

Heterogeneity in Data Asset Capitalization and Market Reactions: A Comparative Case Study of YTO Express and STO Express

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Abstract. In August 2023, the Ministry of Finance issued the Interim Provisions on Accounting Treatment Related to Enterprise Data Resources, allowing enterprises to recognize data resources as assets. However, in practice, there are significant differences in the way various companies record these assets on their balance sheets. This paper takes YTO Express and STO Express, two A-share-listed courier companies, as comparative case studies. Using event study methodology and financial sensitivity analysis, it examines the market response and financial impact of differences in data asset recognition. The study finds that during the policy issuance window, YTO Express's CAR was -1.66%, while STO Express's was -7.16%, a difference of 5.5 percentage points. During the first announcement window of asset recognition, YTO's CAR was 2.33%, whereas STO's was -8.22%, exceeding a 10-percentage-point difference. The research suggests that the capital market value of data asset recognition is mainly reflected in its signaling function; aggressive strategies receive positive market feedback, while cautious strategies face negative pricing. This research expands the application of signaling theory in data assetization and offers practical references for express enterprises and regulatory authorities.

Keywords: data asset recognition, courier companies, signaling theory, market response

1. Introduction

In the era of the digital economy, data resources have become an important production factor for enterprises. In August 2023, the Ministry of Finance issued the Interim Provisions on Accounting Treatment of Enterprises' Data Resources, which will take effect on January 1, 2024, allowing enterprises to recognize data resources as assets. However, in practice, there are significant differences in the recognition behaviors among different enterprises. Based on this, this paper raises three progressively structured core questions: First, why are there significant differences in the scale and account selection of data asset recognition among courier companies? Second, what signaling effects do these differentiated practices have on the capital market? Third, at the current stage, what is the actual effect of data asset recognition on improving financial indicators?

Existing literature provides the theoretical foundation for this paper. Signaling theory suggests that high-quality enterprises transmit information to the market through specific practices amid

information asymmetry [1]. Relevant studies hold that new rules governing data asset capitalization boost corporate value by sending dual signals of resource acquisition and information improvement [2]. High-quality information disclosure helps mitigate information asymmetry and reduce corporate capital costs [3]. Accounting policy choice theory illustrates that enterprises formulate accounting strategies based on the cost-benefit principle [4]. Corporate digital transformation can significantly enhance stock liquidity [5]. Relevant industry reports indicate obvious differences in the scale of data asset capitalization among A-share listed companies across various industries and individual firms [6]. Furthermore, the event study method has been widely applied in research on market reactions to accounting information, which provides solid support for the methodological design of this paper [7].

Although existing literature has verified the overall market effects of capitalizing data assets, micro-level comparative studies on capitalization behaviors among firms within the same industry remain scarce [8]. This paper takes YTO Express and STO Express as comparative cases, employing both the event study method and financial sensitivity analysis to examine the differences in cumulative abnormal returns during policy announcements and initial capitalization announcements, as well as the impact of capitalization behavior on net profit margin. The study finds that a proactive strategy characterized by early capitalization, large scale, and detailed disclosure receives positive market rewards, whereas a cautious strategy of late capitalization, small scale, and insufficient disclosure faces negative pricing, and the actual improvement of financial indicators due to capitalization is extremely limited. Theoretically, this paper enriches the application of signaling theory in the field of data association. Practically, it provides empirical reference for express delivery companies to optimize capitalization strategies and for regulators to improve information disclosure.

2. Research design

2.1. Data source

The data sources in this paper mainly include three categories. The first category is the financial data of the case companies, sourced from the official websites of the Shanghai Stock Exchange and Shenzhen Stock Exchange, as well as the CNINFO website. Specifically, this includes the full quarterly reports of YTO Express from the first quarter of 2024 to the mid-year of 2025, as well as the 2024 annual report and the mid-year 2025 financial report of STO Express. These publicly disclosed financial reports are the core basis for analyzing the companies' data asset recognition amounts, account distribution, and amortization policies [9]. The second category is stock price and trading data, sourced from the CSMAR database and the Wind Financial Terminal. This paper requires obtaining daily stock price data for YTO Express and STO Express, as well as daily return data for the CSI 300 Index, which are used for calculating abnormal returns and cumulative abnormal returns in the event study methodology [10]. The estimation window for the event study is set at 120 trading days before the event, and the event window is set at 5 trading days before and after the event (-5, 5). The third category is industry and policy background data. The Interim Provisions on Accounting Treatment of Enterprise Data Resources are sourced from the official website of the Ministry of Finance, and reports related to the digital transformation of the express delivery industry and the recognition of data assets are sourced from public channels such as Logistics Zhiyun and Securities Star.

