RATHBONES | Incorporating Investec Wealth & Investment (UK)

WEEKLY DIGEST | 28 January 2025

Learning Curves

John Wyn-Evans
Head of Investment Strategy

One of the challenges of investing is that sometimes one is faced with new information that needs to be assessed extremely quickly owing to its potential influence on financial markets. I suspect that for most of us the dawn of the Covid pandemic was the period during which we needed to learn more than ever before, not least because the consequences spilled over from financial markets to our very existence. Sudden geopolitical developments have the same capacity to unsettle, and Russia's invasion of Ukraine remains fresh in my mind.

Political events such as the unexpected Brexit referendum result or Trump's election victory in 2016 are similarly etched on my memory.

The latest surprise to unsettle equity markets is news from China that a small, unheralded technology company (which is, in fact, an offshoot of a hedge fund) has developed a large language model (LLM) that appears able to compete with those developed by the likes of Open AI (Chat-GPT), Alphabet (Gemini) and Meta (Llama), but at a fraction of the cost. If true, this is paradigm-shifting and has the capacity to upset the calculations upon which the valuations of leading technology companies are based. Unsurprisingly, the whole investment community is focusing its collective brain towards the task of evaluating the threats and opportunities.

Here is the background. Artificial Intelligence (AI) has been the hottest investment theme for almost two years now. The fuse was lit by the launch of OpenAI's Chat GPT model in late 2022. It was the first LLM which had a user-friendly interface, meaning that non-techies could use it in the same way that they interacted with a search engine such as Google, but where it was easier to refine the question to get a fully scripted answer rather than having to scroll through endless websites to find the information and then put it together.

The next key moment came in May 2023 when Nvidia, the company that sells the top-of-the range chips which power LLMs, unveiled stellar first quarter sales and profits, opening investors' eyes to the money-making potential as Nvidia's customers clamored for supply to run AI models. The enthusiasm spread to the companies that provide the infrastructure for data centres and then to those that will provide the electricity to these power-hungry facilities. For example, the shares of US power utility Vistra rose from $38.5 at the beginning of 2024 to a peak of $192 last week, providing a total return of 400% in the process, which makes Nvidia's 188% over the same period look quite pedestrian.

The first warning shots were fired across the bows of the AI leaders last summer, initially in two research notes, one from Sequoia Capital and the other from Goldman Sachs. They both questioned the returns that might be achieved by the cumulative spend on the AI chips and data centres required to build LLMs. When combined with a brief slowdown in the US economy and a squeeze higher in the Japanese yen (used to fund "carry trades" in US Technology shares) in August, it produced a 13% sell-off in the NASDAQ Composite Index and a more brutal 18% fall in the Magnificent 7 technology leaders, although both went on to recover that ground and then on to make new highs.

But the trouble with making new highs is that it has made AI-related shares even more vulnerable to a sentiment shift, and that is, potentially, what has just happened thanks to Chinese company DeepSeek rolling out the latest version of its own LLM (R1). It is claimed to be nearly as effective as the models built by the leading US companies (and some reports we have seen corroborate this claim), but the real surprise is that they also claim to have only spent $5.6 million dollars on creating it (as opposed to the billions spent by the big US firms). Other research suggests that this number is somewhat disingenuous, because it fails to incorporate the cost of the "models behind the model". R1 trained itself to some degree by using data from other LLMs. But there is no doubt that by incorporating a process known as "Mixture-of-Experts", it was able to break down the learning into bite-sized chunks and thus reduce the energy required.

In any event, that $5.6m seems immediately to have become the mental anchor point for LLM costs and it does appear credible that DeepSeek's costs were substantially lower. It has certainly raised an awful lot of questions, the main being whether other LLM developers can achieve the same result by relying on less expensive chips and/or fewer of them. That immediately raises further questions about the growth potential of Nvidia, which was until Friday the world's largest company, because it is making money hand-over-fist selling its specialist chips to the builders of LLMs. The shares fell 17% on Monday, which also caused the greatest loss of market capitalisation by a single stock in one day ($589bn).

We don't think this is an open-and-shut case by any means. There appears still to be plenty of demand for Nvidia's chips, and only last week Meta raised its capex guidance for data centres. Founder and CEO Mark Zuckerberg must have known about DeepSeek's R1. Then there is the concept of Jevons' Paradox, which posits that the cheaper a product or service becomes, the more demand for it there will be. Elasticity is almost infinite. That should keep Nvidia in business for years to come, although whether it will be able to maintain its pricing and 70% plus profit margins remains to be seen.

Another feature of DeepSeek's Model is that it is "open source", allowing other developers to download it and use it to create their own applications. R1 has vaulted into first place on Apple's App Store. This can be interpreted positively. If AI is more accessible, then its broader adoption can occur more quickly. R1 does not appear to need to be run on a high-powered computer and one blogger claimed to be running it on a Raspberry Pi. Could this be the beginning of the "democratisation of AI" that pushes it into wider usage? Perhaps unsurprisingly, some of the larger technology companies have suggested as much and feel they will benefit as AI embeds itself into our daily lives.

If Nvidia has been the market's poster child for the AI revolution, what about the other six members of the Magnificent 7? I am forbidden from providing stock-specific investment advice in these commentaries, but I can infer from share price movements how investors are thinking collectively.

