have to set up a passcode or use biometric information, such as the fingerprint sensor and facial recognition function on their smartphones, to verify their identities before initiating payments. Alipay can be linked to debit and credit cards issued by most banks, so as to function as a mobile e-wallet.

In China, the swift shift from traditional payment (cash and card) to mobile payment is due to the popularisation of smartphones in the last decade. 95% of internet users in the country now go online through mobile equipment.⁶ At present, most brick-and-mortar stores like supermarkets, restaurants and cloth shops, as well as online-to-offline (O2O) services such as taxi hailing, food delivering and bike sharing, accept mobile payment options including Alipay and its main rivals including Wechat Pay which is operated by another Internet giant – Tencent Holding.⁷ Alibaba and Tencent have teamed up with millions of retailers across the country to build a cashless society. For instance, the US cafe chain Starbucks decided to accept Wechat Pay at its 2,600 shops in China, except for one located at Alibaba's Hangzhou headquarter.⁸

Outside China, Alipay and Wechat Pay have been expanding fast to promote their innovative payment services to consumers in Asia, Europe and the US. In the UK, some department stores, including Harrods and Selfridges, already accept Alipay.⁹ Alipay now has 450 million users all over the world, making it the largest mobile payment system contesting fiercely with its US competitors like PayPal and Apple Pay.¹⁰

Making payment by smartphones has become a default option for many Chinese.

Even beggars on the streets are presenting QR codes to receive donations instead of receiving notes and coins.¹¹ The market scale of China's mobile payment sector amounted to CNY38trn (\$5.7trn) in 2016, which was 50 times that of the US market (\$112bn).¹² Alipay is extremely streamlined and convenient, allowing consumers to complete transactions in a few seconds without taking out their wallets. Recently, even the giving of red envelopes stuffed with lucky money, a millennium-old Chinese New Year tradition, has been fully digitalised. Nowadays people tend to hand out virtual red envelopes to their relatives and friends during the new year, which is a built-in function of Alipay and Wechat Pay.¹³

As a result of the proliferation of mobile payment facilities, many Chinese cities have become cashless and cardless. According to a *China Daily* survey, 14% of Chinese no longer carry any cash when they go out, whilst 26% carry less than 100 yuan (\$15).¹⁴ 74% of participants said they can survive for over one month with only 100 yuan in their pocket.¹⁵ Clearly, smartphones installed with Alipay APP have become the only essential thing for people to carry when going out shopping, dining and for entertainment.

HOW ARE TRADITIONAL BANKS AND PAYMENT SYSTEMS AFFECTED?

As fintech service providers rewrite the rules of the financial industry, the businesses of traditional banks and card payment systems have taken a beat. In the past, China UnionPay was the principal payment system in the country as most bank cards issued in China use UnionPay's payment and clearing network. Even Visa and MasterCard found it difficult to compete with it. However, Alipay has surpassed UnionPay in terms of the daily number of processing payments, underscoring Alipay's dominant position in the entire payment industry.¹⁶ In 2015, Alipay earned CNY139bn (\$20.84bn) from its payment services, which would otherwise have been channelled to UnionPay and major card issuers like the ICBC and Bank of China.¹⁷

Moreover, Alipay also poses a major threat to retail banking, as an increasing number of savers have moved their money from their bank accounts to Alipay e-wallets. Within the Alipay

APP, various financial services are provided such as wealth management, securities investment, insurance and loan facilities. In practice, Alipay is serving as a *de facto* gateway to Ant Financial's fintech business empire. To many consumers, what makes Alipay's e-wallet particularly attractive is an add-on service called Yu'E Bao (or left-over treasure) which invests consumers' money into money-market funds but permits them to use and withdraw the money on demand like current accounts.

In addition, Yu'E Bao offers an annualised return of 4-7% for its subscribers, and interest is paid on a daily base into consumers' Alipay accounts. Attracted by the decent return and convenience, millions of savers have opted for Alipay as their default banking account, leading to a sharp drop in deposits for major Chinese banks. As of July 2017, Yu'E Bao had around 260 million users¹⁸ with the market volume of money-market funds in China reaching a record-breaking CNY5.11trn (\$770bn).¹⁹ Apparently, the fast expansion of Alipay has eroded the deposit base, revenue and profitability of China's banking industry.

