



FINANCIAL TECHNOLOGY AND THE TRANSFORMATION OF CHINA'S BANKING INDUSTRY

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Abstract: *This article examines how fintech (mobile payments, big-tech platforms, online lending, digital banks and the e-CNY) has reshaped China's banking sector. Using a qualitative, comparative approach, it identifies three phases: platform-led disruption, regulatory recalibration and bank-led digital integration. Fintech widened financial inclusion and pushed banks toward data-driven models, but also created risks such as credit concentration, privacy problems and systemic spillovers. The article ends with recommendations for emerging banking systems like Uzbekistan's.*

Keywords: *fintech, China, commercial banks, mobile payments, digital banking, big tech, e-CNY, financial inclusion, regulation*

Introduction

The banking industry is one of the sectors most affected by digital technology, and nowhere has the change been faster or more visible than in China. Twenty years ago the Chinese financial system was dominated by a small group of state-owned commercial banks that served large enterprises well but reached many households and small firms poorly. Today a Chinese consumer can pay for lunch by scanning a QR code, borrow from an algorithm within minutes and invest in money-market funds from a smartphone, often without visiting a bank branch.

Several factors explain this transformation. First, the size of the market: China has more than one billion internet users, and almost all of them go online by



mobile phone. Second, credit cards were rare before fintech arrived, so mobile wallets could leapfrog older payment technologies. Third, large technology companies such as Alibaba (Ant Group) and Tencent already had huge user bases and transaction data [6]. Fourth, regulators initially took a tolerant “observe and learn” approach that allowed rapid experimentation [8].

The transformation raises important questions. Is fintech a threat to banks or a partner? How have Chinese banks adapted? What did regulators do when innovation created new risks? What lessons can other countries draw? The aim of this article is to analyze the impact of fintech on the transformation of China’s banking industry. The objectives are:

1. to review the theoretical and empirical literature on fintech and banking;
2. to describe the main stages and drivers of fintech development in China;
3. to analyze how commercial banks and regulators have responded;
4. to assess the benefits and risks; and
5. to formulate conclusions and recommendations.

The study uses descriptive and comparative analysis, drawing on peer-reviewed literature, publications of the People’s Bank of China (PBOC) and the Bank for International Settlements (BIS), and industry data.

Literature Review

The Financial Stability Board [5] defines fintech as technology-enabled financial innovation that can result in new business models, applications, processes or products with a material effect on financial services. Arner, Barberis and Buckley [1] describe three eras: Fintech 1.0 (1866–1967), when infrastructure such as telegraph cables connected financial markets; Fintech 2.0 (1967–2008), the digitalization of traditional banking; and Fintech 3.0 (post-2008), when new entrants and technology firms began offering financial services directly. China’s experience belongs mainly to this third era.



Gomber, Kauffman, Parker and Weber [7] emphasize that digital finance changes the customer relationship itself, as customers expect seamless, real-time and personalized services.

Frost, Gambacorta, Huang, Shin and Zbinden [6] show that big-tech firms combine large networks, rich data and multiple business lines in a “data–network–activities” loop, in which user data improves services, which attract more users and generate more data. Cornelli et al. document the rapid worldwide growth of fintech and big-tech credit, with China as the largest market. Hau, Huang, Shan and Sheng [8] study Ant Group’s lending and find that platform data on merchants’ sales and online behavior can support credit decisions, in some cases replacing collateral-based lending.

Competition and risk. Buchak, Matvos, Piskorski and Seru [3] find that regulatory constraints on banks and technological advantages together explain the rise of fintech lenders in the United States. Beck, Chen, Lin and Song [2], using cross-country data, find that financial innovation supports growth but can also increase bank fragility.

Most existing studies examine either payments or online lending in isolation. Fewer present an integrated overview that connects the rise of fintech, the regulatory response and banks’ strategic adaptation. This article offers such a view in a concise form.

Methodology

This study uses a qualitative, descriptive research design based on secondary sources: the academic papers reviewed above, PBOC and BIS publications, and reports of Chinese banks and industry associations. The analysis is organized chronologically and thematically. Numerical figures are rounded and indicative and should be verified against original publications before formal use. Because the study relies on secondary data, it does not include econometric estimation, and some industry statistics differ across sources.

Analysis and Discussion



Fintech in China developed in four broad stages, summarized in Table 1. The pattern is a familiar policy cycle: encouragement, rapid expansion, accumulation of risk and then re-regulation. The turning point came when activities such as unregulated peer-to-peer (P2P) platforms began to cause investor losses and raise systemic concerns [8], [9].

Table 1. Main stages of fintech development in China

Period	Stage	Key developments	Regulatory stance
2004–2012	Digital payments emerge	Launch of Alipay (2004); online shopping grows; first internet-finance experiments	Light-touch, permissive
2013–2016	Explosive growth	Yu’e Bao money-market fund (2013); WeChat red-envelope payments (2014); WeBank (2014) and MYbank (2015); rapid growth of P2P lending	“Observe and learn”; internet-finance guidelines (2015)
2017–2020	Regulatory tightening	QR-code payment rules; P2P crackdown; centralized payment clearing (NetsUnion); suspension of Ant Group’s IPO (2020)	Stricter licensing, capital and data rules
2020–present	Integration and digital currency	e-CNY pilots expand; PBOC Fintech Development Plans (2019–2021, 2022–2025); banks deepen digital transformation	Coordinated “innovation with prudence”

Payments as the entry point. Payments were the first area where fintech overtook banks. Alipay and WeChat Pay account for the overwhelming majority of third-party mobile payments. Their key innovation was the QR code, which is cheap for merchants and requires no special terminal. According to PBOC statistics, mobile payment volume reached roughly 1.6 trillion transactions worth over RMB 500 trillion in 2022 (Table 2). Because payment apps captured the daily transaction flow,



banks lost direct contact with customers and part of their fee income, and were relegated to the “back end” of holding accounts and settling funds. This reduced their access to customer data, the most valuable input for modern lending and marketing.

