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How a Little Ant Challenges Giant Banks? The Rise of Ant Financial (Alipay)'s Fintech Empire and Relevant Regulatory Concerns

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☞ Electronic banking; Financial regulation; Financial services; Mobile payments

Abstract

This article examines the development, business model, legal and regulatory aspects of the world's largest fintech company—Ant Financial Services Group (Ant Financial or Alipay). It offers an insight into how the buoyant fintech sector is reshaping the landscape of the financial industry as well as the challenges fintech has posed to traditional banks. Moreover, it points out certain financial risks associated with Ant Financial's innovative services that merit attention from global financial regulators.

Introduction¹

Over the past decade, the world has witnessed the rapid rise of financial technology (fintech). Fintech refers to the application of internet technology and innovation in financial activities such as payment, lending, wealth management and insurance.² In 2016, global investments in fintech companies totalled \$24.7 billion across 1076 deals.³ Owing to the emergence of internet technologies including big data, cloud computing, artificial intelligence and Blockchain, the financial industry has been largely reshaped in relation to both the contents and delivering methods of financial services. For example, online peer-to-peer lending (P2P lending) platforms enable lenders and borrowers to conduct lending activities directly without the involvement of banks, which brings benefits for both sides of lending. Investors on Funding Circle, a leading P2P lending marketplace in the UK, are able to earn an estimated annual return of around 7.2%, which can be a good substitute for bank savings.⁴ On the other hand, some borrowers having limited access to bank lending, such

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¹ For the convenience of international readers, the Chinese currency (yuan or CNY) in this article is accompanied by a conversion into US dollars (USD or \$). The exchange rate between USD and CNY was 1:6.67 on 21 August 2017.

² Lerong Lu, "Financial Technology and Challenger Banks in the UK: Gap Fillers or Real Challengers?" (2017) 32 J.I.B.L.R. 273, 273.

³ KPMG, *The Pulse of Fintech Q4 2016: Global Analysis of Investment in Fintech* (21 February 2017), p.6 available at: <https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2017/02/pulse-of-fintech-q4-2016.pdf> [Accessed 2 November 2017].

⁴ Funding Circle available at: <https://www.fundingcircle.com> [Accessed 2 November 2017].

as small businesses, can obtain enough funding via P2P online lending. Another example of fintech revolution is the proliferation of mobile payment facilities such as Apple Pay, Alipay and WeChat Pay, which allow consumers to use their smartphones to pay for goods and services online or in store. It makes payment faster and safer compared with traditional payment options like cash and bank cards. According to the prediction of a consulting firm, the volume of mobile retail payments in the US will surge from \$122 billion in 2015 to \$319 billion in 2020.⁵ Clearly, the latest developments of fintech have contributed to increasing accessibility, affordability and convenience of modern financial services.

Table 1: Top 10 fintech unicorns, ranked by valuation⁶

Ranking	Company	Business area	Valuation	Headquarters	Founded
1	Ant Financial	Mobile payment and others	\$60 billion	Hangzhou, China	2004
2	Lufax	P2P lending	\$18.5 billion	Shanghai, China	2011
3	JD Finance	Online financial services	\$7 billion	Beijing, China	1998
4	Qufenqi	Online electronics retailer which lets buyers pay in instalments	\$5.9 billion	Beijing, China	2014
5	Stripe	Online payment processor	\$5 billion	San Francisco, US	2010
6	SoFi	P2P student loan re-financing	\$4 billion	San Francisco, US	2011
7	Credit Karma	Free online credit reports	\$3.5 billion	San Francisco, US	2007
8	Oscar Health	Online health insurance	\$2.7 billion	New York, US	2013
9	Mozido	Mobile payment and wallet	\$2.4 billion	New York, US	2005
10	Adyen	Online payment processor	\$2.3 billion	A m s t e r d a m , Netherlands	2006

Table 1 lists the top 10 fintech unicorns around the world, which are mainly dominated by Chinese and American tech firms.⁷ Recently, China has emerged as the leader in fintech innovation as it accounts for nearly half of the global digital payment market as well as three-quarters of online lending transactions.⁸ Based in Hangzhou, Ant Financial Services Group (Ant Financial or Alipay) tops the list as the world's most valuable fintech business, which renders it the best example to illustrate how fintech companies have been rewriting the existing rules of the financial industry. In 2003, it started as Alipay, which was originally a simple

⁵ P. Rudegeair, "J.P. Morgan Chase Deal Enables Link to PayPal Accounts", *Wall Street Journal*, 21 July 2017, p.B10.

⁶ This table is compiled by the author by referencing O. Williams-Grut, "The 27 fintech unicorns from around the world, ranked by value" (1 August 2016), *Business Insider UK* available at: <http://uk.businessinsider.com/fintech-unicorns-ranked-by-value-2016-7> [Accessed 2 November 2017].

⁷ "Unicorn" refers to a start-up company which has a valuation over \$1 billion.

⁸ "The age of the appacus: Fintech in China", *The Economist*, 25 Feb 2017, p.65.

online payment tool attached to Taobao.com, the online shopping website operated by the e-commerce giant Alibaba. Over 14 years, Alipay has gradually developed into a fully fledged fintech business empire covering online and mobile payment, online-based banking, wealth management and credit rating. According to one estimate, Ant Financial is worth \$75 billion, which is more than the market capitalisation of Goldman Sachs.⁹ Thus, it is considered as the most influential disrupter of traditional financial institutions. Alipay's mobile payment business controls over 50% of the Chinese market, where it contests fiercely with rivals including Tencent's WeChat Pay, UnionPay, Apple and Samsung.¹⁰

This article aims to explore the world's most successful fintech company, Ant Financial Services Group, from both economic and regulatory perspectives. It will examine how its fintech empire challenges the businesses of existing financial institutions as well as relevant legal and regulatory issues. It is of particular interest to legal practitioners and researchers in the area of banking and finance. This article proceeds as follows. The first section traces the historical development and expansion of Ant Financial over the past 14 years, while the second section provides an in-depth analysis of the current business model of Ant Financial's fintech empire, which includes four pillars: mobile payment, wealth management, online-based banking and credit rating. The third section continues to examine Ant Financial's competitive yet complementary relationship with existing lenders. The fourth section focuses on regulatory issues relating to novel fintech products and services, which will draw attention from regulatory authorities. Finally, a conclusion will be drawn.

The evolution of Ant Financial (2003–17)

In 2003, Alipay was launched by Alibaba as a payment tool to support the operation of its online shopping platform, Taobao.com.¹¹ In the early 2000s, e-commerce and online shopping first gained popularity in China but there existed a problem in terms of the lack of trust between online sellers and shoppers who did not know each other, which was considered as the biggest hurdle of the industry. Accordingly, Alibaba invented Alipay to enable guaranteed transactions and thus increased the safety of online purchases. When consumers buy goods on Taobao.com, they are required to transfer their money to Alipay. Alipay, after receiving the money, will instruct the online sellers to dispatch the goods. As consumers receive the goods and send confirmation to Taobao.com, Alipay will release the payments to the sellers. Serving as a payment middleman between e-sellers and their customers, Alipay has solved the long-term trust issue in China's thriving online shopping industry, contributing to the explosive growth of Taobao.com in the following years. Alipay was said to help Taobao.com defeat eBay in the Chinese market.¹² At this stage, Alipay was only an integrated payment tool of Taobao.com.

