Global Stock Market Crash: Has the AI Bubble Burst Yet? An Analysis of Financial Market Risks, Speculative Valuations, and the Future of AI

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ABSTRACT

The rapid development of artificial intelligence (AI) has become one of the most influential drivers of global financial markets. Since 2023, technology companies, semiconductor manufacturers, cloud-computing providers, and data-centre operators have attracted enormous investment, contributing to substantial increases in stock market valuations. However, growing concerns about excessive speculation, uncertain returns on AI investments, market concentration, and rising corporate expenditure have raised questions about whether the global economy is approaching another financial bubble. Recent stock market volatility has intensified these concerns, particularly following the sharp decline in technology shares in November 2026. This paper examines the relationship between AI investment and global stock market stability, comparing current market conditions with previous financial bubbles, particularly the dot-com crash of 2000. It argues that although the AI bubble has not necessarily burst completely, warning signs of speculative excess and financial vulnerability are increasingly apparent. The paper concludes that the sustainability of the AI investment boom will depend on whether technological innovation can generate sufficient productivity improvements, corporate earnings, and long-term economic value.

Keywords: Artificial Intelligence (AI); Stock Market Valuations; Global Stock Market Stability; AI Bubble; AI Investment

INTRODUCTION

Artificial intelligence (AI) has transformed expectations concerning the future of the global economy (Baferani et al., 2026; Hassani and Javadi, 2026; Lammar et al., 2026). Major technology companies, including NVIDIA, Microsoft, Alphabet, Amazon, Meta, and other semiconductor and cloud-computing businesses, have invested heavily in AI infrastructure **(Figure.1)**. The development of generative AI, advanced computing systems, autonomous technologies, and large language models has generated considerable investor enthusiasm. Consequently, AI-related companies have become increasingly important components of international stock market indices. Investors have purchased technology shares based not only on existing profitability but also

on expectations of future technological dominance and economic growth. Nevertheless, rapid increases in stock valuations have raised an important question: Is the world experiencing a genuine technological revolution accompanied by sustainable economic growth, or is it witnessing another speculative financial bubble? The sharp global market turbulence in November 2026 has made this question particularly urgent. On November 5, the NASDAQ Composite declined approximately 5.5%, while the S&P 500 fell approximately 4.4%. More than US$3 trillion in American stock market value was reportedly erased during the sell-off. Technology and semiconductor shares experienced substantial losses before recovering partially on November 6. These developments suggest that investor confidence in the AI investment narrative may be becoming increasingly fragile.

The Relationship Between AI Investment and Stock Market Growth

The AI investment boom has generated enormous capital expenditure. Technology companies are constructing data centres, purchasing advanced semiconductor chips, expanding cloud infrastructure, and developing increasingly powerful computing systems. NVIDIA has benefited significantly from demand for advanced AI processors. Meanwhile, Microsoft, Amazon, Alphabet, and Meta have committed substantial financial resources to developing AI infrastructure and services. The investment argument is straightforward: AI will improve productivity, reduce operating costs, automate business processes, and create entirely new industries. If these expectations materialize, current valuations may eventually be justified by future earnings. However, an important distinction exists between technological potential and financial profitability. A technology can fundamentally transform society without guaranteeing that every company investing in it will become profitable. The costs of constructing data centres, purchasing electricity, developing advanced chips, and maintaining computing infrastructure may exceed the revenue generated by AI services. Consequently, the central financial question is whether expected future returns can justify present investment valuations.

Has the AI Bubble Burst Yet?

The November 2026 stock market correction raises the possibility that the AI investment bubble may be approaching its bursting point. However, it would be premature to conclude that a complete collapse has already occurred. Three important developments deserve attention. First, investors are increasingly questioning the profitability of AI investments. Companies have announced enormous infrastructure expenditures, but the commercial returns remain uncertain in several areas. If AI-generated revenues fail to meet expectations, investors may reconsider the valuations of technology companies. Second, financial market concentration has increased. A relatively small number of major technology companies account for a substantial proportion of American stock market capitalization. Consequently, a decline in several leading AI-related companies can negatively affect the entire market. Third, investors are becoming more sensitive to political, regulatory, energy, and economic uncertainties. Restrictions on data-centre construction, electricity shortages, competition, and concerns about AI regulation could influence the profitability of future investments. The recent market correction therefore may represent an early stage of a broader adjustment rather than the final collapse of the AI industry. Importantly, a financial bubble does not necessarily burst in a single event. It can develop through successive corrections, declining investor confidence, reduced investment, and deteriorating corporate earnings.