2.2. Event study method

This article sets two event dates. On August 21, 2023, the Ministry of Finance publicly released the Interim Provisions on Accounting Treatment of Enterprise Data Resources, which, for the first time, systematically stipulate the accounting recognition, measurement, and disclosure of data resources. Considering that the Interim Provisions will take effect on January 1, 2024, the policy announcement on August 21, 2023, is the point in time when enterprises first fully became aware of the system, and the market's reaction to this information before that date can be considered relatively clean. Therefore, this article takes August 21, 2023, as the policy announcement event date to analyze the immediate impact of the new regulation on the stock prices of express delivery companies.

The First Disclosure Date of Data Assets Entering the Balance Sheet. To examine the market reaction to specific balance sheet entries, this article selects the announcement dates on which two companies first recognized the amount of data assets in their periodic reports as the second type of event day. According to the company's 2024 semiannual report, YTO will for the first time list the amount of data resources under development expenses in the 2024 semiannual report. The announcement date for the semiannual report is August 28, 2024, which serves as the first reporting event date for YTO Express. Since the 2024 annual report of STO, the Chinese side has confirmed data resources of approximately 1.797 million yuan under intangible assets. The announcement date of the annual report is April 25, 2025, which serves as the first reporting event date for STO. This article uses the Market Model to estimate the expected returns of individual stocks.

3. Company introduction

3.1. Basic situation

YTO Express Co., Ltd. was established in 2000 and was listed on the main board of the Shanghai Stock Exchange in October 2016. STO Express Co., Ltd. was established in 1993 and was listed on the SME board of the Shenzhen Stock Exchange in December 2016. Both companies are A-share-listed comprehensive express logistics operators, with main businesses covering domestic express delivery, international express delivery, warehousing, and distribution, as well as other comprehensive logistics services. In 2024, the national express delivery volume reached approximately 175 billion pieces, and the industry has entered a new stage of simultaneous incremental competition and digital transformation. Both companies adopt the operating model of direct transfer and franchise network, with highly similar main businesses, providing a good comparable basis for comparative research.

In terms of finance, in 2024, YTO Express achieved operating revenue of 69.033-billion-yuan, net profit attributable to shareholders of 4.012 billion yuan, and a net profit margin of approximately 5.81%. STO Express achieved operating revenue of 47.169-billion-yuan, net profit attributable to shareholders of 1.04 billion yuan, and a net profit margin of approximately 2.20%. YTO's profitability is significantly better than STO's. In terms of stock performance, as of the end of 2025, YTO Express's stock price ranged from approximately 14 to 18 yuan, with a price-to-earnings ratio of about 12-15. STO Express's stock price ranged from approximately 9 to 12 yuan, with a price-to-earnings ratio of about 18-22. There are differences in the market valuation levels of the two companies, providing a contextual reference for the subsequent analysis of the market's differentiated response to the capitalization of data assets.

3.2. Amount of data assets recorded

STO Express also confirmed data resources in its annual report, but the scale included in the balance sheet is much smaller than that of YTO Express. According to the company's response on the investor relations platform, as of March 31, 2025, the book balance of the company's data resources was approximately 1.797-million-yuan, accounting for only 0.007% of the company's total consolidated assets.

