Proceedings of CONF-BPS 2026 Symposium: Sustainability Transitions and Regional Economic Restructuring in New Contexts
DOI: 10.54254/2754-1169/2026.NJ29959

Narrative, Capital, and Valuation: Differential Response Mechanisms of Private Equity under Special Event Shocks

Aoran Mei

Shenzhen Middle School of Innovation and Inquiry, Shenzhen, China
Meiaoran184@outlook.com

Abstract. Under the background of increase global economic volatility, the special event that cause by technological breakthrough and external shock has been become the key force to influence the valuation of capital market. However, the existing research is mainly located in public markets, and there is little involvement in the valuation influence mechanism of the private market. This essay mainly explores three core issues, that is how do special event affect private equity valuations, what is the path of special event impact and what is the difference between technological breakthrough and external shock in their influence effect. In order to investigate these three core issues, this study adopts two research methods that is Multi-case comparative analysis and events study methods, and select the technological breakthrough of 'ChatGPT', 'COVID-19' these two specific events as the major events, and use six companies that directly benefited from the incident were used as sample like OpenAI and BioNTech to analyze the valuations changes during the event window. The study reveals that the events can significantly boost valuation by changing industry expectations and capital flows, but the persistence of this impact is strongly moderated by a company's technological barriers and the sustainability of its business model. This study not only fills the gaps in the valuation theory of the private market under the impact of special events, but also provides a framework for investors to use in identify opportunities and manage the risk.

Keywords: Special Events, Private Valuation, Artificial Intelligence, COVID-19

1. Introduction

In recent years, fluctuations in global economics structure have grown increasingly frequent, and the events that formed from technological breakthrough and external shock has been become the key force to reshape the industry landscape and influence the valuation of capital market. These events are generally sudden, high intensity and has a very large global influence. Therefore, these events can break the prediction path of traditional valuation models so that the market can significantly revalue the growth expectations and intrinsic value of enterprises in a very short period of time. This phenomenon is particularly prominent in the private equity market, where the inherent information asymmetry and low asset liquidity make valuations respond to such events much more complex and nuanced than other public [1]. However, there exists a clear gap in current academic research: the vast majority of literature focuses on the public market, examining the short-term effects of events

DOI: 10.54254/2754-1169/2026.NJ29959

on listed company stock prices, while systematic and in-depth analyses of the transmission mechanisms of such events on private equity valuations remain scarce [2].

Based on this, the study aims to address the following three specific research questions: First, do special events have a causal impact on the private equity valuation of directly benefiting companies, and if so, how? Second, what is the intrinsic pathway of this impact, and how do factors such as event attributes, industry characteristics, corporate barriers, and market sentiment interact? Third, what are the similarities and differences in impact patterns driven by events of different natures, such as positive technological shocks versus negative public health crises?

To address the above questions, this paper selects the wave of artificial intelligence technology led by ChatGPT and the global COVID-19 pandemic as the research context. The selection of these two events is based on the following theoretical considerations: firstly, they respectively represent typical event types of a 'positive technological supply shock' and a 'negative demand external shock', facilitating comparative analysis to reveal the role of the event attributes themselves [3]. Secondly, both possess global and high-impact characteristics, ensuring the significance of the study. Finally, both events have clearly identifiable groups of directly benefiting companies, meeting the case study requirement for sample representativeness [4].

This study aims to systematically analyse the direct impact of special events on private equity valuations; this study selects six companies that directly benefited from the incident were used as sample like OpenAI and BioNTech to analyze the valuations changes during the event window as the major data. And by building an analytical framework, this study will not only verify the correlation between special events and valuation improvements, but also will explore the influence paths, including the feature of the event, the core barriers of the enterprise and the interaction of markets [5].

To achieve this goal, this study uses the event study methods to measure the overvaluation growth, and also uses multi-case comparative analysis to have a multi-dimensional contrast in enterprises. In this way, the interference of other factors in the practical research can be eliminated, so that can improve the robustness and the universality of the research conclusions.