ALIPAY'S LEGAL AND REGULATORY CHALLENGES

Seeking regulatory approvals

One main hurdle for fintech companies in carrying out business is the large amount of time and money to be spent on financial regulation and compliance. Fintech companies need to obtain regulatory approvals or licences for the fintech corporate entity and its relevant financial services. This remains an acute issue for fintech conglomerates like Ant Financial (Alipay) which provides a full range of financial services through a single platform. The current financial regulatory system in China is largely sector-based, with the central bank as monetary authority and three separate financial regulators for banking, the securities market and insurance. As Alipay's business involves payment, investment and banking, it has to seek approvals from multiple regulators. According to the 'Administrative Measures for the Payment Services Provided by Non-Financial Institutions' (PBOC Order No 2 [2010]), operating an electronic payment system requires a licence (a Payment Business

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Permit) from the People's Bank. Alipay obtained a Payment Business Permit for five years in 2011, and then renewed it in 2016 for another five years. As Alipay also sells fund products via its fintech platform to financial consumers, it has been required to obtain a Fund Sales Licence from the China Securities Regulatory Commission. The difficulty is that sometimes it is difficult to categorise innovative fintech services into existing financial sectors and services, resulting in some uncertainty about which regulatory regimes these fintech activities should be subject to. The problem can be compounded as Alipay is going global quickly, so it needs to apply for licences in many jurisdictions with in some cases, differing regulatory standards. Also, some jurisdictions like the US and the European Union have imposed strict rules on foreign capital entering into key industries such as the financial sector, creating extra hurdles for Alipay's global expansion. For instance, Ant Financial is buying a US-based money transfer company, MoneyGram, and is currently awaiting the approval of the Committee on Foreign Investment in the United States (CFIUS).

Data security law

Big data is critical to the functioning of fintech companies like Alipay. Clearly, big data accumulated from Alibaba's e-commerce websites gives Alipay an obvious competitive advantage over traditional financial institutions. How to gather, process and use consumers' personal data remains a controversial issue as well as primarily a concern for financial regulators. According to the State Council's Administrative Regulation of Credit Investigation Industry (2013 Order No 631), to collect personal information, the regulator is required to seek the consent of data subjects; without such consent the information may not be collected, except that the information is required to be disclosed under certain laws and administrative regulations (Art 13.1). The *Regulation* requires that any entities using personal information must reach an agreement as to the purpose of its use with the data subjects, the information must not be used for purposes other than as agreed

and the information must not be disclosed to third parties without the permission of the data subjects (Art 20).

Despite the existence of strict rules regarding personal digital data protection, the implementation process is considered difficult, as the flow of online information is extremely hard to monitor and supervise.

Fund safety

The third regulatory concern surrounds the protection of financial consumers' money held by Alipay and other members of Ant Financial. Depositors at traditional financial institutions like banks and credit co-operatives fall within the protection of the national deposit insurance scheme. If a depositor's bank gets into financial difficulty, the depositor's money will be reimbursed unconditionally by the state up to a certain limit. According to China's Deposit Insurance Regulation ([2015] State Council Order No 660), the maximum coverage of deposit insurance is CNY500,000 (US\$75,000) per saver per bank (Art 5). However, as an increasing number of depositors move their money from bank accounts to fintech e-wallets like Alipay and Yu'E Bao, they will no longer be entitled to the official protection over their money. Most depositors do not realise this potential risk when using fintech businesses, as they perceive Yu'E Bao as a safe substitute for bank savings. Accordingly, financial regulators and fintech companies urgently need to educate their investors to give financial consumers a better understanding of the potential financial risks associated with fintech services and products.

