

Investment Views

MAY 2023

The robots have arrived

Artificial intelligence (AI) has been a topic of interest for some time but, until a few months ago, few had heard of “ChatGPT” or its growing list of competitors. Now, seldom a day goes by without talk of “generative AI” and how disruptive it will be for businesses, economies and the world of investment.

Launched on 30th November 2022, ChatGPT (chat.openai.com) allows users to produce new data or content (like text, images and videos) by typing questions and prompts into a machine learning tool. It has quickly become one of the most popular, publically accessible AI models, securing more than a million subscribers in its first 5 days (the fastest ever adoption of a new technology). It currently enjoys over 100 million monthly active users.

It is the product of Open AI, a US “not-for-profit” company founded in 2015 by a group of tech leaders that includes Elon Musk (since departed) and Sam Altman, who currently leads the firm. Its main shareholder is Microsoft, which invested an additional US\$10bn in the company earlier this year, taking its holding to almost 50%. This is part of an ongoing shift in priorities for the big US tech firms, all of whom are deploying billions of dollars into AI R&D; Amazon, Google, Meta and Apple are all launching similar products to ChatGPT.

The inaugural version (ChatGPT-3) is a chatbot that in many ways resembles a Google search experience, albeit a faster and more useful one. The user begins a conversation by typing in one or multiple questions and the machine replies within seconds with a (usually) accurate and comprehensive answer.

To illustrate the concept we posed the simple question of “what does chat GPT do”? Within 3 seconds, it answered: “Good morning! Chat GPT is an artificial intelligence language model designed to understand and generate human-like language. Essentially, it is a program that can process and respond to natural language input, such as written text or spoken language. It has a wide range of potential applications, including chatbots, language translation and content creation.

Its advanced machine learning capabilities allow it to continually improve its language processing abilities, making it an increasingly powerful tool for natural language processing tasks”.

We typed the same question into Google and were presented with approximately 161 million results. Whilst Google harvests links to a wide variety of distinct potential answers, ChatGPT

delivers a free flowing text response that reflects the most likely correct answer, synthesising its response from multiple sources, including the same deep well of freely-available internet information.

Since the turn of the year, two upgrades have been released that offer a notable advance in functionality. ChatGPT-4 (launched in mid-March) enables the user to upload images, like a photo or a spreadsheet, and then ask the AI engine to analyse the content. Just a fortnight later, on 30th March, the more powerful “auto-GPT” went live, allowing users to set an end goal such as “build me a website for my online craft business” or “create a recipe book for the best 10 Italian dishes”. Unlike ChatGPT, auto-GPT can function autonomously, without prompts from human operators. We have seen examples where credible outputs have been created in a matter of minutes, compared to the weeks or months of a more human-centric approach.

At the risk of grossly over-simplifying, the initial AI models were trained by reviewing over 570 billion individual words and punctuation marks from a series of books, articles and the public internet. Machine-learning algorithms reviewed this information to develop an understanding of the structure of text. This insight enables the AI engine to assign probabilities to which word should follow another when delivering an answer. By way of a simple example, if you ask “What colour is the sky?” the AI engine will answer “The colour of the sky is blue”. Having considered the words and their pattern in the question, the AI engine knows the most likely answer is “blue” based on its prior “training”.

Whilst broadly similar to a standard online search engine, the unique feature of the AI model is that the machine remains in a constant state of learning via a process called “fine-tuning”; a smaller, more specific dataset is continually digested to hone its understanding of the text, increasing the accuracy with which the algorithm predicts the next word. It also uses feedback from its conversations with users to similar ends. Given the pace at which new information is fed back to the algorithm, the accuracy of its answers improves at a breath-taking pace.

Unsurprisingly companies are embracing the technology, both to cut costs and to explore new revenue streams. There are too many use cases to mention, ranging from the relatively mundane (like Microsoft Teams offering automated meeting notes and doctors using ChatGPT for a second opinion) to the far more exotic. We were impressed by anecdotes of the dog owner who used the chatbot to analyse his pet's blood tests and the lawyer using it to successfully draft letters to the Court of Appeal.

Mass disruption and widespread job losses seem inevitable as businesses adopt AI-based solutions; a recent McKinsey Global Institute report forecasts up to 375mn global workers will be displaced by 2030. We asked ChatGPT which jobs are most vulnerable. Its answer, that content editors, translators, data-entry clerks and admin assistants are particularly exposed, seems logical. These roles involve repetitive tasks that can be easily automated. Conversely, jobs that demand a high degree of emotional intelligence and human interaction, like care workers and teachers, should be relatively immune for now, as will most forms of manual labour.

