

The Impact of Third-Party Payment on the Banking Industry: Mechanisms of Competition, Innovation, and Customer Behavior

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Abstract. The rapid development of the digital economy has propelled third-party payment to reshape the payment ecosystem, posing significant challenges to the intermediary business of commercial banks. This study aims to clarify the mechanisms through which third-party payment affects banks' intermediary business, holding practical significance for banks to cope with challenges and achieve transformation. Based on the two-sided market theory, game theory, and information asymmetry theory, this paper constructs an analytical framework to examine the impact of three dimensions: competition, innovation, and customer behavior. The findings indicate that third-party payment erodes the market share of bank intermediary businesses through advantages in convenience, low cost, and scenario ecosystems. Its technological leadership forces banks to accelerate digital transformation, promoting business innovation. Furthermore, the shift in customer payment habits accelerates the diversion of intermediary business. Empirical evidence shows the impact is significant but not disruptive, exhibiting sectoral differentiation. Recommendations include that commercial banks strengthen technology application, build open ecosystems, and deepen cooperation with third-party payment providers. Regulators should balance innovation incentives with risk prevention, improving the management of reserve funds and data security to foster a healthy payment system.

Keywords: Third-Party Payment, Commercial Banks, Intermediary Business, Impact Mechanism, Digital Transformation.

1. Introduction

Driven by the digital economy, third-party payment institutions have rapidly reshaped the payment ecosystem. Platforms like Alipay and WeChat Pay, leveraging their agility and extensive coverage, have dominated the retail payment market, fundamentally altering public payment behavior [1]. This transformation exerts a profound impact on the traditional profit models of commercial banks, particularly targeting their intermediary businesses—such as payment settlement and bank card services—given the asset-light nature of these operations. By diverting payment flows, third-party payment undermines banks' long-standing role as the core entry point for financial transactions [2]. Three critical and under-explored questions are addressed in this study: Through what specific mechanisms does third-party payment affect banks' intermediary business? Is the impact limited to simple channel substitution, or does it involve deeper ecosystem competition? And does the impact vary across different bank types or customer segments? Previous studies identified negative impacts on banks' intermediary business and liquidity, but lacked a detailed analysis of transmission mechanisms. To fill this gap, this paper constructs an Impact-Transmission-Response analytical framework to deconstruct the issue layer by layer. The research holds both theoretical and practical value. Theoretically, it integrates financial innovation theory, platform economics, and co-opetition strategy to enrich the theoretical paradigm of banking transformation in the digital finance era, especially providing a mechanistic explanation for technology-driven financial disintermediation. Zheng and Li [3], who revealed a synergistic relationship between third-party payment and online banking, offer crucial references for exploring co-opetition logic in the intermediary business domain. Fan et al. [4], from a supply chain game perspective, further laid a micro-theoretical foundation for analyzing how third-party payment affects market participants' behavior and profit distribution. Practically, the findings will provide decision-making support for commercial banks to adapt to

changes in the payment landscape, optimize their business structures, enhance high-value-added service capabilities, and explore complementary cooperation with third-party platforms—ultimately helping banks reposition their value in the new co-opetition ecosystem and achieve sustainable growth [5].

2. Literature Review

The rise of third-party payment stands as one of the most defining features of the digital finance era. Through deep integration with e-commerce, it has reshaped the payment market landscape and exerted complex, far-reaching impacts on the business systems of traditional commercial banks. Existing research primarily revolves around three core themes: the industrial characteristics of third-party payment, its co-opetition relationship with commercial banks and its specific impacts on various bank business segments. Regarding the industrial connotation and characteristics of third-party payment, scholars have reached a broad consensus: it is a non-bank financial intermediary independent of both buyers and sellers, which effectively reduces transaction costs and information asymmetry risks by providing online fund transfer and credit guarantee services [1]. A key trait of this industry is its typical two-sided market nature—characterized by significant cross-network externalities. As Armstrong and Rochet & Tirole noted [6], an increase in the number of users on one side of the platform (e.g., consumers) enhances the utility for users on the other side (e.g., merchants), and vice versa. This dynamic drives platform enterprises to adopt skewed pricing strategies (e.g., free services for consumers, fee-based services for merchants) to rapidly expand their user base [1]. Additionally, the industry exhibits distinct credit intermediation and financial attributes, as it can effectively create fund deposits even without directly absorbing them. It also maintains a prominent co-opetition relationship with commercial banks, and intense homogeneous competition.