⁹ L.Y. Chen, "Jack Ma's Finance Business may be Worth more than Goldman Sachs" (20 September 2016), *Bloomberg* available at: <https://www.bloomberg.com/news/articles/2016-09-20/jack-ma-s-finance-business-may-be-worth-more-than-goldman-sachs> [Accessed 2 November 2017].

¹⁰ "Ant Financial: consider its ways", *Financial Times*, 12 March 2016, p.18.

¹¹ Alipay available at: <https://ab.alipay.com/i/dashiji.htm> [Accessed 2 November 2017].

¹² M. Green et al, "The case study: How Taobao bested eBay in China: Dealing with a powerful new rival", *Financial Times*, 13 March 2012, p.10.

In December 2004, Alipay was spun off from Taobao.com and operated by Zhejiang Alipay Internet Technology Company.¹³ Alipay's website (<http://www.alipay.com>) went online, which marked its transition from an online shopping guarantee tool to an independent payment system. After that, Alipay started to provide payment services for other online retailers outside the Alibaba Group. In 2005, China experienced fast expansion of its e-commerce industry as the annual transaction volume surged to CNY 620 billion (\$92.94 billion) from CNY 440 billion (\$65.96 billion) in 2004.¹⁴ Alibaba's chairman, Jack Ma, when attending the 2015 World Economic Forum at Davos, Switzerland, commented that, owing to the wide use of Alipay, China's e-commerce industry had entered a safe payment era.¹⁵ Evidently, the robust growth of e-commerce cannot be achieved without the existence of a secure and efficient online payment system. In the same year, Alipay established co-operative relationships with mainstream payment service providers including Visa and other major banks.

After Alipay assumed its independent status, users on Taobao.com were still Alipay's major source of customers for a long time. However, Alipay began to work with a large number of online businesses, including gaming platforms (e.g. the Nasdaq-listed The 9 Limited which operated the World of Warcraft), airline and hotel booking websites as well as other business-to-consumer (B2C) shopping websites. At the end of 2006, there were more than 300,000 merchants accepting Alipay as a payment method.¹⁶ People started to recognise Alipay as an independent payment network similar to Visa, MasterCard and UnionPay. As of September 2007, over 50 million people registered their Alipay accounts.¹⁷ The annual transaction amount through Alipay reached CNY 47.6 billion (\$7.14 billion), representing 47.6% of the online payment market in China.

In 2008, Zhejiang Alipay Internet Technology Co Ltd was renamed as Alipay (China) Internet Technology Co Ltd and it formed partnerships with hundreds of foreign merchants from Japan, Singapore, the US, Canada, Australia, New Zealand and South Korea.¹⁸ Together with China Construction Bank, Alipay announced credit services for online sellers at Taobao.com who could borrow money up to CNY 100,000 (\$14,990.93). This means that Alipay tapped into financial services outside payment. In August 2008, the user number of Alipay increased to 100 million, with a 2 million average daily number of transactions.¹⁹ In the same year, Alipay started to offer one-stop payment services for utility companies to allow their customers to pay for water, electricity, gas and telecommunication bills. It also provided payment supports for popular B2C shopping websites such as Amazon and JD.com. Owing to the fast expansion, the annual transactions through Alipay surpassed CNY 130 billion (\$19.49 billion).²⁰ In 2009, Alipay increased

¹³ Alipay available at: <https://ab.alipay.com/i/dashiji.htm> [Accessed 2 November 2017].

¹⁴ "2005: A Key Year for China's E-Commerce Industry" (7 May 2005), *Oriental Morning Post* available at: <http://tech.sina.com.cn/i/2005-05-07/0948600190.shtml> [Accessed 2 November 2017].

¹⁵ "2005: A Key Year for China's E-Commerce Industry" (7 May 2005), *Oriental Morning Post* available at: <http://tech.sina.com.cn/i/2005-05-07/0948600190.shtml> [Accessed 2 November 2017].

¹⁶ "Over 300,000 businesses accepted Alipay" (1 February 2007), *Beijing Times* available at: <http://tech.sina.com.cn/i/2007-02-01/03591363850.shtml> [Accessed 2 November 2017].

¹⁷ Alipay available at: <https://ab.alipay.com/i/dashiji.htm> [Accessed 2 November 2017].

¹⁸ Alipay available at: <https://ab.alipay.com/i/dashiji.htm> [Accessed 2 November 2017].

¹⁹ Alipay available at: <https://ab.alipay.com/i/dashiji.htm> [Accessed 2 November 2017].

²⁰ "Taobao to see transactions top 100b yuan in 2008" (16 June 2008), *China Daily* available at: http://www.chinadaily.com.cn/bizchina/2008-06/16/content_6764882.htm [Accessed 2 November 2017].

its presence in China's online travel booking industry by working with three leading travel agencies (Ctrip, Elong and Mango). It also co-operated with YouBang Insurance to become involved in the online insurance sector. In July 2009, the users of Alipay exceeded 200 million, doubled in one year.²¹ As of December 2009, the number of external businesses (outside Alibaba Group) that accepted Alipay reached 460,000. Moreover, the total annual transaction amount peaked at CNY 287.1 billion (\$43.04 billion) or 49.8% of the total market share.

In the 2010s, Alipay embarked on an exponential trajectory as online shopping continued to grow at a rapid pace. In 2010, Taobao.com occupied 80% of China's e-commerce market with 170 million registered shoppers and a revenue of over CNY 20 billion (\$3 billion) that mainly came from online advertising and other fee-paying services.²² Alipay, therefore, enjoyed steady growth as nearly all shopping money on Taobao.com were settled through its platform. However, at this juncture, Alipay decided to transform itself again into a comprehensive financial services provider. It aimed to cover every aspect of the life of Chinese people such as utility bill payments, credit card repayments, administrative fine payments, tuition fees payments and online charity donations. As of December 2010, Alipay's user numbers surpassed 550 million. At the same time, Alipay and UnionPay released a pioneering payment service called "Instant Pay", which allows credit card holders to make online payments without opening online banking accounts.²³ In May 2010, the People's Bank of China (the central bank) announced the first group of internet finance companies that were granted third-party online payment licences.²⁴ Alipay, along with other 26 payment companies, acquired licences from the central bank, meaning the official endorsement of its fintech business.

In 2011, Alipay expanded its payment services from online to offline.²⁵ It released the "Barcode Pay" service to allow shoppers to use their smartphones installed with the Alipay app to make payments in store. Retailers are able to receive money by scanning the barcode generated by their customers' Alipay app. They could either scan the digital barcodes by smartphones or, more professionally, by a specially designed barcode-reading gun attached to the cash register. Clearly, the launch of Barcode Pay greatly benefits retailers and consumers by offering a convenient and low-cost payment option. The barcodes automatically generated by the Alipay app are one-off, namely they change constantly to improve the security level. The users have to set up a passcode for activating the service each time and, more recently, Alipay started to allow shoppers to use fingerprint or facial recognition to verify their identities before paying money. Shoppers can access the money in their Alipay accounts or connect the app with their credit or debit cards. The arrival of Barcode Pay marked the new mobile payment era.

On 11 November 2011 (the online shopping festival in China which is widely known as the Single Day or Double Eleven), Alipay broke the world record as it

²¹ Alipay available at: <https://ab.alipay.com/i/dashiji.htm> [Accessed 2 November 2017].

²² Green et al, "The case study: How Taobao bested eBay in China", *Financial Times*, 13 March 2012, p. 10.