Comparison with the Dot-Com Bubble of 2000

The current AI investment boom has similarities to the internet bubble of the late 1990s. During the dot-com period (Kshetri and Voas, 2026), investors believed that internet technology would fundamentally transform business and society. Technology companies attracted substantial investment despite limited profitability and uncertain business models. When investor expectations became disconnected from financial reality, technology share prices collapsed. The NASDAQ Composite experienced a dramatic decline between 2000 and 2002. The AI boom demonstrates similar characteristics, particularly excessive optimism, high valuations, substantial capital expenditure, and expectations of extraordinary future growth. However, important differences should also be recognized. Many current AI leaders are established companies with substantial revenues, existing customers, and significant cash flows. Their financial positions are generally different from those of many speculative internet companies during the dot-com era. Nevertheless, profitable companies can also become overvalued. The existence of genuine technological innovation does not eliminate the possibility of excessive speculation in their shares. Therefore, the most appropriate historical comparison is not that the AI industry will necessarily collapse like the dot-com sector, but that financial markets may have overestimated the speed and profitability of technological transformation.

Potential Consequences of an AI Market Collapse

A major AI-related stock market correction could generate consequences extending beyond the technology sector. First, semiconductor manufacturers and equipment suppliers could experience declining orders if technology companies reduce infrastructure expenditure. Second, pension funds, institutional investors, and individual shareholders holding substantial technology investments could experience significant financial losses. Third, reduced investment could affect employment, corporate financing, and economic growth. Countries heavily dependent on semiconductor exports and technology supply chains could experience additional economic pressure. Fourth, financial instability could spread through leveraged investment positions, hedge funds, and interconnected financial institutions. Asian economies deserve particular attention. Taiwan, South Korea, Japan, and other technology-oriented economies are closely connected to global semiconductor and electronics supply chains. A prolonged reduction in AI-related demand could affect their exports, corporate earnings, and stock markets. Nevertheless, an AI stock market correction would not automatically produce a global financial crisis. Its wider consequences would depend on the degree of financial leverage, banking-sector exposure, corporate indebtedness, and the ability of governments and central banks to maintain financial stability.

Future Prospects and Risk Management

The future of AI investment will depend increasingly on the transition from technological development to measurable economic productivity. Investors should examine several indicators, including corporate earnings, AI-related revenue growth, capital expenditure, data-centre utilization, electricity costs, and returns on invested capital. Technology companies must demonstrate that AI investments generate sustainable commercial benefits rather than relying exclusively on optimistic market expectations. Governments and financial regulators should also monitor excessive leverage, market concentration, speculative trading, and potential vulnerabilities in non-bank financial institutions. Diversification is particularly important because

stock market indices increasingly reflect the performance of a relatively limited number of major technology companies. Furthermore, investors should distinguish between the long-term economic value of AI and the short-term market valuations of individual AI companies **(Figure.2)**.

CONCLUSION

The global stock market turbulence of November 2026 raises serious questions about the sustainability of the AI investment boom. Although AI represents a genuine technological revolution, its economic potential should not be confused with guaranteed investment returns. The recent decline in technology shares may indicate that investors are beginning to reassess excessive expectations surrounding AI profitability, infrastructure expenditure, and future corporate earnings.

However, it is too early to conclude that the AI bubble has completely burst or that a global financial crisis is inevitable. The recent rebound in technology shares also demonstrates that investor confidence remains divided. The most likely risk is that financial markets will experience further corrections as valuations adjust to actual economic performance. If AI companies cannot generate sufficient revenue to justify their enormous investments, a more substantial market decline could follow. Ultimately, the critical question is not whether AI will change the world. It almost certainly will. The real question is whether the financial markets have already priced in more economic growth than AI can realistically deliver.