The understanding of the co-opetition relationship between third-party payment and commercial banks has evolved from a competition-dominated perspective to recognizing the coexistence of competition and cooperation. Early studies emphasized competitive pressures: Bai [5] and Bei [7] argued that third-party payment, through low-fee strategies, significantly crowded out banks' intermediary businesses, such as payment settlement and agency collection/payment. Ye and Zou [8] further pointed out that it diverted banks' demand deposit sources. Moreover, leveraging their data advantages, third-party payment platforms have even entered the SME credit field, challenging banks' traditional deposit and loan businesses [7]. However, more recent empirical studies reveal that the relationship is far from a simple zero-sum game. Zheng and Li [3] found that transaction volumes of both third-party payment and online banking conform to Metcalfe's Law—meaning their network value is proportional to the square of their user scale—providing a theoretical explanation for the fierce user competition. More importantly, their research showed that the expansion of third-party payment transaction volume significantly promoted the growth of online banking transaction volume, proving a synergistic and symbiotic relationship. This cooperative foundation stems from two key facts: third-party payment's final fund clearing still relies on the banking system, and banks provide security endorsement and underlying infrastructure support for third-party payment operations [3].

Research on impact mechanisms and differentiation is becoming increasingly refined. Fan et al. [4], by constructing a game theory model, found that third-party payment platforms stimulate total market demand by promoting credit consumption and reducing consumer price sensitivity. However, manufacturers' first-mover advantage allows them to capture most benefits by raising wholesale prices, potentially harming retailers—a manufacturer wins, retailer loses scenario. In terms of liquidity impact, Ye and Zou [8], based on Keynesian money demand theory, empirically found that third-party payment negatively affects commercial bank liquidity overall by influencing transactional, precautionary, and speculative money demand, with this effect being more pronounced in large state-owned banks. Bai [5] further differentiated impacts by business type: third-party payment has a positive effect on banks' asset business (by generating new loan demand) but a negative effect on liability business (deposit diversion) and intermediary business (direct substitution). In summary,

existing literature fully acknowledges the complex coexistence of competition and cooperation between third-party payment and commercial banks. While most studies focus on macro-level business impact analysis, works like Fan et al. [4] have begun to explore micro-level pathways—such as how third-party payment affects profit distribution and decision-making within supply chains—providing an important theoretical basis for this study. Building on this foundation, this paper will further clarify the specific mechanisms and pathways of third-party payment’s impact on banks’ intermediary business by constructing a framework encompassing competition, innovation, and customer behavior, and using empirical evidence and case studies to address existing research gaps.

3. Theoretical Framework and Research Methods

This study integrates Three-Sided Market Theory, Game Theory, and Information Asymmetry Theory to construct an analytical framework for third-party payment’s impact on commercial banks’ intermediary business. First, Two-Sided Market Theory [6] explains the operational logic of third-party payment platforms. These platforms connect consumers and merchants, using skewed pricing (e.g., free for consumers, fee-based for merchants) to trigger cross-network externalities [1]. As the user scale expands, the platform’s network value and bargaining power over banks increase—this is why third-party payment can penetrate traditional intermediary businesses like payment and settlement. For example, Alipay’s growing consumer base attracts more merchants, which in turn draws more consumers, forming a cycle that strengthens its competitive edge over banks. Second, Game Theory analyzes the dynamic interaction between the two parties. Referring to Fan et al.’s supply chain model [4], third-party payment entry disrupts the original market equilibrium, altering cash flows and user distribution. As incumbents, banks adjust pricing (e.g., service fees, loan rates) and services to cope with reduced user price sensitivity and deposit diversion. Third-party payment then adjusts commission rates and strategies in response, until a Nash equilibrium is reached where neither party can unilaterally improve its position. Finally, Information Asymmetry Theory runs through the entire process. Third-party payment accumulates massive user transaction and behavioral data (e.g., consumption preferences, credit history) that banks cannot easily obtain under traditional models [3]. This advantage enables more accurate risk pricing and targeted marketing—such as Alipay’s Sesame Credit supporting Huabei—and allows third-party payment to offer more convenient, low-cost services, directly challenging banks’ information consulting and credit review businesses.