²³ "Online payment entered into instant pay age" (28 July 2011), *Xinhua* available at: http://news.xinhuanet.com/newmedia/2011-07/28/c_121733865.htm [Accessed 2 November 2017].

²⁴ H. Lovells, "Third Party Payment Licences in China—Are they within the Grasp of Foreign Investors?" (June 2014) available at: http://www.hoganlovells.com/files/Uploads/Documents/14.06_Corporate_China_Alert_-_Third_Party_Payment_Licences_in_China_-_Are_They_within_The_Grasp_of_Foreign_Investors_SHALIB01_1093411.pdf [Accessed 2 November 2017].

²⁵ S. Millward, "Alipay Invades China's High Streets with Mobile Barcode Payments" (1 July 2011), *Tech in Asia* available at: <https://www.techinasia.com/alipay-mobile-payments> [Accessed 2 November 2017].

processed 33.69 million transactions within 24 hours, as the total transaction volume at the T-mall shopping platform (a member of the Alibaba Group) amounted to CNY 3.36 billion (\$500 million).²⁶ Accordingly, Alipay was ranked the largest online payment system exceeding its American rival, Paypal.

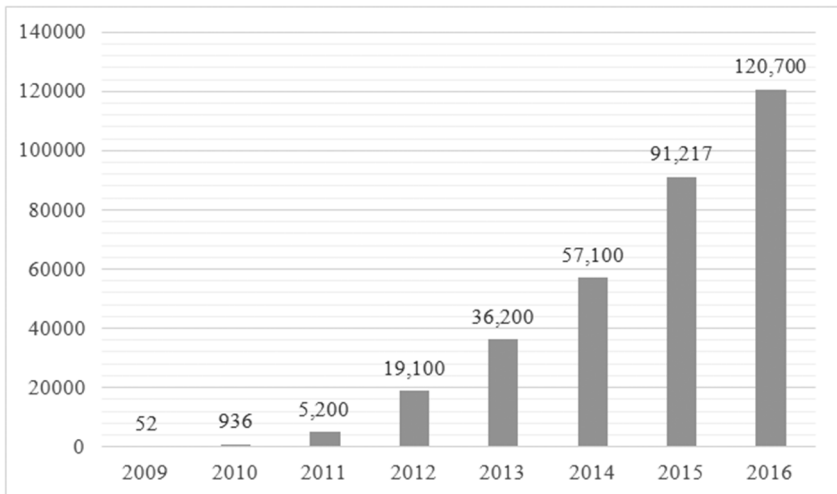


Figure 1: Sales volume of Double Eleven shopping festival on Taobao (Unit: CNY million)²⁷

In May 2012, Alipay obtained a special payment licence for serving investment fund companies.²⁸ There are 50 fund companies accepting payments by Alipay, covering 70% of the market share. In June 2013, Alipay released its mobile wealth management platform called Yu'E Bao or Left-over Treasure, becoming an immediate success. Within six months of its launch, more than 30 million people signed up to Yu'E Bao.²⁹ It was viewed by many Chinese, in particular the younger generation, as an excellent substitute for bank deposits. Subscribers of Yu'E Bao enjoyed 5% annualised return in 2013, while they could withdraw the funds at anytime or use the money to pay for online purchases. The money put into Yu'E Bao is invested in money-market funds managed by Tianhong Asset Management Company, in which Alibaba Group owns a stake.

In September 2014, Alipay obtained a licence from the China Banking Regulatory Commission (CBRC) to operate its new banking business called MyBank.³⁰ It is an online-only bank with no brick-and-mortar presence.³¹ On 16 October 2014, Ant Financial Services Group was established to replace Alipay

²⁶ Alipay available at: <https://ab.alipay.com/i/dashiji.htm> [Accessed 2 November 2017].

²⁷ The figure is compiled by the author based on the data derived from the websites available at: <http://www.taobao.com> and <http://www.alipay.com> [Both accessed 2 November 2017].

²⁸ Alipay available at: <https://ab.alipay.com/i/dashiji.htm> [Accessed 2 November 2017].

²⁹ S. Rabinovitch, "Alibaba's treasure draws in depositors", *Financial Times*, 21 December 2013, p.14.

³⁰ G. Wildau, "China's First Online-only Lender Launched", *Financial Times*, 6 January 2015), p.16.

³¹ L. Lu, "Private Banks in China: Origin, Challenges and Regulatory Implications" (2016) 31 *Banking and Finance Law Review* 585, 592.

(China) Co Ltd.³² It resulted in the formation of the largest global fintech company and Alipay has become a segment of Ant Financial's business realm. In the same year, the daily number of transactions via Alipay exceeded 80 million and Alipay had 190 million active users. In early 2015, Sesame Credit (or Zhima Credit) was launched by Ant Financial; it is a big data credit rating system which allocates consumers and small businesses a credit rating score based on their transactional data on Alibaba's shopping platforms as well as their Alipay's payment history.³³ Sesame Credit is of particular help for small businesses which have limited access to bank loans due to the lack of trading data, as now they can use Sesame Credit score to apply loans from various financial institutions.

The bright business prospect of Ant Financial enables it to perform well in the capital market. In July 2015, Ant Financial Services Group finished the A-round equity financing as it attracted billions of dollars from China's National Social Security Fund, Guokai Finance, four major insurance companies, Primavera Capital and Shanghai GP Capital.³⁴ It put Ant Financial at a valuation of \$45 billion, similar to that of other successful tech companies such as Uber or Xiaomi. In April 2016, Ant Financial closed its B-Round private equity financing by raising \$4.5 billion and its valuation increased to \$60 billion.³⁵ Most recently, it completed a \$3.5 billion debt round to fund the company's international expansion, including the acquisition of MoneyGram, a cross-border payment service company based in Texas, for \$1.2 billion.³⁶ Currently, Ant Financial is planning an initial public offering as early as late 2018, depending upon regulatory approvals.³⁷

The business model of Ant Financial

As Alipay was converted into Ant Financial Services Group, it expanded its business scope from online payment to other financial services ranging from banking to credit rating. Equipped with the internet technology and innovative business model, Ant Financial possesses obvious competitive advantages and has quickly become a major player in the industry. In China alone, Alipay dominates the country's \$5.5 trillion mobile payment sector (54% of the total market share).³⁸ It has been a strong contender to rival payment operators such as UnionPay, Visa, MasterCard and Paypal. Moreover, the money-market fund behind Ant Financial's Yu'E Bao holds assets worth \$165.6 billion, exceeding JP Morgan's US government money-market fund (\$150 billion), which used to be the largest investment fund.³⁹ Obviously, Ant Financial has built up a fintech ecosystem not only replicating most functions of traditional banks but also providing novel financial services with

³² Alipay available at: <https://ab.alipay.com/i/dashiji.htm> [Accessed 2 November 2017].

³³ G. Wildau, "Alibaba eyes small business loans", *Financial Times*, 29 January 2015, p.17.

³⁴ S. Finance, "Ant Financial Completed A-Round Finance with Valuation over \$45bn" (6 July 2015) available at: <http://finance.sina.com.cn/roll/20150706/030722596271.shtml> [Accessed 2 November 2017].

³⁵ G. Wildau, "Ant Financial raises \$4.5bn in record fintech private placement" (26 April 2016), *Financial Times* available at: <https://www.ft.com/content/366490b4-0b7d-11e6-9cd4-2be898308be3> [Accessed 2 November 2017].