2. Literature review and theoretical framework

Private equity valuation research is mainly based on two theoretical pillars, the first is traditional valuation theory and behavioral economics. Gompers and Lerner believe that private market valuations are highly sensitive to capital inflows, so this explains the valuation inflation that occurs when capital is concentrated in specific industries during special events [1]. For example, in 2023, global private equity and venture capital in the field of artificial intelligence directly grew by 210%, a factor that directly drove the valuations of some companies like open AI soared. But this theory does not explain a phenomenon found in this study, that is although OpenAI accounts for a significant portion of the total AI venture capital in North America, some smaller enterprise like MiniMax only gets 5% of funding, even the technological progress of MiniMax is similar to OpenAI. This difference shows that when applying this theory to high-innovation fields, the issue of technological maturity needs to be considered. This adjustment is consistent with the case conclusions of this study, which can fill the gap between traditional theory and practical application.

Rather than complementing each other is Shiller's theory of narrative economics, this theory explains that how compelling narratives generated by major event shape market consensus and investor sentiment, leading to deviations of asset values from fundamentals [5]. For example, during the COVID-19 pandemic, digital health became very popular, which is directly led to a lot of capital pouring into JD Health, directly causing its valuation to soar from 3.5 billion dollars to 18.2 billion

DOI: 10.54254/2754-1169/2026.NJ29959

dollars, and even in only 12 months. Although JD Health's ability to make short-term profits is still very ordinary. This case illustrates how narratives amplify the impact of capital on private equity valuations.

In some specific conflict scenario studies, Pastor and Veronesi's theoretical model can illustrates how technological revolutions can lead to sharp fluctuations in asset prices by investors learning or updating their own beliefs [6]. For AI firms like Anthropic, some of the tools released by the AI company allow investors to have greater trust in its technological advantages, which has contributed to his 349% valuation growth. On the contrary, the research of public health crisis like Ramelli and Wagner's work about COVID-19. This study highlights the industry-specific market response driven by sudden shifts in operating models and societal needs [3]. For instance, BioNTech has seen a 550% valuation increase because of its breakthrough mRNA vaccine technology, which directly meets the core needs of the pandemic.

However, there are two key limitations in the existing literature. First is most research now focuses primary on the public market, but not the private market. Second is a lack of systematic comparative studies that fail to deeply analyze how the event of different natures, such as the technological revolution and the pandemic crisis, have differentiated effects on valuation drivers and sustainability [7].

In order to address these limitations, this study integrates the above theories and constructs a comprehensive analysis framework that is let the special events as a catalyst, and triggering both the “capital chasing deals” mechanism and the formation of dominant market narratives [8]. The interaction of these two things creates the conditions for narrative-driven bubbles in the private equity market. This framework further proposes event attributes to determine the intensity and duration of narrative and capital influences, and as the momentum of the event fades, the specific characteristics of the company will eventually shape the valuation trajectory.

3. Research methods and case analysis

To regarding the AI event, this study chooses November 30, 2022 as the "event date," which are marks the release of ChatGPT, and sets the event window to one month before the date and six months after the date to capture market expectations prior to the event and post-event valuations. For the COVID-19 event, the study selects March 11, 2020, which is the day the WHO claim the global pandemic, as the "event date." At the same time, the study conducts a multi-dimensional comparison of six private equity firms to reveal the mechanisms and divergent pathways through which specific events influence valuations.

The analytical framework consists of three levels: the macro level focuses on the moderating effect of event attributes, the meso level examines the impact of industry segment characteristics, and the micro level analyses the determining role of a company's core barriers [9].By constructing this multi-level analytical framework, this study can systematically dissect the impact path of special events on private equity valuations and, by controlling for other interfering factors, enhance the robustness and generalisability of the research conclusions [10].

3.1. Breakthrough events in artificial intelligence technology and valuation responses

This study selects the release of ChatGPT on 30 November 2022 as a landmark event in artificial intelligence technology breakthroughs and examines the impact of technological breakthroughs on private equity valuations by analysing the valuation changes of three representative companies: OpenAI, Anthropic and MiniMax.