The macroeconomic implications will be complex and varied but technological upheaval tends to ultimately create more prosperity and jobs than it destroys; the 'spinning jenny' and the 18th Century industrial revolution so attest. AI has the potential to spark a growth and productivity boom that offsets shrinking, aging populations and helps the world economy to grow its way out of its debt crisis. That said, generative AI is not fool proof or risk-free and the models remain prone to occasional (but meaningful) inaccuracies. Furthermore, ChatGPT and the like make it very simple to create and disseminate misleading digital content; an obvious threat to elections and social cohesion when used by 'bad actors'.

Finally, the rapid pace of AI development poses some existential challenges. No one has a clear idea of what could happen if we invent tech that can become more intelligent than its human creators; dystopian "rise of the machines" narratives abound. Indeed, as we go to print, Dr Geoffrey Hinton, a man who is often touted as the godfather of AI, has quit Google so that he can speak out about the risks that it can (and will) pose. This follows hard on the heels of an open letter, signed by luminaries like Apple co-founder Steve Wozniak, calling for a six month pause in AI development so that rules and regulation can be ascribed to this transformational industry.

Despite these challenges, AI represents a compelling opportunity. At this stage, many long-term winners sit in the start-up world, arguing for dedicated venture capital exposure for those that can tolerate the highly speculative and inherently illiquid nature of such investments. A more liquid play comes via the big US tech companies as they have both the cash flows and ability to explore the opportunity. They are also driven by urgent self-interest, given the threats posed to their existing business lines, most notably online search and advertising. Finally, the semiconductor stocks stand to benefit from the inevitable surge in demand for computing power as more and more firms pursue AI-based solutions.

For us, this raises the long run appeal of owning more US large-cap equities biased, as they are, to tech company names. At the end of April, the largest five companies in the S&P500 were Apple, Microsoft, Amazon, Nvidia and Alphabet, together accounting for over 20% of the index. That said, lofty valuations argue for gradual accumulation, using inevitable bouts of macro-driven volatility to achieve a suitable exposure.

POLICY MATRIX SUMMARY

The matrix below is a summary of our current 12-24 month outlook for the various equity, bond and commodity markets that we monitor. It shows areas where we are either positive or negative; for all other asset classes, we have a neutral view. It is not intended as anything other than a high-level guide on where we stand at this time.

12-24 Month view	Overall	Equities	Bonds	Alternatives
+	Alternatives	Gold Miners China A Shares UK Small Companies Japan ESG & Impact funds	Inflation linked US Treasuries	Gold, Volatility Strategies
-		European US	European Japanese	

MARKET PERFORMANCE

All performance numbers show % changes except for bond yields which show yield changes.

	30th April 23	-1 Mth	-3 Mth	-12 Mth
CURRENCIES (VS USD)				
GBP	1.2567	1.9%	2.0%	-0.1%
CHF	1.1178	2.3%	2.4%	8.8%
AUD	0.6615	-1.0%	-6.2%	-6.3%
JPY	136.3000	-2.5%	-4.6%	-4.8%
EUR	1.1019	1.7%	1.4%	4.5%
BOND YIELDS (10 yr)				
UK	3.72	0.23	0.39	1.81
US	3.43	-0.05	-0.09	0.49
Germany	2.31	0.02	0.03	1.37
Australia	3.34	0.04	-0.22	0.21
Japan	0.39	0.06	-0.10	0.16
EQUITIES				
US. S&P 500 (USD)	4,169.48	1.5%	2.3%	0.9%
UK. FTSE 100 (GBP)	7,870.57	3.1%	1.3%	4.3%
MSCI Eur ex UK (Local)	1,650.39	1.5%	3.3%	5.7%
Japan. Topix (JPY)	2,057.48	2.7%	4.2%	8.3%
China. Shangai Comp (RMB)	3,323.28	1.5%	2.1%	9.1%
HK. Hang Seng (HKD)	19,894.57	-2.5%	-8.9%	-5.7%
Australia. All Ords (AUD)	7,500.95	1.7%	-2.4%	-2.9%
MSCI Pac ex Jap (USD)	1,322.78	0.0%	-7.0%	-5.6%
MSCI World (USD)	2,835.93	1.6%	1.8%	1.4%
MSCI World (GBP)	2,255.21	-0.2%	-0.2%	1.5%
COMMODITIES				
Oil (WTI)	76.78	1.3%	-3.3%	-10.6%
Gold	1990.00	1.1%	3.2%	4.9%

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