³⁶ A. Kharpal, "Exclusive: Ant Financial close to closing a bigger-than-expected \$3.5 billion debt round for international expansion" (17 May 2017), *CNBC* available at: <http://www.cnbc.com/2017/05/17/ant-financial-debt-financing-round.html> [Accessed 2 November 2017].

³⁷ L. Lucas and D. Weinland, "Alibaba's \$60bn payments arm stalls planned IPO" (16 May 2017), *Financial Times* available at: <https://www.ft.com/content/25780a7c-3702-11e7-bce4-9023f8c0fd2e> [Accessed 2 November 2017].

³⁸ L. Lucas, "Tencent grabs mobile pay share from Alibaba", *Financial Times*, 2 May 2017, p.14.

³⁹ L. Lucas, "Chinese money market fund becomes world's biggest" (26 April 2017), *Financial Times* available at: <https://www.ft.com/content/28d4e100-2a6d-11e7-bc4b-5528796fe35c> [Accessed 2 November 2017].

high quality, lower cost and greater accessibility. This section focuses on four pillars of Ant Financial's fintech businesses: Alipay (mobile payment system), Ant Fortune (online wealth management), MyBank (online-based challenger bank) and Sesame Credit (credit rating service). The analysis pays attention to how Ant Financial has disrupted conventional financial services and occupied significant market shares.

Alipay—mobile payment system

Alipay is still at the core of Ant Financial Services Group. Apart from serving as a major online payment processing tool for e-commerce, Alipay has become a common payment method for Chinese shoppers in store. The rapid shift to digital payment is mostly due to the popularisation of smartphones, as nowadays 95% of internet users in China go online via mobile equipment.⁴⁰ Most physical stores including supermarkets, restaurants and clothes shops, as well as online-to-offline services such as taxi hailing and food delivering apps, accept mobile payments offered by Alipay and WeChat Pay.⁴¹ Both Alibaba and Tencent (the parent company of WeChat Pay) have signed up with millions of retailers in China and beyond to accelerate the transition to the cashless society. For example, the US coffee chain Starbucks now accepts WeChat Pay at all of its 2,600 shops across China, with the exception of one café at the Alibaba's headquarters office in Hangzhou.⁴² Outside China, Alipay's mobile wallet can be used in several countries including the US, the UK, Japan, South Korea and Australia. In the UK, a number of department stores including Harrods and Selfridges already accept Alipay.⁴³ Using mobile payment has become a trendy lifestyle for many people, in particular the millennials, whether they live in metropolises or small towns. It has even become common for beggars on the streets to present a QR code to receive mobile payment donations instead of receiving notes and coins.⁴⁴ Clearly, mobile payment has been a vital element and the gateway to the entire fintech ecosystem as other fintech services are offered within Alipay's or WeChat Pay's E-wallet apps. According to one estimate, the market scale of China's mobile payment sector was around CNY 38 trillion (\$5.7 trillion) in 2016, which was 50 times larger than that of the US (\$112 billion).⁴⁵ This is partly due to the limited non-cash payment options at Chinese retailers as credit cards are not as popular as they are in the US. In contrast, China's mobile payment system has become extremely streamlined and convenient, allowing millions of businesses and consumers to complete transactions in a few seconds. Moreover, during the Chinese New Year, people have the tradition of giving each other red envelopes with some lucky money inside. In recent years, red envelopes have been digitalised as people now tend to

⁴⁰ "The age of the appacus: Fintech in China", *The Economist*, 25 February 2017, p.65.

⁴¹ L. Hook and G. Wildau, "China mobile payments soar as US clings to plastic", *Financial Times*, 14 February 2017, p.12.

⁴² Lucas, "Tencent grabs mobile pay share from Alibaba", *Financial Times*, 2 May 2017, p.14.

⁴³ J. Crabtree, "How Alipay is helping London stores cash in on China's Golden Week" (6 October 2016), *CNBC* available at: <http://www.cnbc.com/2016/10/06/how-alipay-is-helping-london-stores-cash-in-on-chinas-golden-week.html> [Accessed 2 November 2017].

⁴⁴ G. Kai, "China's mobile payment era: Costs and benefits" (11 May 2017), *China Daily* available at: http://www.chinadaily.com.cn/china/2017-05/11/content_29295024.htm [Accessed 1 August 2017].

⁴⁵ Hook and Wildau, "China mobile payments soar as US clings to plastic", *Financial Times*, 14 February 2017, p.12.

send virtual red envelopes, a built-in function of Alipay or WeChat Pay apps, rather than traditional red paper envelopes.⁴⁶ Around the world, mobile payment takes place in a variety of forms, including near-field communication (NFC or contactless), QR codes and cloud-based pay, depending on different technologies adopted. In Europe, mobile payment services usually embrace the NFC technology, which means shoppers swiping their smartphones over a chip reader.⁴⁷ In contrast, most mobile payment transactions in China have been conducted through QR codes generated by mobile payment apps. Consumers use their Alipay app to generate a one-off QR code and then retailers will hold a special reading gun to scan the QR code and complete the transaction (see fig.2 below). Alternatively, some retailers print out their Alipay's accounts (presented as QR codes) near the counter for shoppers to use their smartphone cameras to scan and make payment.



Figure 2: A shopper uses Alipay's QR Code to pay for his purchase

Ant Fortune—mobile wealth management platform

Ant Fortune, a wealth management platform accessed via smartphone apps, is another pillar of Ant Financial Services Group. In August 2015, Ant Fortune was released by Ant Financial when the company set out its strategic plan to become a leading online financial services provider.⁴⁸ Financial consumers can use the Ant Fortune mobile portal to invest their money in money-market funds, investment funds, fixed-term savings, crowdfunding projects, P2P loans and stock markets (in Mainland China, Hong Kong and the US). Without charging commission fees, Ant Fortune offers around 900 investment products from over 80 financial institutions.⁴⁹ It operates as a financial supermarket providing a one-stop investment experience for financial consumers. As Ant Fortune works as a financial broker

⁴⁶ Y. Yang, "Alibaba and Tencent open new front in red envelope war", *Financial Times*, 30 January 2017, p.16.

⁴⁷ Hook and Wildau, "China mobile payments soar as US clings to plastic", *Financial Times*, 14 February 2017, p.12.

⁴⁸ Y. Wang, "Alibaba Finance Affiliate Launches Fund Investment Smartphone App" (18 August 2015), *Forbes* available at: <https://www.forbes.com/sites/ywang/2015/08/18/alibaba-finance-affiliate-launches-fund-investment-smartphone-app/#115f657f6301> [Accessed 2 November 2017].

