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How does data pricing affect financial institutions' decisions on cross-border flow of financial data

Xintong Yu[1*]

School of Economics, Qingdao University, Qingdao, 266061, China
Email: yxt13046039557@163.com
* Corresponding author

Abstract:

With the in-depth development of digital economy, the cross-border flow of financial data has become an important force to promote the integration of global financial markets. As the core mechanism of data factor marketization, how data pricing affects the cross-border data flow decision-making of financial institutions is an urgent theoretical and practical issue to be further studied. This paper systematically sorts out the main models of data pricing in financial institutions, analyzes the whole process of cross-border financial data flow and its operation mechanism at the level of financial institutions, and then discusses the internal relationship between data pricing and each link of cross-border data flow. It is found that data pricing affects the cross-border decision-making of financial institutions through three paths: compliance cost-benefit trade-off, data value release incentive, and risk pricing mechanism, among which the compliance assessment before data departure is the most closely related to the two. This paper provides a theoretical reference for financial institutions to achieve cost reduction, efficiency increase and competitiveness improvement through scientific pricing strategy under the premise of ensuring compliance security.

Keywords: Data pricing; Financial data; Cross-border flows; Pricing models; Financial institution decision making

1 Introduction

The cross-border flow of financial data has become a key force to promote the integration of global financial markets, promote financial innovation and international cooperation. As Chinese financial institutions accelerate their expansion into overseas markets and foreign financial institutions continue to expand their business in China, the demand for cross-border data is increasingly urgent [2]. However, the cross-border flow of financial data is faced with multiple dilemmas such as fragmented legal system, poor convergence of international rules, and insufficient regulatory capacity. The risks of personal

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financial privacy leakage, compliance operation risks of financial institutions, and national financial security risks are prominent [3].

At the same time, data pricing, as the core mechanism of data element marketization, is attracting more and more attention. The theory of data price formation should not only reflect the generality that price plays a decisive role in resource allocation, but also reflect the particularity of data products such as low marginal cost, two-way uncertainty and scenario correlation [3]. For financial institutions, asset pricing is not only the data value realization ways, are more likely to become the key variables affect the cross-border data flows.

Most of the existing research is carried out from a single perspective of data pricing or cross-border financial data flow, and few studies combine the two to explore their internal relationship. This paper aims to fill this gap by analyzing the data pricing strategy of financial institutions and the whole process of financial data cross-border flow, exploring the influence mechanism of data pricing on the decision-making of financial institutions cross-border flow, and providing theoreticalsupport for financial institutions to achieve cost reduction and efficiency increase under the premise of ensuring compliance security.

2. Data pricing models and strategies of financial institutions

2.1 Basic methods of data asset valuation

Data asset valuation is the basis of data pricing. According to the existing research, data asset valuation mainly adopts three optimization methods: optimized cost method, optimized income method and optimized market method [1]. The cost method is based on the full-cycle cost of data acquisition, storage and processing. The income method focuses on the discount of the expected income that data assets can bring in the future; The market method refers to the market transaction price of similar data products. Each of these three methods has its own application scenarios. Financial institutions need to choose the appropriate valuation method according to the characteristics of data assets.

2.2 Main strategies of data pricing in financial institutions

Tiered pricing is one of the most common strategies. Financial institutions divide data products into different levels according to data granularity, real-time performance, application scenarios and other dimensions, and set differentiated prices.

The bundled pricing strategy combines multiple data products or services to maximize the overall value through cross-subsidies. In cross-border payment scenarios, banks often package payment processing, foreign exchange, data services, etc., to improve customer loyalty and comprehensive income [5].

Dynamic pricing is a new pricing strategy that has emerged in recent years. Through artificial intelligence algorithms, financial institutions can generate personalized quotes in real time based on customer behavior, market conditions, risk status and other factors [4]. This strategy is especially suitable for business scenarios that require real-time decisions, such as credit approval and cross-border payments.

2.3 API Monetization: a new trend in Data Pricing

With the development of open banking, API (Application programming interface) monetization has become the new direction of data pricing for financial institutions. Leading financial institutions such as jpmorgan Chase & Co., Ltd. have started to charge for data access and have reached access agreements with third-party data service providers that include pricing structures [6]. Pricing models for API monetization include charging by API call times, tiered subscription fees, data access license fees, and charging by end users [6].

