Debt now moving to centre of AI boom

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There is now widespread recognition that the artificial intelligence (AI) boom, which has powered Wall Street to record highs, has taken a significant turn with major implications for financial markets and possibly the entire economy.

When the AI boom began at the end of 2022 with the release by OpenAI of ChatGPT, it was chiefly financed through the massive cash flows of the so-called "hyperscalers" such as Google, Microsoft, Meta and Amazon, together with the chip-making firm Nvidia.

Little debt was involved. But in what is increasingly becoming a war as major tech giants strive to place themselves in the best position, this is now changing and debt must be increasingly used to finance AI development.

In a recent article, *Sydney Morning Herald* economics columnist Stephen Bartholomeusz pointed to the significance of the shift.

"Until now, questioning of the boom in investment in artificial intelligence has largely been confined to whether it constitutes a stock market bubble. Increasingly, the conversation will shift to whether that boom represents a threat to financial system stability," he wrote.

Massive amounts of money are involved. According to the global management consulting firm McKinsey, some $5.2 trillion will be needed by 2030 to finance the building of the data centres which are needed to develop the computing power for AI. This amount is equivalent to three times the annual GDP of Australia.

Morgan Stanley estimates that between this year and 2028 the capital spending on AI infrastructure will be $2.9 trillion, of which $1.5 trillion will be financed externally, including $800 billion from private credit sources.

Apart from the money involved, the scale of AI data centres is indicated by their power consumption. The International Energy Agency has estimated that electricity demand from AI data centres worldwide will more than double by 2030 and reach a level higher than the electricity consumption of Japan, the world's fourth-largest economy.

Last month, OpenAI announced plans for a major data centre in Michigan which, according to a report in the *Financial Times*, will consume as much electricity as 44.2 million households. Other operations are on the same scale.

Another expression of their extent is revealed by the estimate that an increase of just 1 cent per kilowatt hour for a company using 50 megawatts annually would be around $4.4 million.

There are an increasing number of concerns being raised about the potential triggers for the collapse of the AI boom and its consequences.

The most obvious one is the enormous gulf between the spending on infrastructure and the revenue being generated. OpenAI has signed deals amounting to $1.5 trillion, but its revenue for this year is expected to be just $20 billion. If it is going to go anywhere near meeting its commitments to acquire chips, then that will have to be raised to the hundreds of billions of dollars.

Summing up the overall situation, a recent article in the *Wall Street Journal* noted that chief among the "real reasons" to be concerned about the sustainability of the boom "is that there is far more AI computing infrastructure spending than there is AI revenue, a gulf that is widening by the day."

The business consulting firm Bain has estimated that $2 trillion in revenue will be required by 2030 to sustain the investments that have been made, compared to $253 billion in 2024.

Another issue is the short life cycle of chips, which can be as little as three years. This means that the value of the asset backing of the massive loans used to finance the data centre will be rapidly depreciated as they become redundant, requiring new expenditures to remain competitive.

In a blog post issued last month, the Bank of England said there was a range of developments that could trigger a re-evaluation of future revenues and AI asset prices.

These included but were not limited to "underwhelming speed of AI capability progress in user adoption of AI, or below-expectation ability of AI companies to monetize the users of their AI applications" with the speed of AI progress and impact "highly uncertain."

For companies that depend on massive computation capacity to run their AI models, an "algorithmic breakthrough or other event which challenges that paradigm

could cause a significant re-evaluation of asset prices."

As an example, it cited the introduction of a new model by the Chinese start-up firm DeepSeek in January at a lower cost and with a more efficient use of computing power, which triggered a fall in the stock price of AI companies in the US.

A re-evaluation of asset prices means a re-evaluation of the debt structure which has been used to finance them, with the potential to cause problems for the lenders, to which the BoE blog pointed.

"If the projected scale of debt-financed AI and associated energy infrastructure investments materializes over this decade, financial stability risks are likely to grow. Banks would be exposed to this directly through their credit exposures to AI companies, as well as indirectly through their provision of loans and credit facilities to private credit funds and other financial institutions which are exposed to AI-impacted asset prices."

In his comment piece, which we cited previously, Bartholomeusz said that for the moment "discussions about an AI bubble are largely confined to the share market and to the paper losses that would flow if it burst."

In such discussions, the comparison is often made with the bursting of the dot-com bubble at the start of the century which, while it had a major impact on the companies involved, did not spark a broader financial crisis or a deep recession.

Such reassurances, however, are entirely misplaced because of the major transformations in the US financial system and economy over the past quarter-century, above all the expansion of debt. In 2000, total US debt, public and private, was $28.64 trillion. It was $102.21 trillion at the end of last year.

The Bank of England warned that a fall in AI-related assets could adversely impact US growth under conditions where AI investment "has been an outsized driver of US GDP growth in the first half of 2025." It noted that while the collapse of the dot-com bubble did contribute to a mild recession, a "fall in AI-related asset prices would happen in a significantly different macroeconomic context to the early 2000s."

According to calculations by former International Monetary Fund leading economist Gita Gopinath, a collapse in the AI market equivalent to the bursting of the dot-com bubble would cause US investors to lose $20 trillion, an amount equivalent to 70 percent of American GDP, and deliver a $15 trillion hit to the rest of the world, equivalent to 20 percent of its GDP.

Given the growing involvement of the banks and finance capital more broadly in the AI boom, and the ever-increasing role of debt in funding historically unprecedented levels of capital spending as each of the tech giants seeks to dominate AI, such a development would signify not just the bursting of a bubble but potentially a collapse of the entire financial system.

That prospect, looming ever larger, which would go far beyond the devastation resulting from the financial crisis of 2008, has far-reaching political implications.

There is no doubt that the rationally planned, conscious and democratically controlled development of AI would provide for an advance of humanity in the economy and so many other areas of social life.

However, AI is not being advanced in such a manner but within the social relations of capitalism, based on the private ownership of the means of production and finance subject to the anarchy of the market and the striving of corporate giants for profit.

The process now unfolding recalls the central thesis of the founder of scientific socialism, Karl Marx, when he explained that the objective possibility, indeed necessity, for the socialist transformation of society arose when "the material productive forces of society come into conflict with the existing relations of production."

That contradiction is now assuming an acute form. AI, which could provide enormous economic advances for the mass of humanity, is already being used as a battering ram against the working class in the form of mass layoffs and the intensification of exploitation.

At the same time, under capitalism the mechanisms for its development are creating the conditions for a devastating economic and financial crisis.

There is only one way forward. That is the conscious political struggle by the working class—the producers of all wealth, including AI—for the overthrow of the capitalist oligarchy and the socialist transformation of society, so that the enormous potential contained within AI for social advancement can be realised.

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