⁴⁹ Wang, "Alibaba Finance Affiliate Launches Fund Investment Smartphone App" (2015).

to match investors' money with products offered by external institutions, it does not become involved in investments or undertake market risks. In this respect, the relationship between Ant Fortune and other financial firms such as banks, securities firms, fund companies and P2P lending platforms should be perceived as co-operative rather than competitive. Evidently, Ant Fortune has lowered the threshold of wealth management services by offering a variety of investment options to ordinary investors who have limited investment experience in the financial markets and possess only a small sum of capital. With the help of Ant Fortune, ordinary savers are able to establish their own investment portfolios by relying on its artificial intelligence and professional advice.⁵⁰ Therefore, Ant Fortune has solicited 25 million users since its debut, 81% of whom are under the age of 36.⁵¹

Among hundreds of investment products available on Ant Fortune, attention will be given to Yu'E Bao, a wealth management product based on money-market funds and operated by Ant Financial itself. Depositors who move their savings from bank accounts to a Yu'E Bao wallet can earn returns up to 15 times of banks' interest rates.⁵² Yu'E Bao was launched in 2013 and, in less than one year, the investment scheme had attracted CNY 400 billion (\$59.96 billion) from Chinese savers, making it a principal rival to dominant state-owned banks.⁵³ Yu'E Bao is working like an add-on of the Alipay app as users can deposit or withdraw funds effortlessly by a simple touch. Money-market funds have high liquidity similar to that of cash, while subscribers can earn handsome returns paid on a daily basis.⁵⁴ As a result, Yu'E Bao became an instant success after its launch. Tens of millions of customers have chosen to use Alipay E-wallet and Yu'E Bao as their default banking accounts. At the end of 2015, the fast expansion of Yu'E Bao and other mobile wealth management platforms contributed to the record-breaking value of money-market funds in China—CNY 4.4 trillion (\$659 billion).⁵⁵ Obviously, money-market funds have posed an enormous challenge to big banks and the traditional wealth management industry which lost a large number of clients to these rising fintech firms.

Mybank—online-based challenger bank

China's banking sector has long been dominated by state-owned lenders which are reluctant to lend money to small and medium-sized enterprises (SMEs).⁵⁶ In order to break up the state monopoly and increase competition in the banking sector, the Chinese regulator has recently been encouraging qualified private investors to set up new banks. As a result, Alibaba, partnering with other investors, established a privately funded bank under the regulator's pilot reform plan. The banking arm of Ant Financial Services Group is called Mybank, which is an innovative online-only bank. In June 2015, Mybank obtained its licence from the

⁵⁰ M. Jing, "Ant Financial gears up for more wealth management" (9 September 2016), *China Daily* available at: http://europe.chinadaily.com.cn/business/2016-09/09/content_26748999.htm [Accessed 2 November 2017].

⁵¹ Jing, "Ant Financial gears up for more wealth management" (2016).

⁵² "Foe or frenemy?" *The Economist*, 1 March 2014, p.75.

⁵³ "Foe or frenemy?" *The Economist*, 1 March 2014, p.75.

⁵⁴ The return of Yu'E bao is based on the interbank lending rate, which fluctuates freely overtime. See "The age of the appacus", *The Economist*, 25 February 2017, p.65.

⁵⁵ C. Flood, "China tightens money market regulation", *Financial Times*, 1 February 2016, p.10.

⁵⁶ Lu, "Private Banks in China" (2016) 31 *Banking and Finance Law Review* 585, 586.

CBRC with a registered capital of 4 billion yuan (\$645 million).⁵⁷ Ant Financial holds a 30% stake in Mybank, while Fosun International Ltd and Wanxiang Group own 25 and 18% of the new bank respectively.⁵⁸ Mybank's primary customer base consists of SMEs, which have been underserved by mainstream lenders. It is among the first group of new lenders that do not have brick-and-mortar physical branches, allowing them to lower the operation cost and provide more convenient services through online portals and mobile apps. By visiting Mybank's website or using its app, consumers can manage their current accounts (including investing money into money-market funds), apply for credit loans and transfer money between different banks without charge. Evidently, fintech provides Mybank with significant competitive advantages over traditional lenders. Owing to the problem of information asymmetry, large banks often refuse to lend to SMEs because borrowers cannot provide valid information to demonstrate their credibility and thus fail to pass relevant credit checks. However, through tracking the trading history of small businesses which use the Alibaba e-commerce network, Mybank is able to evaluate the credit situations of small firms based on the accumulated big data. Big data, coupled with cloud computing, allows Mybank to make loan decisions in minutes. The business model of Mybank is described by itself as "3-1-0", namely, making a loan application in three minutes, approving (or not) the application in one second and with zero human intervention.⁵⁹ The intelligent loan application process will consider 100,000 indicators by analysing big data as well as going through over 100 predicting models and 3,000 loan strategies designed by Ant Financial's financial engineers.⁶⁰ It is said to be more accurate and efficient than the traditional credit checking process. Given its technological and data advantages, Mybank has been growing rapidly since its establishment. As of February 2016, Mybank has served over 800,000 small businesses with a combined loan volume of CNY 45 billion (\$6.75 billion).⁶¹ In the latest financial year, it generated a net profit of CNY 315.5 million (\$47.30 million) up from a net loss of CNY 68.7 million (\$10.30 million) in 2015.⁶²

Sesame Credit—big data credit rating service

The last pillar of Ant Financial Services Group is Sesame Credit. Sesame Credit offers credit rating services to millions of personal consumers by utilising Alibaba's big data derived from Taobao and T-mall shopping platforms. At present, China has not built up an official credit system for its citizens so Ant Financial has decided to fill this gap by taking advantage of its enormous data reserve. Sesame Credit plays an important role in Ant Financial's fintech ecosystem as it supplements the operation of other financial services. Sesame Credit can be accessed via Alipay's app or other co-operative merchants' websites.⁶³ With the authorisation of users,

⁵⁷ "Alibaba-affiliated online bank get green light from China regulator" (27 May 2015), *Reuters* available at: <http://www.reuters.com/article/us-alibaba-bank-idUSKBN0OC0-SI20150527> [Accessed 2 November 2017].

⁵⁸ "Alibaba-affiliated online bank get green light from China regulator" (2015).

⁵⁹ "Mybank Jin XiaoLong: SME Finance Is No Longer Difficult" (9 July 2017), *China Finance* available at: <http://finance.china.com.cn/news/special/wtjh/20170709/4281638.shtml> [Accessed 3 November 2017].

⁶⁰ "Mybank Jin XiaoLong: SME Finance Is No Longer Difficult" (2017), *China Finance*.

⁶¹ Mybank available at: <https://www.mybank.cn/#loan> [Accessed 3 November 2017].

⁶² "Mybank Earned 315bn Net Profit Last Year, Lower than Tencent's Webank" (8 July 2017), *Netease* available at: <http://tech.163.com/17/0708/13/COR0623V00097U7R.html> [Accessed 3 November 2017].

⁶³ Sesame Credit available at: <https://www.xin.xin/#/detail/1-2-1> [Accessed 3 November 2017].

Sesame Credit creates a credit score based on personal shopping data, payment history on Alipay and other behavioural data from Alibaba's e-commerce platforms. Similarly to FICO, which aligns a credit score (300–850) to consumers by mathematical algorithms, Sesame Credit allocates a score ranging from 350–950 to Alipay users. The credit score can be employed by users to borrow credit loans from financial institutions and online P2P lending platforms up to CNY 300,000 (\$44,972.79).⁶⁴ Apart from that, consumers who have higher scores on Sesame Credit enjoy certain privileges such as expedited airport security checks and free loaner umbrellas.⁶⁵ If one person's credit score is over 650 points, he or she does not need to pay a deposit when renting a car.⁶⁶ There are also other benefits for high-score users such as fast hotel booking without submitting credit card information to secure a room. Moreover, Chinese tourists can use Sesame Credit scores as the proof of their financial capability, other than employment certificates and bank statements, when applying for foreign visas from places such as Singapore and Luxembourg.⁶⁷ Currently, Sesame Credit has been widely accepted by thousands of websites such as Airbnb to verify users' identities and financial conditions.⁶⁸ Conversely, certain wrongdoing (e.g. late bill payment and traffic violation) will lead to the downgrade of credit scores, causing negative effects for its bearer.⁶⁹