DOI: 10.54254/2754-1169/2026.NJ29959

Table 1. The valuation changes of OpenAI, Anthropic and MiniMax

Firm	Valuation before the event	Valuation date after the event	Valuation after the event	Valuation growth rate	Lead institution	Data source
OpenAI	20 billion $	2023.04	80 billion $	300%	Microsoft	PitchBook, SEC
Anthropic	4.1 billion $	2023.10	18.4 billion $	349%	Google, Amazon	CrunchBase Company Announcement
MiniMax	1 billion $	2023.12	2.5 billion $	150%	Tencent	IT database

As shown in Table 1, all three companies achieved significant valuation growth during the event window, though the extent of growth varied considerably due to differences in their technological positioning and capital partnerships.

OpenAI is the inventor of ChatGPT, and OpenAI saw its valuation increase from 20 billion dollars in November 2022 to 80 billion dollars in April 2023, the growth rate up to 300%. This substantial growth is not only caused by speculative speculation, but also by the support of tangible business progress. In the Q1 quarter of 2023, Open AI has been used by more than 1 million enterprises, and the revenue brought by these uses accounts for about 60% of the company's annual revenue.

Anthropic is open AI's main competitor, but he even achieved a higher growth rate. The company increased from 4.1 billion dollars in November 2022 to $18.4 billion in October 2023, a growth rate of 349%, even surpassing open AI. This significant increase is mainly composed of two reasons. The first is the AI tool released by Anthropic, which meets the processing needs of enterprises for long documents; The second is Amazon invested for 4 billion dollars to Anthropic in September 2023, that reduced the company's infrastructure construction costs and boosted investor confidence.

In contrast, MiniMax is a Chinese enterprise, whose valuation increased from 1 billion dollars in November 2021 to 2.5 billion dollars in December 2023, that the growth rate is 150%, is relatively ordinary compared to the above two companies. This difference reflects significant differences in regional capital markets, that is AI companies in North America attract global capital, but companies like MiniMax mainly rely on Chinese investors, and their technology is mainly used in Chinese scenarios, this definitely will lacks the scalability and diversity.

Together, these different growth rates reveal a key information: in AI-driven private equity valuations, technology maturity and commercialization potential determine the upper limit of valuation. For example, the functions of Anthropic is better than OpenAI, so many investor may consider to choose a steadily enterprise but not the enterprises with technological advantage.

3.2. Analysis of COVID-19 pandemic events and valuation responses

This study uses March 11, 2020 as the case start date to analyze the epidemic of three companies in the private equity stage, corresponding to the company's valuation changes. These three companies are: BioNTech, JD Health and Ping An Good Doctor.

DOI: 10.54254/2754-1169/2026.NJ29959

Table 2. The valuation changes of BioNTech, JD Health and Ping An Good Doctor

Firm	Valuation Before Event	Event Pre-Date	Valuation After Event	Event Post-Date	Growth Rate
BioNTech	$1.2 billion	2019.12	$7.8 billion	2020.09	550%
JD Health (China)	$3.5 billion	2019.11	$18.2 billion	2020.12	420%
Ping An Good Doctor	$2.8 billion	2019.1	$15.4 billion	2020.08	450%

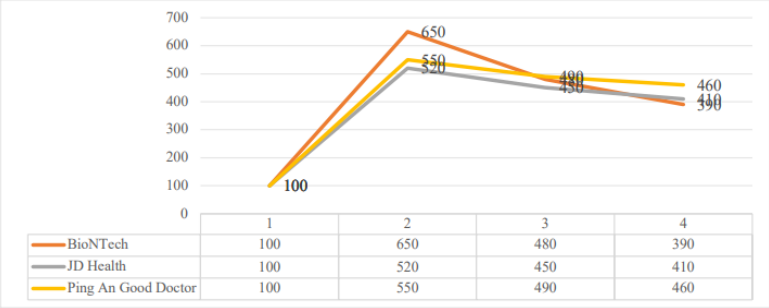

Figure 1. Valuation trends of pandemic-related private firms (2020.03–2022.12)

As shown in Table 2 and Figure 1, these three companies exhibited different valuation trajectories, that driven by event attributes and business model sustainability. BioNTech is the leader in mRNA vaccine technology, and its valuation surge 550% which is from 1.2 billion dollars to 7.8 billion dollars during a year of 2019 and 2020. This growth was fueled by urgent global demand for COVID-19 vaccines. In July 2020, BioNTech had signed a 1.2 billion dollars supply agreement with the U.S. government, and it proves their technical feasibility successfully. However, its valuation meets a peake in September 2020 and declined 40% by December 2022 to 3.9 billion dollars, reflecting investor recognition that vaccine demand depends on COVID-19 pandemic in 2021, global vaccination rates plateaued, and BioNTech's revenue growth slowed.