This study adopts a mixed-methods approach combining qualitative and quantitative analysis. For qualitative analysis, literature review and case studies are used. By systematically reviewing studies [5, 7, 8], key impact channels and typical facts are summarized. The co-opetition case between Alipay and major banks (e.g., ICBC, China Merchants Bank) is analyzed to illustrate game mechanisms—such as banks launching mobile banking promotions in response to Alipay’s fee advantages—and make abstract theories tangible. For quantitative analysis, econometric models are employed. The sample consists of annual report data from 16 major listed Chinese commercial banks (covering large state-owned, joint-stock, and representative city commercial banks) and third-party payment market macro-data (from the People’s Bank of China and iResearch). The dependent variable is the proportion of intermediary business income in total operating income or specific income (e.g., payment and settlement income); the core explanatory variable is annual third-party payment transaction scale; control variables include bank asset size, ROE, loan-to-deposit ratio, and GDP growth rate [5]. A panel data fixed-effects model is constructed:

$$intermediary_{Income\ it} = \alpha + \beta \times TPP_{Scale\ t} + \gamma \times Controls_{it} + \mu_i + \lambda_t + \epsilon_{it}$$

Here, μ_i represents the individual fixed effect, and λ_t represents the time fixed effect. , and ϵ_{it} is random error. Analyzing β ’s significance and direction of the tests’ third-party payment’s net impact, enhancing the credibility.

4. Competition Mechanism between Third-Party Payment and Banks

4.1 Market Share Redistribution

Existing research consistently indicates that third-party payment, with its efficient and low-cost payment solutions, is continuously eroding the market share of commercial banks in the payment and settlement market. Platforms represented by Alipay and WeChat Pay have accurately captured the needs of individual users and small businesses through core services such as real-time fund arrival, transaction guarantees, and free inter-bank transfers—features that traditional bank services often lack. Market data highlights third-party payment's dominant position in C2C and B2C small-amount payment scenarios: its market penetration rate has grown steadily in high-frequency areas such as e-commerce transactions, utility bill payments, and public transportation. As early as 2010, the transaction volume of third-party payment already accounted for 16.5% of the total e-commerce market transaction volume [7]. With the continuous expansion of business scenarios (e.g., offline retail, campus payments), this proportion has exceeded 30% in recent years, and in the mobile payment segment—where convenience is paramount—the penetration rate is even higher [3].

From a business type perspective, third-party payment's capture of bank payment and settlement business exhibits two distinct characteristics: small-amount substitution and scenario penetration. In the personal payment sector, third-party payment platforms integrate fragmented life scenarios—including utility bill payments, credit card repayments, ticket bookings, and medical appointments—into a one-stop payment ecosystem. This integration gradually replaces the traditional payment functions of bank counters and online banking. In the small business payment sector, third-party payment offers customized solutions tailored to high-frequency, small-amount, and efficient settlement needs—such as batch transfers for employee salaries, automatic split accounting for multi-store operations, and real-time synchronization of electronic invoices. In contrast, commercial banks, constrained by standardized service processes (e.g., rigid approval procedures for corporate payments) and high account management costs (e.g., annual fees for corporate accounts), struggle to meet these differentiated demands. As a result, many small business customers—such as convenience stores, food stalls, and online micro-merchants—have shifted entirely to third-party payment platforms [7].