The rise of API monetization means that data pricing in financial institutions is shifting from internal cost accounting to outward value realization, and data itself is becoming an independent source of revenue. This transformation has a profound impact on the cross-border flow of financial data, because cross-border data flows are often realized through API interfaces, and API pricing directly affects the cost structure and decision-making logic of cross-border data flows.

3. Analysis of the whole process of cross-border financial data flow

3.1 Cross-border data flow at the level of financial institutions

At the level of financial institutions, cross-border data flow covers the whole process of data collection, storage, processing, exchange and application [3]. It is specifically divided into the following links:

Evaluation of data before departure. Financial institutions shouldidentify whether the data to be exported belongs to the sensitive level of important data or personal information, assess the necessity of exit, and determine the applicable compliance path.

Compliance preparation process. This part involves document preparation, privacy policy update, user authorization improvement, etc. For scenarios that need to declare

security assessment, financial institutions also need to prepare a self-assessment report on data outbound risk.
Data exit implementation process. This process is usually completed through API interfaces, dedicated lines or cross-border data platforms. Financial institutions need to ensure the encryption and integrity of data transmission, implement the principle of minimum authorization, and prevent excessive data exit [3].
Continuous monitoring after exit. Financial institutions are required to track the use of data after departure, and should take timely remedial measures and report to the competent authorities when data security incidents occur or may occur [2].

3.2 Risks and challenges in cross-border data flows

The cross-border flow of financial data faces multiple risks. From the perspective of compliance risks, financial data involves a large amount of sensitive information of individuals and enterprises, which is widely used in illegal fields such as business fraud and improper marketing. Illegal leakage of financial data shows an increasing trend [3]. Look from the operation risk, data formats, standards, and the inconsistency of the interface leads to low interoperability, hinder efficient circulation [3]. From the perspective of governance risks, there are no clear regulations on data ownership, transaction rules are not clear enough, and unclear ownership has become the main obstacle to efficient circulation of financial data [3].

4. Internal relationship between data pricing and cross-border flows

4.1 The most closely related link between the two: pre-exit compliance assessment

First of all, the compliance assessment link determines the cost basis of data exit. Whether the exemption is applicable and what compliance procedures need to be performed directly affect the compliance cost paid by financial institutions for data exit. These costs will be included in the cost consideration of data pricing.
Secondly, the compliance assessment process is also a key time point for data value assessment. In this link, financial institutions need to judge the application scenarios, expected benefits and value contributions of the data to be exported, which are the core considerations of the income method in data pricing [1]. Scene value of high and low level directly affect the pricing of data, and in turn affect whether worth exit compliance costs, judgment for the data.

4.2 Impact path of data pricing on cross-border flows

Data pricing affects financial institutions' cross-border data flow decisions through three paths:
The first is the trade-off path of compliance costs and benefits. Data exit involves compliance procedures such as security assessment, standard contract and protection certification, all of which require corresponding costs [2]. Data pricing provides a benchmark for comparison of these costs - financial institutions tend to promote data outbound only when the expected value generated by data outbound exceeds the compliance cost. The more data is priced, the more likely it is to receive decision support for cross-border flows.
The second is the incentive path of data value release. Scientific data pricing mechanism can encourage financial institutions to release more data value. When financial institutions can obtain direct benefits from cross-border data flow through API monetization and other means, their willingness to actively promote cross-border data flow will be enhanced [6]. On the contrary, if the data pricing mechanism is missing or unreasonable, and the potential value of data assets cannot be realized, financial institutions may prefer conservative data localization strategies.
The third is the path of risk pricing mechanism. The cross-border flow of financial data is accompanied by risks such as privacy leakage and compliance violations. The dynamic pricing model can incorporate risk factors into the price formation mechanism [4], and higher risk data scenarios correspond to higher pricing, which not only compensates for risk-taking, but also constitutes a market mechanism to inhibit excessive risk behavior.