Ant Financial—banks' "frenemy"

The financial industry has seen fierce rivalry between traditional banks and fintech companies. Apparently, in some business areas, there exists direct competition between Ant Financial and incumbent institutions, such as payment and savings. The widely popular Alipay has surpassed the state-backed UnionPay in terms of the number of processing offline payments.⁷⁰ This means that Alipay's virtual payment system is de facto the largest payment network in China. Previously, UnionPay had been leading the market of debit and credit card payments for two decades as it was extremely difficult for competitors to break into China's payment sector. Even global payment providers such as Visa and MasterCard failed to gain substantial market shares. Alipay, however, takes advantage of the popularity of smartphones to override credit cards, winning the favour of millions of consumers. In 2015, Alipay earned CNY 139 billion (\$20.84 billion) from its payment service department.⁷¹ Clearly, it made billions of payment fees which would otherwise be earned by UnionPay. Although the rise of Alipay could be catastrophic for the traditional payment industry run by dominant banks, it is beneficial for numerous

⁶⁴ "Borrow a loan up to CNY300,000 using Sesame Credit" (1 September 2016), *Sohu* available at: http://www.sohu.com/a/113129483_444830 [Accessed 3 November 2017].

⁶⁵ Cheang Ming, "FICO with Chinese characteristics: Nice rewards, but punishing penalties" (16 March 2017), *CNBC* available at: <http://www.cnbc.com/2017/03/16/china-social-credit-system-ant-financials-sesame-credit-and-others-give-scores-that-go-beyond-fico.html> [Accessed 3 November 2017].

⁶⁶ Sesame Credit available at: <https://www.xin.xin/#/detail/1-0-2> [Accessed 3 November 2017].

⁶⁷ "Alibaba unit to start credit-based visa application services for Luxembourg" (16 July 2015), *China Daily* available at: http://usa.chinadaily.com.cn/epaper/2015-07/16/content_21301110.htm [Accessed 3 November 2017].

⁶⁸ Airbnb available at: <https://www.airbnb.co.uk/help/article/1222/verify-your-account-with-zhima-credit> [Accessed 3 November 2017].

⁶⁹ C. Ming, "FICO with Chinese characteristics: Nice rewards, but punishing penalties" (16 March 2017), *CNBC* available at: <http://www.cnbc.com/2017/03/16/china-social-credit-system-ant-financials-sesame-credit-and-others-give-scores-that-go-beyond-fico.html> [Accessed 2 November 2017].

⁷⁰ G. Wildau, "Alipay bypasses China Unionpay on fees", *Financial Times*, 1 August 2016, p.14.

⁷¹ Wildau, "Alipay bypasses China Unionpay on fees", *Financial Times*, 1 August 2016, p.14.

businesses and consumers which enjoy faster, safer and more affordable payment services.

Besides, Ant Financial's wealth management products based on money-market funds form a big threat to banks' deposit-taking businesses. As Yu'E Bao offers an eye-catching interest return (over 4% annually) for its subscribers, millions of savers have selected Alipay over other banks as the place to hold their current accounts. This has resulted in direct deposit losses in billions, if not trillions, for major state-owned banks, including Industrial and Commercial Bank of China, China Construction Bank, Bank of China and Agricultural Bank of China (which are collectively referred to as the Big Four). As of June 2017, the total market scale of money-market funds in China reached CNY 5.11 trillion (\$770 billion), rising 18.09% from CNY 4.32 trillion (\$647.61 billion) at the end of 2016.⁷² Obviously, a large proportion of the growth came from banks' deposits. Under strict state control, state-owned banks are only allowed to pay 0.30% annual interest for demand deposits or 1.35–2.75% for term deposits (see Table 2 below).

Table 2: Bank of China CNY deposit interest rate⁷³

Type of deposits	Current deposits	Fixed-term deposits					
		3 Months	6 Months	1 Year	2 Years	3 Years	5 Years
Annualised inter-est rate (%)	0.30	1.35	1.55	1.75	2.25	2.75	2.75

In sharp contrast, the annualised interest rate of Yu'E Bao varies from 2.3–6.7% over its four-year history.⁷⁴ As of July 2017, Yu'E Bao holds 260 million accounts, making it the No.1 E-wallet in the world.⁷⁵ As a substitute for banks' current accounts, Yu'E Bao allows users to deposit, withdraw and transfer money at any time without charge. The expansion of Yu'E Bao has eroded the profits of Chinese banks, which have long been exploiting the interest rate margin between the deposit rate and lending rate, set by the central bank to protect the interest of state lenders. In other words, Yu'E Bao has grabbed a large number of cheap deposits from mainstream banks which have been the main source of profits. In June 2017, the market scale of Yu'E Bao was around CNY 1.43 trillion (\$214.37 billion), exceeding the total deposit amount of China Merchant Bank (CNY 1.3 trillion, \$194.88 billion), the fifth largest lender in the country.⁷⁶

Apparently, Ant Financial has become a huge threat to existing banks in terms of payment and deposit businesses. This heated competition has led to the decreasing profitability of Chinese banks in recent years.⁷⁷ Therefore, the relationship between Ant Financial and existing banks, to a large extent, can be perceived as competitive. However, despite the rivalry status, Ant Financial has

⁷² Xinhua, "Outstanding Balance of Yu'eobao surpassed merchant bank's personal deposits" (5 July 2017) available at: http://news.xinhuanet.com/finance/2017-07/05/c_1121264650.htm [Accessed 3 November 2017].

⁷³ This table is compiled by the author using data from Bank of China available at: http://www.bankofchina.com/fimarkets/libv/fd31/201510/t20151023_5824963.html [Accessed 3 November 2017].

⁷⁴ Tianhong Fund (Yu'E Bao) available at: <http://www.thfund.com.cn/fundinfo/000198> [Accessed 3 November 2017].

⁷⁵ Alipay available at: <https://bao.alipay.com/yeb/index.htm> [Accessed 2 November 2017].

⁷⁶ "Yu'E Bao Reached 1.43 Trillion Yuan, Near to the Deposit Amount of Big Four" (1 July 2017), Sina available at: <http://finance.sina.com.cn/roll/2017-07-01/doc-ifyhrtz1913643.shtml> [Accessed 3 November 2017].

⁷⁷ Reuters, "Fitch: Chinese Banks' Profitability is Likely to Decline Further" (7 April 2017) available at: <http://www.reuters.com/article/fitch-chinese-banks-profitability-is-lik-idUSFIt995515> [Accessed 3 November 2017].

also contributed to the development of the banking industry in some respects. For example, the online-based Mybank targets loan services for small and micro-businesses, an area of business which has been ignored by state lenders for decades. Thus, Mybank seems to play a supplementary role in the banking arena by serving marginalised clients whose business competes directly with the prosperous online lending sector, which also considers SMEs as their main customers. The P2P lending sector in China had an outstanding loan amount worth CNY 816 billion (\$122.33 billion) by the end of 2016.⁷⁸ It is clear that Mybank helps the banking industry to expand its business boundary to contend with other fintech firms. What is more, the development of Sesame Credit led to the establishment of China's personal credit system, which plays an important role in strengthening the country's financial infrastructure. At present, services provided by Sesame Credit are essential for banks lacking effective methods to gauge credit conditions of numerous individuals and small businesses. Ant Financial's big data, therefore, empowers Chinese banks to make loans in a more efficient manner. In this regard, the businesses of Ant Financial and existing banks seem complementary with each other.