JD Health is a Chinese digital healthcare platform; it achieved 420% valuation growth that from $3.5 billion in November 2019 to 18.2 billion dollars in December 2020. Its growth was grounded in a sustainable business model, that is during the pandemic, JD Health's online pharmacy business saw 300% growth, the integrated model of this platform makes up for the long-term shortcomings of China's medical system. In December 2022, its valuation had only declined 21% to 14.5 billion dollars, as its post-pandemic user retention rate remained above 60%,it is far higher than BioNTech's vaccine-related customer churn.

Ping An Good Doctor, another Chinese digital healthcare firm, posted 450% growth that from 2.8 billion dollars in October 2019 to 15.4 billion dollars in August 2020, and a modest 16% decline by December 2022 to 12.9 billion dollars. Its stability stemmed from its affiliation with Ping An Insurance, which provided a built-in customer base and reduced reliance on pandemic-driven one-off demand.

These trajectories all demonstrate a key mechanism that pandemic-driven private equity valuations are shaped by the sustainability of demand. Compared with the temporary crisis demand-linked companies affected by special events, those companies that are consistent with long-term structural trends will perform more stable.

DOI: 10.54254/2754-1169/2026.NJ29959

4. Problem analysis and recommendations

4.1. Core problems in private equity valuation driven by special events

Through cross-case comparisons, three questions now emerge that collectively reveal the risks and inherent patterns behind the surge in valuations

First is narrative-driven bubbles and post-event corrections, short-term capital influxes into event-related sectors inflate private equity valuations, creating bubbles detached from fundamentals. In the AI enterprise, for example, Anthropic' s 349% growth exceeded OpenAI' s—even though OpenAI had a larger commercial customer base—reflecting “capital chasing limited deals” rather than rational valuation. Such narrative-driven valuations embed overly optimistic growth expectations: if technological iteration or commercialization underperforms, valuations maybe face severe correction pressure.

Second is technological barriers do not guarantee valuation persistence, while the resource-based view emphasizes unique resources as the foundation of competitive advantage, cases show high technological barriers do not ensure sustained valuations [11]. BioNTech, despite its leading mRNA platform, saw a 40% valuation decline post-pandemic. This reveals that event-driven valuations tied to “one-off demand pulse” are inherently temporary—event attributes exert a more fundamental impact on sustainability than firm-specific barriers [12].

Third is valuation corrections test business model fundamentals, post-event valuation trajectories ultimately reflect business model sustainability. BioNTech's sharp correction stemmed from pandemic-dependent revenue; Zoom is public firm which is a software for online video conferencing, and it faced 66% declines due to temporary remote work demand. In the contrast, JD Health and Ping An Good Doctor maintained stable valuations because their digital healthcare models aligned with long-term structural trends. This confirms that a firm's ability to withstand valuation cycles depends on whether its core business has endogenous sustainability post-event [13,14].

4.2. Recommendations for market participants

In order to cope with event-driven fluctuations, investors, fund managers and entrepreneurs must prioritize their focus on long-trem value.

For investors, they should distinguish between 'structural demand' and 'cyclical contextual demand.' For example, when evaluating AI enterprises, the focus should be on business metrics such as customer retention rates. Also, investors should refrain from being overly optimistic and avoid paying excessive costs for short-term growth.

For fund managers, they should diversify their investments to mitigate risks. Taking the field of artificial intelligence as an example, they can simultaneously invest in foundational models like OpenAI, intermediate tools like AI programming platform, and downstream applications like medical AI, thereby reducing the risk associated with the failure of any single technology.

As for entrepreneurs, they should avoid adjusting their overall business model merely to chase short-term trends. Instead, they should leverage event-driven capital to build long-term advantages, rather than merely expanding scale.