4.2 Convenience and Service Differentiation

Third-party payment, leveraging mobile application technology, achieves minimalist operations like one-click payment, scan-to-pay, and contactless transactions. Users do not need to carry additional bank cards or U-Shields; payments can be completed entirely via mobile phone. For example, the Quick Pay function of Alipay and WeChat Pay, by binding bank cards, can skip the multiple authentication steps of bank online banking, resulting in a significantly higher payment success rate than traditional online banking [1]. In contrast, traditional bank online banking relies on hardware devices like U-Shields and dynamic password generators, involving cumbersome steps (e.g., inserting a U-Shield, entering a password, confirming a transaction), and has poor adaptability in mobile scenarios, leading to a user experience lagging behind third-party payments significantly. Furthermore, third-party payment further enhances convenience through biometric technologies (fingerprint, facial recognition payments), while commercial banks, limited by risk control and compliance requirements, have a slower and narrower application of biometric technologies [8]. Benefiting from light-asset operation models and economies of scale, third-party payment implements fee strategies far lower than those of commercial banks, even offering free services to individual users and small merchants. For instance, individual users typically pay no premium for inter-bank transfers and credit card repayments through third-party payment platforms. The acquiring fees for small and medium merchants are generally between 0.3% and 0.6%, with volume-based discounts available [1]. Commercial banks, constrained by physical branch operating costs, regulatory compliance costs (e.g., anti-money laundering checks, reserve fund management), and traditional profit models, find it difficult to reduce payment and settlement fees – inter-bank transfer fees for corporate clients are typically 5-50 RMB per transaction, and acquiring fees for ordinary

merchants are about 0.6%-1%, significantly higher than third-party payment [5]. This cost difference drives many fee-sensitive small merchants and individual users to third-party payment, further squeezing the payment and settlement market space of commercial banks.

Third-party payment has established a comprehensive ecosystem spanning both online and offline channels, domestic and cross-border transactions, as well as payment and value-added services. This ecosystem extends across multiple areas of daily life, including e-commerce, offline retail, cross-border trade, healthcare, education, and public transportation. For example, Alipay integrates scenarios like Taobao e-commerce, Ele.me food delivery, Fliggy travel, and Ant Forest, allowing users to enjoy value-added services like points, credit loans (Huabei), and wealth management (Yu'ebao) while consuming. WeChat Pay, leveraging its social ecosystem, embeds payment functions into scenarios like Moments, Mini Programs, and Official Accounts, achieving seamless integration of social - consumption - payment [1]. In comparison, bank payment systems remain focused on standardized services with weak scenario expansion capabilities – most bank payment services are limited to basic functions like transfers and bill payments, lacking deep integration with life scenarios. Moreover, cross-border payments rely on the SWIFT system, involving cumbersome processes and long settlement times (typically 1-3 business days), failing to meet user demands for instantaneity and scenarioization.

Most studies believe that the competition between third-party payment and commercial banks in the payment and settlement field exhibits characteristics of co-opetition coexistence and market segmentation. In small-amount, high-frequency retail payment areas (e.g., daily consumption, bill payments), third-party payment, with its convenience and cost advantages, has formed a substitution effect against commercial banks and become the dominant force. However, in complex business areas such as large-amount corporate payments, cross-border trade settlement, and policy-related payments (e.g., government fund transfers), commercial banks still hold advantages – these businesses require extremely high levels of fund security, compliance, and rely on banks' clearing networks, credit endorsement, and professional service capabilities, making them difficult for third-party payment to replace in the short term [3]. Additionally, there is room for cooperation: the funds of third-party payment ultimately need to be cleared and deposited through commercial banks (e.g., dedicated reserve fund accounts), while banks can leverage the scenario advantages of third-party payment to acquire customers (e.g., co-branded card issuance), forming a complementary and symbiotic relationship [7].

5. Forcing Mechanism on Bank

Third-party payment's pioneering FinTech application forces banks to accelerate technological upgrades. In payment technology, innovations like Quick Pay and Scan-to-Pay exposed traditional bank inefficiencies, prompting the development of the Super Internet Banking system. Launched in 2010, this system integrates major banks' online platforms and enables real-time cross-bank transfers 24/7, with a single-transaction limit of 50,000 RMB. This design addresses the slow settlement and restricted hours characteristic of traditional online banking [7]. In big data and AI, third-party payment's data-driven models (e.g., Alipay's Sesame Credit) pushed banks to invest in big data. For example, China Merchants Bank uses customer data to build intelligent risk control models, cutting credit card approval time from 7-10 days to 1-2 days and lowering non-performing loan rates by 1.2% [8]. Banks also adopt AI technologies. For instance, ICBC's intelligent customer service handles 80% of routine inquiries 24/7, and Bank of Communications developed a voice-activated payment to simplify operations. Third-party payment's blockchain exploration (e.g., Alipay's cross-border payment platform reducing settlement time to 3 seconds) drives banks' experimentation. Ping An Bank uses blockchain for supply chain finance to trace transaction data, while ICBC applies it to commercial bill settlement, halving the cycle [5].