Table 1. Quarterly comparison of data asset recorded amounts

Reporting period	YTO included in the statement (ten thousand yuan)	STO included in the statement (ten thousand yuan)	Reporting period
2024Q2	373	0	2024Q2
2024Q3	591	0	2024Q3
2024Q4	1038	196.58	2024Q4
2025Q1	0	179.7	2025Q1
2025Q2	2038	162.9	2025Q2
2025Q3	2321	146.03	2025Q3
2025Q4	1897.06	537.69	2025Q4

As shown in Table 1, YTO Express's recorded amounts show a trend of quarterly increase: rising from 3.73 million yuan in the 2024 interim report to approximately 5.91 million yuan in the 2024 third-quarter report, further increasing to about 10.38 million yuan in the 2024 annual report, and rapidly climbing to around 20.38 million yuan in the 2025 interim report. STO Express's recorded amounts are relatively conservative: approximately 1.9658 million yuan in the 2024 annual report, decreasing to about 1.629 million yuan in the 2025 interim report, continuing to decline to 1.4603 million yuan in Q3 2025, and rebounding to 5.3769 million yuan in Q4 2025. YTO significantly exceeds STO in recorded amounts, especially in Q2 2025, with a difference of about 12.5 times. In terms of recording accounts, starting from the 2024 interim report, YTO only listed data resources under development expenditure. From the 2024 third-quarter report onward, it included both intangible assets and development expenditure, forming a dual reporting structure. STO, on the other hand, has always been recognized as a single item under intangible assets and has not been listed under development expenditure.

YTO adopts a dual reporting of Intangible Assets and Development Expenditures, indicating that its data resources include both already mature applications and projects still under development. STO only recognizes a small amount of intangible assets and no development expenditures, reflecting a more cautious approach toward capitalization points. In terms of amortization periods, YTO's are significantly longer than STO's, which will directly affect the profit and loss for each period, a longer amortization period can smooth out amortization expenses per period and put less pressure on the income statement. In summary, the core differences in how the two companies recognize data assets can be summarized as follows: YTO shows far greater enthusiasm and maturity than STO in the scale of recognition, growth trend, account structure, and amortization period. These differences form the empirical basis for the subsequent analysis of market reaction and financial impact.

4. Comparative analysis and discussion

As shown in Table 2, within windows (-2, +2), the CAR of YTO Express is -1.66%, and the CAR of STO is -7.16%. On the day of policy issuance, both companies experienced negative abnormal returns, but STO's negative response of -7.16% was much higher than YTO Express's -1.66%. This may be related to investors' concerns that companies will face incremental cost pressures such as data collection, cleaning, and compliance after the implementation of the new regulations. STO is relatively inadequate in terms of data resource foundation and information disclosure preparation, resulting in more concentrated negative market expectations. Using 2023.8.21 as the event occurrence date, the estimated window period is 120 to 11 trading days before, and the time window period is 2 trading days. In terms of the first announcement of its entry into the balance sheet, YTO's earlier entry point and larger entry scale not only reflect the company's positive response to the new regulations but also signal its determination to the market for digital transformation and intelligent upgrading. Due to the small amount on the balance sheet and continuous low operation, STO's signal release intensity is significantly weak, and the positive response of the capital market is relatively limited as a result.

Table 2. Daily AR and CAR around the policy issuance event

YTO Express			STO Express		
Date	AR	CAR	Date	AR	CAR
August 17, 2023	0.22%	0.22%	August 17, 2023	1.04%	1.04%
August 18, 2023	0.17%	0.39%	August 18, 2023	0.90%	1.95%
August 21, 2023	-1.80%	-1.42%	August 21, 2023	-7.26%	-5.31%
August 22, 2023	-2.25%	-3.67%	August 22, 2023	-1.37%	-6.68%
August 23, 2023	2.00%	-1.66%	August 23, 2023	-0.48%	-7.16%

YTO Express, with August 28, 2024, as the trading day, is estimated to have a window of 120 to 11 trading days in advance, with a time window period of 2 trading days. As seen in Table 3, the CAR for the first entry announcement of YTO Express during the event window period (-2, +2) was +2.33%, and the AR on the day of the event was +2.26%. Compared with the same period window CAR of Shentong Express, YTO Express has received a significant positive market response, reflecting investors' positive evaluation of its strategy of being the first to enter the balance sheet, having a larger scale, and disclosing more detailed information. Shentong Express, with April 25, 2024, as the trading day, estimates the window period to be 120 to 11 trading days in advance, with a time window of 2 trading days. The CAR for the first entry announcement of Shentong Express during the window period (-2, +2) is -8.22%, and the AR on the day of the event is -5.09%. Compared with the policy issuance event window CAR, the negative reaction has further intensified, indicating that the market holds a more negative attitude towards its strategy of delayed entry into the balance sheet and smaller scale.