Table 2. Indicative scale of China’s digital finance environment

Indicator	Approximate level	Comment
Internet users	Over 1.1 billion	Almost all access via mobile phones
Mobile payment transactions (H1 2026)	About 117 billion	PBOC data, rounded
Mobile payment value (H1 2026)	Over RMB 311 trillion	Includes bank-app and wallet payments
Third-party mobile payment market	Two firms dominate	Alipay and WeChat Pay
Digital-only private banks	Two leading (WeBank, MYbank)	Licensed 2014–2015

Data-driven credit and inclusion. Big-tech and digital banks introduced a lending model often described as “3-1-0”: an application takes about three minutes, approval one second, and involves zero human intervention. Loans rely on transaction history, payment behavior and network data rather than collateral. MYbank and WeBank have served millions of micro-enterprises and individuals previously excluded for lack of credit history or collateral. The benefits are lower processing costs, wider coverage and faster service. Three concerns have emerged, however:

- **Model risk:** algorithms trained during periods of growth may perform poorly in downturns.
- **Over-indebtedness:** easy access to consumer credit can encourage excessive borrowing.
- **Funding structure:** platforms originated loans but funded only a small share on their own balance sheets, creating incentive problems and risk transfer.



Banks and fintech compared. Table 3 shows that the two groups have complementary strengths, which explains why competition has gradually turned into “coopetition”: cooperation combined with competition [7].

Table 3. Traditional banks and fintech/big-tech firms in China

Dimension	Traditional commercial banks	Fintech / big-tech platforms
Core strength	Deposits, balance sheet, regulatory trust, corporate relationships	Users, data, technology, speed, ecosystems
Customer access	Branches, relationship managers, mobile banking apps	Super-apps with hundreds of millions of users
Credit assessment	Collateral, financial statements, credit bureau	Behavioral and transaction data, machine learning
Cost structure	High fixed costs (branches, staff)	Low marginal cost, scalable
Regulation	Strict capital, liquidity and supervision	Historically lighter; now increasingly aligned
Main weakness	Slower innovation, legacy IT systems	Limited funding, regulatory and reputational risks

Banks did not remain passive; their responses fall into four strategies (Table 4). The large state-owned banks (ICBC, China Construction Bank, Agricultural Bank of China and Bank of China) have invested heavily in technology, backed by scale and stable deposit funding [9]. Smaller regional and rural banks face a harder task: they often lack the capital and talent to build their own systems and rely on outsourcing or partnerships, which can increase concentration and operational risk.

Discussion. Three conclusions emerge. First, fintech acted as a catalyst rather than a replacement: payment and credit innovation forced banks to modernize, but banks remain central because of their deposit base, regulatory status and role in payment infrastructure, producing a hybrid system of interdependent banks and technology firms. Second, the balance between innovation and stability shifted over time. Early permissiveness encouraged inclusion and experimentation but allowed



risks to accumulate; the later tightening shows that the boundary between technology firms and financial institutions is hard to maintain when one firm controls the customer, the data and the credit decision, consistent with Frost et al. [6]. Third, the transformation is unequal: large banks and digital leaders benefit most, while small institutions risk falling behind, so policy must address the gap among banks as well as competition between banks and fintech.

Conclusions and Recommendations

The main conclusions of the study are as follows.

1. Fintech has fundamentally reshaped China's banking industry, beginning with payments and expanding to credit, wealth management and customer engagement.
2. Big-tech platforms gained an advantage through data, networks and user experience, while banks retained advantages in funding and regulatory legitimacy.
3. Regulation moved from a permissive to a more coordinated approach focused on licensing, data protection and systemic risk.
4. Banks responded through internal digitalization, partnerships, digital banks and ecosystem strategies; the most successful combined technology with strong risk management.
5. Financial inclusion has improved, but new risks (concentration, privacy, over-indebtedness) require continued supervision.

The Chinese case offers a practical lesson for Uzbekistan and similar economies: rapid digitalization can bring large gains in inclusion and efficiency, but it works best with clear regulation, strong infrastructure and consumer protection from an early stage. Central bank digital currency and open payment standards deserve careful study, but should be introduced gradually and adapted to national conditions. Uzbekistan's own recent debate on reserve management points in the same direction: in September 2026 the Central Bank announced that it is considering handing part of its reserves, which stood at USD 72.1 billion on 1 September 2026, to international asset managers, with diversification and knowledge transfer as the



stated aims [10]. The same logic applies to fintech: foreign expertise and technology partnerships are most useful when introduced in small steps, under clear limits, independent custody and public reporting, and with the priority on building the local team's own capacity rather than short-term profit [10]. This study relies on secondary data; future research could apply econometric methods, for example panel data on Chinese banks' profitability and risk-taking, or compare China with Uzbekistan and other Central Asian countries.

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