4.3 Analysis of typical cases

The circulation of financial data in the United States is characterized by a market-oriented system dominated by data brokers, who collect corporate or individual data from government, commercial and open channels, process and sell it to financial institutions [3]. In this model, the higher the data pricing is, the more motivated the data brokers are to expand the data sources, and the data pricing directly affects the scale and direction of cross-border data flow.
From the perspective of financial institution practice, Deutsche Bank cooperated with pharmaceutical company Boehringer Ingelheim to automate its cross-border payment process in many Asian countries [7]. This solution improves the efficiency of cross-border capital flows through digital document processing and automated foreign exchange conversion.
This shows that embedding data services into cross-border business processes and pricing them properly can create new revenue streams for banks, while delivering cost reduction and efficiency gains for customers.

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In contrast to the market-oriented model of the United States, the European Union has adopted a regulatory-driven approach to facilitate cross-border financial data flows. The European Financial Data Space, established under the European Commission's data strategy, aims to create a single market for data by promoting interoperability, common technical standards, and open APIs across member states [8]. This framework reduces transaction costs for cross-border data flows and provides regulatory certainty, demonstrating that harmonized data governance can complement data pricing mechanisms in enabling efficient and secure cross-border financial data movement.

5. The influencing mechanism of data pricing on financial institutions' decision of cross-border financial data flow

5.1 Pricing model and decision-making motivation

Different data pricing models have differentiated impacts on financial institutions' motivations for cross-border decision-making. Financial institutions that adopt the cost pricing approach tend to regard data outbound as a cost center and tend to minimize the scale of data outbound to control costs. By using earnings or marketing pricing mechanism, the data exit as value creation opportunity, willing to expand the scale of data exit under premise of compliance [1] in order to get more revenue.

Dynamic pricing ability of financial institutions, can be adjusted according to the real-time market conditions cross-border data service price [4], occupy the initiative in the competition in the market. Institutions with a high degree of API monetization can transform cross-border data flow into a continuous income stream through diversified charging modes [6].

5.2 Cost-benefit structure and flow scale

Data pricing directly affects the cost and benefit structure of cross-border data flows of financial institutions, thus affecting the flow scale. When data pricing can fully reflect the value of data, high-value data will get stronger incentives for cross-border flow. On the contrary, if the pricing mechanism is missing, the value of data cannot be reflected, financial institutions may limit the scale of cross-border data flow, resulting in data resource misallocation.

5.3 Balance between compliance security and data privacy

Data pricing mechanisms can help financial institutions better balance the relationship between compliance security and data privacy. On the one hand, reasonable pricing can provide a source of funds for data security and privacy protection investment. Through the API fees income, can be used to invest more reliable security infrastructure and privacy protection technology [6].

On the other hand, the pricing mechanism itself can be used as a screening tool for privacy protection. Setting higher prices for data scenarios involving sensitive personal information can not only reflect their compliance costs, but also inhibit the demand for non-essential data to exit the country, so as to realize the market-oriented implementation of the principle of "least necessary".

6 Conclusions

The results show that there is a close relationship between data pricing and cross-border financial data flows. Data pricing affects financial institutions' cross-border data flow decisions through three paths: compliance cost-benefit trade-off, data value release incentive, and risk pricing mechanism. The compliance assessment before data departure is the most closely related entry point. In this link, the scenary-oriented assessment of data value is highly consistent with the necessity judgment of data departure, which jointly affects the decision-making of financial institutions.

References

[1] Data asset valuation: Research and application in commercial banking. Journal of Digital Economy, 2025.

[2] TANG Jing, Huang Zixiao. What data can be exported from the financial industry and how to achieve compliance? Six departments issued a clear document. 21st Century Business Herald, 2025-04-17.

[3] Chen, Q. & Lu, J. Challenges and countermeasures of compliance and efficient circulation of financial data elements. China Financiers, 2025-07-30.

[4] Dominik Matula. Dynamic pricing in finance: When data sets the right price. Retail Banker International, 2025.

[5] Isabel Baransky, Dasha Dyomkina-Reece. How data analytics can help optimize outcomes in FX transactions. Bank of America, 2026.

[6] Florian Wahl. API monetization: A practical guide for financial institutions. Akoya, 2025.

[7] Enabling efficient intercompany payments in regulated markets. The Asset, 2025.

[8] European Commission. *European Financial Data Space: Towards a Single Market for Data*. Publications Office of the European Union, 2024.