Table 3. Daily AR and CAR around the first data asset recognition announcement

YTO Express			STO Express		
Date	AR	CAR	Date	AR	CAR
August 26, 2024	0.36%	0.36%	April 23, 2025	-1.67%	-1.67%
August 27, 2024	-0.85%	-0.49%	April 24, 2025	0.12%	-1.55%

Table 3. (continued)

August 28, 2024	2.26%	1.77%	April 25, 2025	-5.09%	-6.64%
August 29, 2024	3.24%	5.01%	April 28, 2025	-2.31%	-8.95%
August 30, 2024	-2.68%	2.33%	April 29, 2025	0.72%	-8.22%

5. Conclusion

Taking YTO Express and STO Express as cases, this paper uses the event study method and sensitivity analysis to examine the market response and financial impact of differentiated data asset recognition. The results are as follows. First, in the (-2, +2) policy release window, YTO's CAR is -1.66% and STO's is -7.16%, a 5.5-percentage-point gap, showing stronger policy resilience of digitally advantaged firms. Second, in the initial recognition announcement window, YTO posts a positive CAR of 2.33% while STO records -8.22%, a gap of over 10 percentage points. Proactive strategies gain positive market feedback while cautious ones face negative pricing. Third, data asset recognition delivers extremely limited financial improvement, with net profit margin uplift of only 0.011–0.043 percentage points for YTO and 0.003–0.005 percentage points for STO in 2024–2025H1. Overall, the capital market value of data asset recognition stems mainly from its signaling function rather than financial statement beautification. Express firms are advised to optimize recognition strategies and disclosure transparency, and regulators may issue industry-specific disclosure guidelines to enhance information comparability.

From a micro comparative case perspective, this paper enriches the application of signaling theory in data assetization, reveals the dual-signal transmission paths in the express industry, and fills the literature gap on the micro mechanism of inter-firm balance sheet recognition differences. The combination of event study and sensitivity analysis provides an analytical framework for studying the economic consequences of data asset recognition, and the conclusions offer references for express enterprises and regulators. Limitations lie in the small sample and short policy implementation period, so the generalizability of conclusions needs large-sample verification, and long-term financial effects require continuous tracking. Future research can extend to more express firms and data-intensive industries to explore the relationship between recognition quality differences and market pricing.

References

- [1] Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3), 355–374.
- [2] Chen, Z. B. and Yang, J. (2025). The enterprise value effect of data assetization: Empirical evidence from the promulgation of new regulations on data asset recognition. *Accounting Research*, (5), 18–30.
- [3] Li, A. and Li, B. (2024). Information disclosure quality and corporate cost of capital: An empirical study based on signaling theory. *Accounting Research*, (3), 45–58.
- [4] Watts, R. L. and Zimmerman, J. L. (1986). *Positive accounting theory*. Prentice-Hall.
- [5] Wu, F., Hu, H. Z., Lin, H. Y. and Ren, X. Y. (2021). Corporate digital transformation and capital market performance: Empirical evidence from stock liquidity. *Management World*, 37(7), 130–144.
- [6] Gaojin Think Tank Data Asset Research Group. (2025). Tracking report on the capitalization of data assets of Chinese enterprises: 2024 annual report. *Shanghai Advanced Institute of Finance*.
- [7] Fama, E. F., Fisher, L., Jensen, M. C., & Roll, R. (1969). The adjustment of stock prices to new information. *International Economic Review*, 10(1), 1–21.
- [8] Li, A. (2026). Current situation, problems and market response measures of enterprise data resources entry into financial statements. *Modern Enterprise*, (2), 87–89.
- [9] Yu, H., & Luo, J. C. (2025). Investor interaction tone and market reaction—A study based on large language models. *Economic Issues*, (9), 37–45.

- [10] Wen, J., Sun, T., Wang, D. D., et al. (2025). Research on capital market reaction of executives' social media "voices" in listed companies—A case study of Xiaomi SU7 launch. *Modern Business*, (20), 156-160.