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Compliance with ethical statements consisting of conflicts of interest statements and informed consent

- All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.
- The author declares that there are no conflicts of interest.
- Informed consent was obtained from all individual participants involved in the study.
- This work does not include animals as subjects.

REFERENCES

(1) Baferani, F. A., Salehi, M. and Vadiei, M. H., (2026), Shaping new horizons in management accounting with artificial intelligence: an exploration of information networks, International Review of Economics & Finance, Vol.107, 105058, doi: 10.1016/j.iref.2026.105058

(2) Hassani, A. and Javadi, M., (2026), Leveraging Artificial Intelligence to Study and Forecast its Impacts on Employment Management and Wages in China's Key Cities, Spectrum of Engineering and Management Sciences, Vol.4 (1), 43-54, doi: 10.31181/sems41202660h

(3) Kshetri, N. and Voas, J., (2026), AI and Echoes From the Dot-Com Era: Hype, Hope, and Hard Lessons, Computer, Vol.59 (2), 14 – 18, doi: 10.1109/MC.2025.3629948

(4) Lammar, D., Horst, M. and Müller, R., (2026), AI in the German Media: Narratives of AI-in-Particular and AI-in-General in German Media Reporting About Artificial Intelligence, Digital Journalism, Vol.14 (2), 341-359, doi: 10.1080/21670811.2025.2493759

FIGURE CAPTIONS

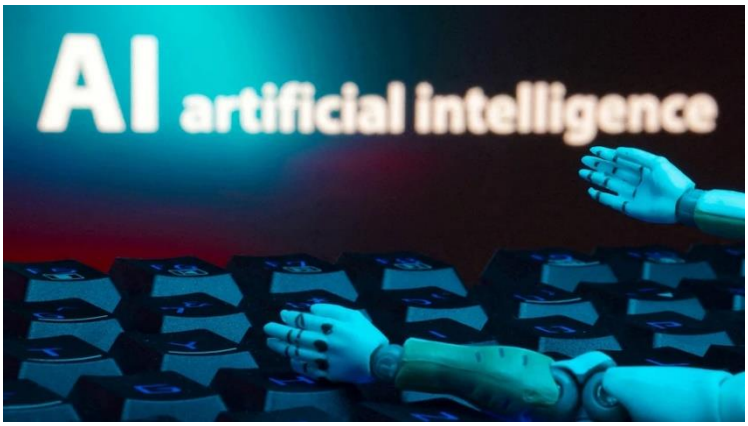

Figure.1 Why Microsoft, Amazon, Google and Meta are spending billions on AI: Explained

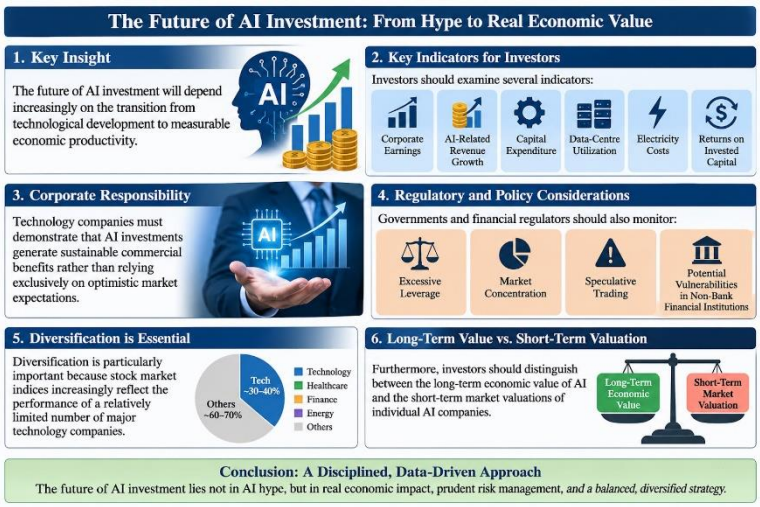

Figure.2 The infographic illustrates the central argument: the future of AI investment depends on measurable economic productivity rather than technological hype. It can be used as a conceptual figure in this paper on the global stock market and the possibility of an AI investment bubble (Source by Author).