DOI: 10.54254/2754-1169/2026.NJ29959

5. Conclusion

Through a comparative analysis of six private firms across two major events, this study reaches three main conclusions: First, event-driven valuation surges: Special events can significantly elevate private equity valuations for firms that directly benefit, by reshaping market expectations and redirecting capital flows. This pattern was evident in both the AI sector (300–349% growth) and the pandemic-related sector (420-550% growth).Second, differentiated impact persistence: The durability of these valuation effects depends on both the nature of the event and firm-specific characteristics. Technological breakthroughs such as AI tend to create structural, long-term growth, resulting in more stable valuations. In contrast, crises such as COVID-19 generate temporary spikes in demand, followed by sharper corrections for firms whose products serve short-term needs. Third, business model as a determinant: Ultimately, post-event valuation trajectories hinge on business model sustainability. Firms aligned with enduring trends (e.g., JD Health, OpenAI) retain much of their value, while those reliant on one-off opportunities (e.g., BioNTech) experience steeper reversals.

This study extends narrative economics into the private equity domain, emphasizing how interactions between capital and narratives can generate valuation bubbles in opaque markets. It develops a multi-level analytical framework linking event attributes, industry characteristics, and firm-level barriers to explain how valuations transmit and evolve—addressing a gap in private-market event-study research. By comparing technological and crisis-driven events, the study reveals how the nature of an event influences valuation persistence. The findings offer investors a “demand diagnosis and multi-scenario valuation” approach to identify and avoid event-driven valuation traps. They provide fund managers with guidance on diversification and dynamic revaluation strategies to better manage portfolio risks. They encourage entrepreneurs to channel event-driven capital toward building lasting competitive advantages rather than pursuing short-term gains.

This study faces three key limitations. First, the limited sample size (six firms) may constrain the generalizability of findings. Second, the opacity of private-equity data means that some valuations rely on indirect or estimated figures. Future research could broaden the sample to include additional events (e.g., semiconductor shortages) and cross-regional comparisons. Conducting long-term tracking (five to ten years) to observe post-event valuation trajectories. And apply natural language processing to measure narrative intensity and examine its quantitative relationship with valuation movements.

References

[1] Gompers, P.A. and Lerner, J. (1999) The Venture Capital Revolution. Journal of Economic Perspectives, 15, 145-168.
[2] Ramelli, S. and Wagner, A.F. (2020) Feverish Stock Price Reactions to COVID-19. The Review of Corporate Finance Studies, 9, 622-655.
[3] Pastor, Ľ. and Veronesi, P. (2009) Technological Revolutions and Stock Prices. American Economic Review, 99, 1451-1483.
[4] Yin, R.K. (2018) Case Study Research and Applications: Design and Methods (6th ed.). Sage Publications.
[5] Shiller, R.J. (2015) Irrational Exuberance (3rd ed.). Princeton University Press.
[6] Brown, S.J. and Warner, J.B. (1985) Using Daily Stock Returns: The Case of Event Studies. Journal of Financial Economics, 14, 3-31.
[7] Chenmanur, T.J., Loutskina, E. and Tian, X. (2014) Venture Capital and the Transformation of Private Firms: The Impact of Ownership on Innovation. Journal of Finance, 69, 1-42.
[8] Babina, T., Fedyk, A., He, A., et al. (2022) The Value of Artificial Intelligence in the Public and Private Realm. NBER Working Paper.

DOI: 10.54254/2754-1169/2026.NJ29959

[9] Barney, J. (1991) Firm Resources and Sustained Competitive Advantage. Journal of Management, 17, 99-120.
[10] Kaplan, S.N. and Stromberg, P. (2009) Leveraged Buyouts and Private Equity. Journal of Economic Perspectives, 23, 121-146.
[11] Didier, T., Levine, R. and Lin, C. (2021) COVID-19 and the Value of Connectedness in the United States. NBER Working Paper No. 28317.
[12] Agyeiwaa, A. and Kassi, D.F. (2022) How Has COVID-19 Affected the Valuation of Digital Platforms? Journal of Economics and Business, 125, 106-125.
[13] Howell, S.T., Lerner, J., Nanda, R., et al. (2022) The Impact of the COVID-19 Pandemic on Venture Capital Financing. NBER Working Paper.
[14] Fama, E.F., Fisher, L., Jensen, M.C. and Roll, R. (1969) The Adjustment of Stock Prices to New Information. International Economic Review, 10, 1-21.