Legal and regulatory issues relating to fintech innovation

Financial regulation in the fintech age should strike a good balance between encouraging industry innovation, protecting financial consumers and preventing systemic risks. As an increasing amount of deposits have been transferred from existing banks to various fintech platforms including Ant Financial, regulatory authorities have had to reform and upgrade the monitoring framework to accommodate the latest developments in the financial industry. While pioneering fintech services have brought greater convenience and better returns for consumers, their associated risks should not be underestimated. Hence, this section will analyse some legal and regulatory issues relating to Ant Financial's fintech businesses in three areas: first, how to structure a regulatory system which can simultaneously spur innovation and control extra-financial risks; secondly, how to enhance the protection of financial consumers regarding personal data privacy and the safety of client money; and thirdly, how to prevent systemic risks caused by fintech innovation and preserve financial stability.

Support fintech innovation while controlling financial risks

Fintech innovation has challenged conventional business models, services and products in the financial industry. It is difficult for industry disrupters to prosper and innovate under the existing regulatory rules, which were designed for incumbent players.⁷⁹ The financial industry in China has been strictly regulated by the People's Bank of China and three sector-based regulators: CBRC, China Securities Regulatory Commission (CSRC) and China Insurance Regulatory Commission (CIRC).⁸⁰ Nonetheless, the latest fintech innovation has blurred the traditional boundary between different financial services. As is shown in the case of Ant

⁷⁸ G. Wildau, "China curbs 'Wild West' loan sector", *Financial Times*, 5 April 2017, p.6.

⁷⁹ Lu, "Financial Technology and Challenger Banks in the UK" (2017) 32 J.I.B.L.R. 273, 282.

⁸⁰ The central bank and three financial regulators are usually referred to as "One Bank, Three Commissions".

Financial, the fintech giant participates in various financial activities, covering deposit-taking, investment, payment and credit rating. The new integrated business model, therefore, has challenged the efficiency and effectiveness of China's current regulatory architecture, which is clearly split and regard to banking, securities and insurance. Thus, the institutional structure of financial regulation has to be reformed to adapt to the fintech era. The twin-peak model adopted by the UK and Australia, which concentrates on conduct regulation and prudential regulation simultaneously, might be an example for China's upcoming financial reform. At present, existing laws and regulatory rules lag behind the pace of technological advance and industry growth. The financial industry in China was considered as relatively conservative, with limited financial activities and players, most of which have state backgrounds. Nonetheless, the upsurge in fintech firms ranging from P2P lending and crowdfunding to mobile payment has been transforming the financial industry greatly. The Chinese regulators, who regard financial stability as their top working priority, are wary of the fintech explosion. In particular, some recent scandals in the fintech sector have worried the regulators. In 2016, Ezubao, one of the largest online investment platforms, turned out to be a Ponzi scheme as it defrauded CNY 50 billion (\$7.5 billion) from 1 million investors across China.⁸¹ Moreover, it is predicted that 90% of 4,856 online P2P lending portals are struggling to survive owing to the liquidity problem.⁸²

Therefore, how to encourage fintech innovation and entrepreneurship while containing extra-financial risks remains a tricky task for financial authorities. Regulators around the world have devised regulatory instruments to fit fintech innovation into the existing regulatory framework. The most notable approach so far has been the so-called "regulatory sandbox", which allows businesses to test novel products, services, business models and delivery mechanisms under a temporary lighter regulatory environment.⁸³ The regulatory sandbox was first adopted by the UK's Financial Conduct Authority (FCA) and, as a result, the UK has been viewed as the most fintech-friendly jurisdiction in the world.⁸⁴ The FCA has three operative objectives: to protect consumers, enhance market integrity and promote competition.⁸⁵ It is clear that the FCA puts the competitive objective at the centre of its regulatory work, which stimulates industry disrupters to promote innovation and competition. Accordingly, the regulatory sandbox can help fintech firms to trial their products in a safer and more flexible environment without the overhaul of current regulatory systems. In today's economic climate, it seems a win-win situation for all parties, including fintech businesses, financial regulators and consumers. In the first round of regulatory sandbox, the FCA selected 24 firms to be tested and there will be more businesses to be included in the second round.⁸⁶ Apart from the UK, there are a number of jurisdictions adopting the regulatory

⁸¹ M. Fangjing et al, "Chinese investors seek protection of rights over Ponzi claims", *Financial Times*, 3 February 2016, p.6.

⁸² D. Ren, "China regulators warn that 90 pc of peer-to-peer lenders could fail in 2017" (19 February 2017), *South China Morning Post* available at: <http://www.scmp.com/business/china-business/article/2072177/china-regulators-warns-90-pc-peer-peer-lenders-could-fail> [Accessed 3 November 2017].

⁸³ FCA, "Regulatory Sandbox" (2017) available at: <https://www.fca.org.uk/firms/project-innovate-innovation-hub/regulatory-sandbox> [Accessed 3 November 2017].

⁸⁴ C. Binham, "UK regulators are the most fintech friendly" (12 September 2016), *Financial Times* available at: <https://www.ft.com/content/ff5b0be4-7381-11e6-bf48-b372cdb1043a> [Accessed 1 August 2017].

⁸⁵ Financial Services and Markets Act 2000 s.1B.

⁸⁶ FCA, "Regulatory Sandbox" (2017).

sandbox as a temporary method to regulate their fintech industry, including Hong Kong, Singapore and Australia. Moreover, Regtech, which means the application of new technologies in financial regulation, can be used by both regulatory authorities and regulated firms to manage risks and reduce costs relating to regulation and compliance.⁸⁷ Given that extra-financial risks can be detected and managed, financial innovation should be encouraged; otherwise, another financial tsunami might occur in the future as the last global financial crisis was partly triggered by financial innovations such as over-securitisation.

Protect financial consumers using fintech—data privacy and fund safety

Apart from encouraging innovation and competition, financial regulators should pay more attention to the protection of financial consumers who are exposed to higher risks as a result of fintech invention. In particular, how to protect personal privacy and fund security should be carefully considered by regulators and practitioners. Recently, the credit rating service offered by Sesame Credit has been kept under close scrutiny as it is said to threaten the individual's data safety and its services contain obvious conflicts of interest.⁸⁸ In 2015, the central bank gave eight tech firms, including Alibaba and Tencent, temporary permission to develop their credit scoring systems but has delayed granting a full licence afterwards because of potential conflicts of interest in the business model of fintech companies. Most third-party credit scoring firms in the world like FICO are independent bodies which do not take part in core financial activities such as banking, investment and payment. However, Ant Financial not only operates Sesame Credit but also engages in a full range of financial businesses, which, therefore, questions its independence and objectivity in allocating credit scores. More importantly, the use of big data derived from users' shopping history on Alibaba's e-commerce platforms has raised controversies. According to China's Administrative Regulation of Credit Investigation Industry, in order to collect personal information, it is required to seek the consent of the people relating to such information, otherwise the information should not be collected, except that such information has to be disclosed under laws and administrative regulations.⁸⁹ In practice, online shoppers provide a large amount of information when they view webpages, select goods and make payments. Under most circumstances, shoppers are not aware of their footprint being recorded by the platforms. Obviously, they accept some general terms and conditions before using the online shopping websites but those lack detailed rules in terms of what information users would like to be kept by Alibaba. Also, consumers do not have control over how the information is being processed and disseminated. The Regulation requires that anyone using personal information has to reach an agreement with the people relating to such information about the purpose of use; the information should not be used for other purposes outside the agreement; the information should not be disclosed to third parties without the

⁸⁷ Deloitte, "Is RegTech the new FinTech?" (2016) available at: https://www2.deloitte.com/content/dam/Deloitte/ie/Documents/FinancialServices/IE_2016_FS_RegTech_is_the_new_FinTech.pdf [Accessed 3 November 2017].