Third-party payment platform + ecosystem model breaks banks' traditional point solution approach, pushing them to become comprehensive financial service integrators. Alipay extends

payment to wealth management (Yu'eobao), insurance (Ant Insurance), and life services; WeChat Pay embeds payment into social scenarios [1]. Banks respond with transformation: UnionPay collaborates with smartphone makers on UnionPay and QuickPass, accessing 20 million offline merchants to compete in mobile payment. Large banks build their own platforms—ICBC's Rong E Gou integrates e-commerce and financial services, while China Merchants Bank's CMB Life combines payment, lifestyle, and finance [5]. Additionally, banks use open APIs to embed services into third-party scenarios (e.g., Bank of China's payment API on JD.com) to expand coverage [3].

Bank innovation is driven by three factors: profit squeeze (1% third-party payment growth cuts payment/settlement income by 0.3%-0.5% [5], customer loss (third-party payment attracts young users and small businesses), and regulatory guidance (policies standardizing third-party payment and requiring service to the real economy [8]). Strategically, banks launch Yu'eobao-like products (e.g., CMB's Chaozhaoying) with T+0 redemption, recapturing small funds—their scale exceeded 5 trillion RMB by 2023. They enhance robo-advisory: ICBC's service has 10 million users, with 30% higher average investment than manual advisory. Large banks establish FinTech subsidiaries: CCB Fintech provides Smart Payment to 200+ small banks, cutting their tech costs by 60%; BoCom Technology offers risk control services. In supply chain finance, banks connect core enterprise ERP and third-party payment data to launch online products (e.g., order financing). Ping An Bank's SAS platform uses blockchain for accounts receivable, aiding SMEs and generating fees—major banks' online supply chain finance balance exceeded 3 trillion RMB by 2023 [5].

6. Customer Behavior Transmission Path

Third-party payment's convenience and value-added services reshape user habits, reducing reliance on bank online banking and counters. iResearch data [3] shows 53% of online banking users route payments through third-party platforms, making these platforms the main entry point for bank payment services and separating banks from direct user interactions. Value-added services further lock in habits: Alipay's Sesame Credit unlocks deposit-free services with enough points, while WeChat Pay's discounts stimulate frequent use. Banks lack such incentives, struggling to attract active users [1]. Demographically, individuals born in the 1990s and 2000s are the primary user group, using third-party payment for 85% of daily transactions [8]. Older users gradually shift with the popularization of mobile payments. Among enterprises, small businesses and individual entrepreneurs rely entirely on third-party payment for daily settlements, while large enterprises use it for small-amount scenarios like reimbursements [7]. Third-party credit products (Huabei, Baitiao) divert bank credit card installments. They have lower thresholds (activated via simple verification) and lower fees (Huabei's 12-installment fee is 8.8% vs. banks' 10%-12%) [5], and integrate seamlessly with e-commerce. Post-2015, bank credit card installment growth dropped to below 15%, while third-party credit payment grew over 50% [5]. In agency insurance, third-party platforms offer low-cost, simple small-amount products (e.g., 9.9 RMB annual accident insurance), while bank-distributed insurance is high-cost and complex. In fund distribution, platforms like Ant Fortune offer more products with 0.15% fees (a quarter of banks' 0.6%) [3]. For cross-border payments, third-party platforms offer better rates, lower fees (0.5%-1%), and faster settlement (1-2 hours) than banks, which have higher costs and longer processing times [8].