Finance issues and IPO

The final legal issue relating to the growing fintech industry concerns fund raising and corporate finance, such as how to draft best funding arrangements in terms of private equity, initial public offerings, and mergers and acquisitions. Unsurprisingly, Alipay's bright prospects are helping it to attract investor funding. In July 2015, Ant Financial completed its A-round equity financing and received billion-dollar investments from China's National Social Security

Fund, Guokai Finance, four major Chinese insurers, Primavera Capital and Shanghai GP Capital, putting the company at a valuation of \$45bn.²⁰ In April 2016, Ant Financial closed its B-round private equity financing by raising another \$4.5bn. Subsequently its valuation climbed to \$60bn.²¹ Most recently, it completed a \$3.5bn debt round to fund Alipay's international expansion.²² At the time of writing, Ant Financial is planning an IPO for late 2018, depending on approval from Chinese financial authorities. In terms of where to list, the relevant jurisdictional listing rules as well as the regulatory requirements of fintech businesses play a vital role. In 2015, Alibaba Group chose the New York Stock Exchange over Hong Kong for its record-breaking \$25bn listing, because only the former agreed to accept a listed company with a dual-class share structure.²³ The corporate structures of many fintech companies, such as Alipay, are expected to be as complicated as that of tech businesses, which will require legal practitioners and investment bankers to advise on the most suitable funding arrangements on cross-border capital marks.

THE LATEST REGULATORY CHANGE IN CHINA'S MOBILE PAYMENT SECTOR: NETS UNION CLEARING CORP

As money keeps circulating within the mobile payment system itself, it evades the central bank's clearing system designed for commercial banks and bankcard payments (eg China UnionPay), making it impossible for financial regulators to track and monitor the direction of fund movement and where financial risks lie. It creates difficulties in relation to anti-money laundering, monetary policy adjustments and financial data gathering and analysis (for regulatory purposes). As a result, in August 2017, the PBOC issued an order to urge all mobile payment companies to operate their businesses via a newly created centralised clearing house, *China Nets Union Clearing Corporation*.²⁴ It has a registered capital of CNY2bn (\$300m), and its shareholders include some of the central bank's affiliated institutions, state agencies, the State Administration of Foreign Exchange (SAFE), and most mobile payment service

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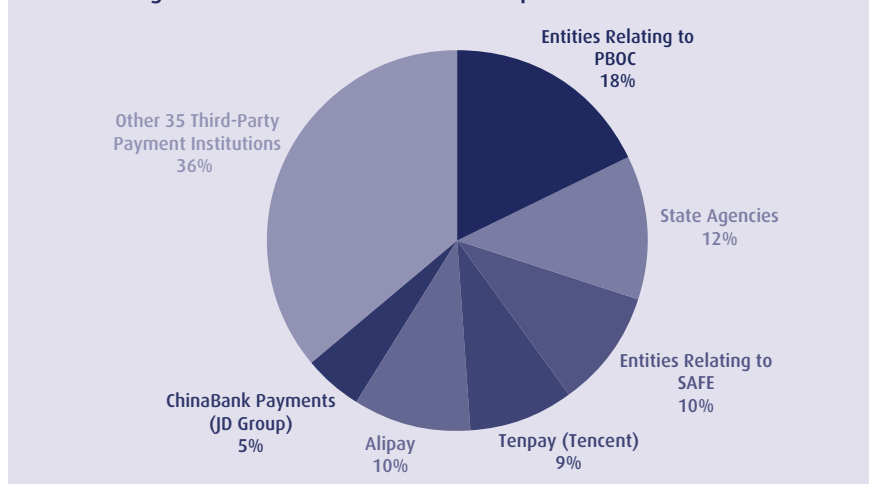
Dr Lerong Lu is a Teaching Fellow in Financial Law at King's College London.
Email: lerong.lu@kcl.ac.uk

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companies in China (see the chart opposite). The new clearing corporation will be put under close scrutiny by the central bank. However, its establishment is said to disadvantage major players like Alipay and Wechat Pay as they now have to share payment data (which is proprietary information) with other payment service providers who are also members of the Nets Union. ■

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DIAGRAM 1
Shareholding Structure Of China Nets Union Corp



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