The clear winner so far is Apple (+3.2% on Monday). It has not been spending like a drunken sailor on shore leave and is deemed by some analysts to be best placed to become the "gateway" to AI for its more than one billion subscribers (who have more than two billion active devices). Could a wider adoption of AI be the trigger for a new round of I-Phone upgrades?

Shares in Meta (+1.9%) and Amazon (+0.2%) also rose, while Microsoft (-2.1%) and Alphabet (-4%) were marginally lower. Meta is trying to develop the world's leading LLM, and it has almost unparalleled access to proprietary data owing to how much it is embedded in our lives (Facebook, Instagram) and there is similar story for Alphabet (Google). Neither is likely to be deflected from their current goals. Amazon and Microsoft are gunning more for the corporate enterprise market and Microsoft (which has its Copilot AI tool) is deeply embedded in our daily business lives. If development costs turn out to be lower, it's good news for all of them, although with the caveat that competitors with less deep pockets might now be able to give them a run for their money. That is something we will have to watch out for.

But remember, for these five companies, AI is really the icing on what was already a rich and fruity cake. The current capital expenditure is being funded out of cash flow, not by taking on debt (which was the Achilles heel of many of the companies which fell from grace in the early 2000s technology bust). Meta has already pivoted once after the Metaverse failed to live up to expectations. Apple has written off billions on its electric vehicle project without much visible pain and Alphabet's "moonshot factory" has suffered many a setback. To suggest that these companies are going to find themselves under financial pressure is just wrong, and we continue to push back on oft-repeated claims that they are in the biggest bubble in history. That's not to say that their shares are impervious to risk or especially cheap, but a meaningful derating would more probably be the result of either a severe economic slowdown or a massive increase in the discount rate (bond yields), neither of which are currently in our central view (although always on our list of risks to monitor).

For the record, Tesla's shares fell 2.3%, but Elon Musk's company is a law unto itself and defies conventional analysis and valuation techniques.

One potential silver lining from humanity's perspective is that DeepSeek's success offers the promise of a lower energy requirement, and that was reflected in the share prices of some of the US companies that provide the electricity. Last year's best performer in the S&P 500 Index, utility company Vistra, saw its shares fall by 28%. Constellation Energy, which generates nuclear power, was down 21%. Vertiv, a company that specialises in equipment that cools data centres fell 30%.

From a broader market perspective, the damage is less visible, with no signs of contagion, especially the further one zooms out. And so, while the tech-heavy NASDAQ Composite Index fell 3.1%, the S&P 500 Index was down only 1.5%. The equal-weighted version was 0.03% higher on the day. The MSCI World Index fell 1% and the version that excludes the US was just 0.12% lower. The FTSE 100 was +0.02% and MSCI Europe ex-UK -0.10%.

That's pretty much "business as usual". In a recent commentary I described how we are never going to be "all in" on the latest hot market theme, which will always leave some investors feeling that they have missed out on an opportunity to make even more money, but yesterday's events illustrate the merits of a considered approach to portfolio construction.

I appreciate that there is a lot to absorb here, and I have done my best to distil a whole day's worth of meetings and reading into a useful summary. I am still ascending the learning curve myself. Of course, there are much deeper rabbit holes to burrow down and I'm sure opinions will continue to evolve, and I haven't even gone into the (geo)political aspects of this, with China seemingly having come close to catching up with the US in the AI field. But our general feeling is that the overall market reaction makes sense. At the top level, the demand for high-end semiconductor chips might be somewhat curtailed but certainly not lost. The adoption of AI-powered applications will probably be accelerated and with it comes the promise of improved productivity. On their own, these developments do not constitute a trigger for a major setback in equity indices.

Economic Commentary

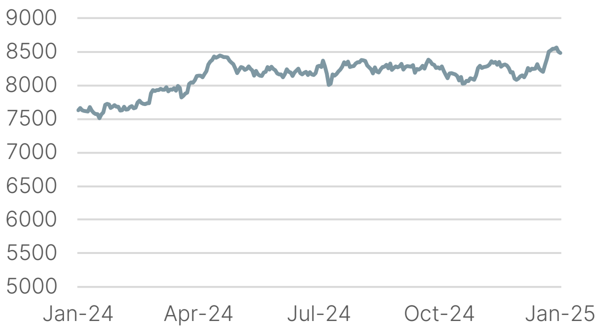
FTSE 100 weekly winners

Burberry Group plc	18.4%
Intermediate Capital Group plc	10.2%
Smurfit Westrock	7.3%
Abrdn plc	6.1%
Spirax Group plc.	5.8%
Lloyds Banking Group plc	5.6%
Weir Group PLC	4.4%

FTSE 100 weekly losers

Ocado Group PLC	-6.7%
Associated British Foods plc	-6.3%
Land Securities Group PLC	-3.8%
J Sainsbury plc	-3.7%
Vodafone Group Plc	-3.7%
Shell Plc	-3.7%
Shell Plc	-3.7%

FTSE 100 index, past 12 months



EuroStoxx 600 index, past 12 months

S&P 500 index, past 12 months

All data shown in GBP.

investecwin.co.uk

Investec Wealth & Investment (UK) is a trading name of Investec Wealth & Investment Limited which is a subsidiary of Rathbones Group Plc. Investec Wealth & Investment Limited is authorised and regulated by the Financial Conduct Authority and is registered in England. Registered No. 2122340. Registered Office: 30 Gresham Street. London. EC2V 7QN. Member firm of the London Stock Exchange.