7. Impact on Banks' Intermediary Business

Driven by third-party payment, customer behavior shows a prominent generational shift: post-90s and post-00s have become the core of the payment market. They have weaker recognition of traditional bank authority, no longer taking banks as the default financial service choice. Instead, they prioritize service convenience, cost, and scenario integration when choosing payment tools, leading to significantly reduced loyalty to single banks. Surveys indicate post-90s users hold an average of 2.3 bank cards, but 85% of daily transactions rely on third-party payment, only turning to banks for

large-amount businesses like mortgages or corporate settlements [8]. Enterprise customers present clear stratification. Large enterprises, due to large capital scale (annual transactions often over 100 million RMB) and strict compliance demands (e.g., meeting audit standards for fund flows), still mainly use bank intermediary services such as large-amount settlement, import-export letters of credit, and corporate wealth management. Yet even they adopt third-party payment for small-amount scenarios—Sinopec uses WeChat Pay for employee meal allowances and travel reimbursements, cutting administrative costs and shortening fund arrival time. In contrast, SMEs and individual merchants, driven by cost sensitivity (avoiding high bank account fees) and efficiency needs (real-time settlement), almost fully rely on third-party payment. A survey of 500 SMEs found 92% use Alipay or WeChat Pay for daily settlement, with only 8% regularly using bank corporate online banking, reflecting banks' lack of flexibility for small-scale needs [7]. Meanwhile, user demand for intermediary business shifts from single functions to scenario-based, personalized, integrated services. Modern users no longer settle for independent services like payments or transfers; they expect one-stop solutions combining payment, financing, and lifestyle services in specific scenarios. For example, in overseas travel, users need not only cross-border payment but also real-time exchange rate queries, visa guidance, and travel insurance. Third-party platforms like Alipay's Overseas Travel section integrate these services well. However, banks still focus on standardized intermediary services, rarely connecting with scenario-based supporting services, showing obvious shortcomings in meeting personalized needs [1].

Quantitatively, third-party payment's impact is significant but not disruptive. Empirical data from 16 major listed banks (2013-2023) shows that a 1% growth in third-party payment scale reduces banks' payment and settlement income by 0.3%-0.5%, and agency insurance/fund income by 0.2%-0.3% [5]. Banks have offset part of the impact through structural adjustment: the proportion of payment and settlement income in total intermediary income dropped from 35% (2010) to below 20% (2021), while income from innovative businesses like robo-advisory, FinTech output, and online supply chain finance rose from 10% to over 30% [8]. Qualitatively, the impact shows clear sectoral differences. Third-party payment dominates small-amount, high-frequency, scenario-based areas like personal daily payments and micro-credit, where convenience and cost are key. But in large-amount, complex, high-compliance fields—such as large-amount corporate payments (over 1 million RMB), cross-border trade settlement, and large enterprise wealth management—banks retain core competitiveness. These businesses rely on banks' mature risk control, strong credit endorsement, and professional teams, making short-term replacement by third-party payment difficult [3]. Moreover, third-party payment forces banks to innovate, driving a shift from product-centric to customer-centric models, which enhances long-term service efficiency and competitiveness, promoting overall industry upgrading [5].

8. Conclusion and Recommendations

This study systematically identifies three core mechanisms through which third-party payment impacts commercial banks' intermediary business: competition, innovation-forcing, and customer behavior transmission. As shown in the research, third-party payment erodes the market share of banks' traditional intermediary businesses (e.g., payment settlement, agency services) via convenience, low costs, and scenario-based ecosystems. Its advanced technologies (such as biometric payment) and platform models force banks to accelerate digital transformation, while changed customer habits—driven by third-party platforms' value-added services—further divert low-value intermediary business. For commercial banks, accelerating digital transformation is key. Strengthen FinTech application: promote biometric payment (fingerprint, facial recognition) and optimize online platforms to narrow gaps with third-party payment in efficiency and experience. Build an open banking ecosystem: embed core services (payment, account management) into e-commerce, government services, and other third-party scenarios via APIs to expand boundaries. Deepen cooperation with third-party platforms: develop co-branded products (e.g., credit cards with third-

party discounts) and share data compliantly to achieve win-win outcomes. For regulators, balance innovation and risk prevention. Improve policies to strengthen third-party payment reserve fund management (avoid misappropriation) and data security (protect user privacy), and establish risk early warning systems. Support compliant cooperation between banks and licensed payment institutions, prohibit vicious competition (e.g., predatory pricing), and promote industry coordination. In conclusion, third-party payment challenges banks but offers transformation opportunities. Banks must innovate in technology, services, and models to rebuild competitiveness, focusing on tech investment, customer experience, and ecosystem construction for sustainable digital-era development.

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