⁸⁸ Reuters, "No more loan rangers? Beijing's waning support for private credit scores" (4 July 2017) available at: <https://uk.reuters.com/article/ant-financial-credit-idUKL3N1JO05W> [Accessed 3 November 2017].

⁸⁹ State Council (PR China), Administrative Regulation of Credit Investigation Industry (2013 Order No.631) art.13(1).

permission of the people.⁹⁰ Despite the strict privacy law, the implementation process could have certain flaws as on the internet the flow of information is extremely hard to control. There are also hackers who steal personal information and sell it to potential buyers to make profits. In response to the urgent privacy issue, Sesame Credit has appointed a chief privacy officer whose main duty is to build an inclusive privacy control mechanism throughout the process of credit rating.⁹¹

In addition to the privacy issue, how fintech firms use and keep clients' money remains an important matter. As we know, depositors of traditional banks are protected under the official deposit insurance scheme. In China's case, its deposit insurance covers up to CNY 500,000 (\$80,550) per saver per bank.⁹² This means that, if the savers' banks go into financial difficulty, their money up to a certain limit will be automatically compensated by the state without any conditions. However, as savers move their funds from bank accounts to fintech platforms such as Ant Financial's Yu'E Bao, their money will no longer come under official protection. As a result, ordinary savers are exposed to higher market risks which they might not even realise. In the eyes of most savers, Yu'E Bao is regarded as a safe alternative to bank savings and they never think about the possibility of money loss. Therefore, it is recommended that financial regulators and fintech companies conduct investor education to help people to raise risk awareness. Moreover, fintech platforms, with the help of the central bank and financial regulators, can establish reserve funds in order to reimburse clients' losses in emergency situations.

Prevent systemic risk and maintain financial stability

The rapid growth of fintech makes some fintech giants like Ant Financial systemically important. As has been stated, the amount of money managed by Ant Fortune is at the same level as that held by China's Big Four lenders and, thus, the safety and soundness of Ant Financial will have a significant impact on the overall financial stability. Although Ant Financial has a strong technological background (the "tech" side of fintech) as it was initiated and supported by Alibaba, it lacks experience and expertise in terms of operating financial businesses (the "fin" side of fintech). Whether it can manage to handle such a large amount of money in a safe manner and control relevant risks remains uncertain. Clearly, Ant Financial has realised the seriousness of this problem and has therefore hired many financial and legal professionals from established institutions. For example, Douglas L. Feagin, manager of Ant Financial's international business, was a senior partner at Goldman Sachs; Yu Shengfa, president of MyBank, was previously the president of Hangzhou Bank; Hu Tao, general manager of Sesame Credit, was a senior manager at China Merchant Bank; Huang Hao, president of Ant Financial's wealth management sector, was the general manager of China Construction Bank's internet finance department; Ying Ming, president of Ant Financial's insurance sector, was

⁹⁰ State Council (PR China), Administrative Regulation of Credit Investigation Industry (2013 Order No.631) art.20.

⁹¹ Sina, "Sesame Credit Hired Chief Privacy Officer" (18 July 2017) available at: <http://tech.sina.com.cn/i/2017-07-18/doc-ifyiakwa4502600.shtml> [Accessed 3 November 2017].

⁹² Lu, "Private Banks in China (2016) 31 *Banking and Finance Law Review* 585, 598.

the vice-president of China Life Insurance; and Chen Leiming, chief legal officer, was a partner at the US law firm Simpson Thacher & Bartlett LLP.⁹³

Furthermore, the increasing deposit base of Yu'E Bao could result in some potential bank runs, as when savers move money from banks to Ant Fortune in a short time the banks could face sudden deposit loss and liquidity drain. As the insolvency of banks can trigger panic effects and destabilise the entire banking sector, financial regulators should prevent this from happening by strengthening macro-prudential regulation and establishing a comprehensive and effective financial safety-net. It is apparent that the enormous scale of funds managed by Yu'E Bao has attracted heavy regulatory attention relating to its liquidity risk. Accordingly, the CBRC has been closely watching the operation of Yu'E Bao and, most recently, it tightened the regulatory rules regarding how much money per saver can be held in their Yu'E Bao accounts. The maximum personal quota was reduced from CNY 1 million (\$149,909.30) to CNY 250,000 (\$37,477.32).⁹⁴ Moreover, there is a new rule restricting how many times users can transfer money between Yu'E Bao and their bank accounts within 24 hours (currently three times a day).

Conclusion

This article has examined the development path and business model of Ant Financial Services Group. Over its 14-year history, Alipay has evolved from a nascent payment tool to a comprehensive fintech conglomerate covering payment, wealth management, banking and credit rating. Its mobile payment service has been accepted by millions of retailers and online shops, making Alipay the largest digital payment system. The wealth management platform, Ant Fortune, has assets worth CNY 1.43 trillion (\$214.37 billion) under management, which is the largest investment fund in the world. Moreover, MyBank as an online-based lender has utilised big data and artificial intelligence to offer loan services to small businesses which are denied access to mainstream financial institutions, while Sesame Credit helps 700 million Chinese netizens to create personal credit files. Evidently, Ant Financial plays an important and indispensable part in today's financial industry. It provides consumers with better, safer and more accessible financial services. Thus, it is considered as the most valuable fintech firm with a valuation of \$70 billion.

This article has also considered the "frenemy" relationship between existing financial institutions and rising fintech firms. Clearly, the explosive fintech sector has stolen substantial market share from incumbent players. In particular, the prevalence of mobile payments paints a gloomy picture for traditional payment networks such as UnionPay, Visa and MasterCard. Besides, Yu'E Bao surpasses banks' saving accounts by rewarding financial consumers with better returns and high liquidity at the same time. However, in other business areas, Ant Financial supplements the present financial industry as MyBank strives to serve SME borrowers neglected by most banks. In addition, Sesame Credit is able to help

⁹³ Sohu, "Senior Managers of China's Fintech Giants" (12 April 2017) available at: http://www.sohu.com/a/133541889_465942 [Accessed 3 November 2017].

⁹⁴ Sina, "Yu'E Bao Reached 1.43 Trillion Yuan, Near to the Deposit Amount of Big Four" (1 July 2017) available at: <http://finance.sina.com.cn/roll/2017-07-01/doc-ifyhrtz1913643.shtml> [Accessed 3 November 2017].

existing lenders to assess the financial conditions of millions of consumers and smaller businesses and make smarter loan decisions.

Finally, some suggestions have been made for financial regulators in terms of their regulatory approaches towards fintech. First, when regulating fintech, the authority has to strike a balance between spurring innovation and containing excessive financial risks. The best method so far has been the “regulatory sandbox” approach initiated by the UK’s FCA. Secondly, enhancing the protection of financial consumers accessing fintech services should be urgently placed on the agenda of regulators, in particular issues relating to personal data privacy as well as the safety of investors’ money, which is not covered by the official compensation scheme. Thirdly, at the macro-prudential level, any fintech activities that are likely to cause systemic risks should be closely watched, e.g. the potential liquidity risk of Yu’E Bao.