Chartered Financial Planners

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WEALTH MANAGEMENT

Investment Themes 1:
The Influential Power of Artificial Intelligence

You would be forgiven for thinking that the key to investment markets are economic factors: interest rates, inflation and unemployment rates. After all, these have been the most common talking points over the last two years, and for the most part these economic fundamentals have driven markets over the short-term.

But as investors we need to remain focused on the long-term, and therefore those factors which ultimately create value over years and decades, not months. This long-term growth is generated by the earnings that companies generate and how they grow they earnings each year i.e. well run, well managed companies which are solving real world issues and revolutionising how we do things.

Much of this growth comes from forces or themes outside the dull and boring macroeconomics. These themes are much more exciting and offer potential long-term returns. They are "real" industrial, technological and social changes.

In previous asset commentaries we have spoken briefly about some of the themes which we see driving market performance in the future. This series of articles builds on these themes, and we aim to explore each of them in more detail and discuss what we could expect to materialise.

One of the most commonly talked-about investment themes is artificial intelligence (AI) and this is where we are kicking off.

AI: The "fourth industrial revolution"

Artificial intelligence is a range of technologies that enables computers and machines to simulate human-like intelligence and learning in completing certain tasks.

AI is the next evolution of technology and the opportunities it presents could well change how we do things and how we live our lives in the future. In some respects it is already doing this.

While a very exciting development, there are some key questions that should be considered:

- why could this technology potentially push markets higher?
- how does this translate into investments themselves?
- which companies will benefit (or not!) from this technology?

New and successful technologies always drive investment values higher as they present opportunities, and AI in particular is a disruptive technology (much like the previous development of

graphical interfaces, mobile phones and the internet) which has possible applications which we cannot yet conceive.

Put simply, AI is expected to improve global productivity and improve people's lives. This means a reduction in costs, an increase in company profits and so more valuable companies.

AI can be seen as a new industry, and industries tend to go through lifecycles. At the start of the lifecycle, the technology or product is new, the full application of the technology is not known, and the winners and losers have not yet been determined.

AI is very much at the start of this cycle (for an industry late in its life, think oil and gas drilling companies – new energy technology is phasing in and their ability to survive and grow earnings will decline unless they switch to renewable energy sources). The start of the cycle is where we see the most potential for growth (and for failure) and is arguably the most exciting.

Although very much in its early stages of development, we have already seen companies benefitting from AI.

The biggest company that will spring to mind is Nvidia, the chip designer. The specialised chips that Nvidia design are used to power the AI models which other technology companies are developing.

Thus Nvidia is creating the hardware needed to run and develop AI. This is the foundation of the technology. Other chip designers also stand to benefit but currently Nvidia is the market leader as the barriers to entry are high. This relates back to the life cycle of AI; we do not yet know who else stands to win as smaller less well-known companies have not yet taken advantage of the opportunities. They may also emerge as winners and identifying these companies could produce big returns.

Investing in AI infrastructure: more than just chips

Next we have the AI infrastructure. These are the companies creating and running the AI models that other companies and consumers will ultimately use. Think of companies like Microsoft and Google.

These two baskets of companies (hardware creators and infrastructure builders) are the most obvious types of companies which have and will continue to benefit from the AI theme. But there are many other companies which fit into the infrastructure basket which may not seem so obvious.

AI models require a lot of hardware to run. And this hardware requires a lot of space, which means datacentres. While datacentres are not new, the scale and power generation needed for AI models is growing and existing datacentres must be upgraded and new ones built to cope with the increased need for space and power.

Therefore certain industrial companies stand to benefit as they will be building and maintaining these datacentres. Cloud technology also strongly links into this as technology companies rely on this to train their models as well.

These datacentres require huge volumes of energy to run their models. Research by Goldman Sachs estimates that a Chat GPT query requires 10 times more power than a Google search query. They also estimate that presently datacentres consume 1-2% of global power, but this is likely to rise to 3-4% by 2030.

Datacentres have been using power for decades, but the increase in the efficiency of how they use this power has meant their power needs have not actually increased by much. Ultimately this is what we will see with AI technology, but we are far from this yet.

For global utility companies (more so in the US and mainland Europe where the majority of large datacentres are based) this means a lot of capital spending will be required to upgrade their generation and transmission capacities. If properly managed this will create value for these businesses as their supply will better match demand.

On the flip side the consumer will likely be paying higher energy costs as the energy demand rockets while supply will struggle to keep up over the shorter to medium term.

This energy consumption also poses environmental problems in the form of increased carbon emissions, as much of this will come from non-renewable sources (up to 60% potentially).

If utility companies cannot increase their renewable supply they may be tempted to revert back to natural gas and other non-renewable sources, further increasing the pressure on carbon emissions.

So, there are clearly lots of opportunities and headwinds for utility companies, particularly those in the US and mainland Europe, and especially where datacentres are in their vicinity. This nicely ties in with another theme (which we will cover in another article) which is cleaner energy.

So far we have not seen this potential reflected in their valuations, whereas other "AI infrastructure companies" involved in the development of AI have benefitted.

The future: incorporating AI into companies

The next basket of companies that stand to benefit in the future are those that can incorporate AI into the products and services that they offer.

Again, this is particularly relevant to software and other technology companies such as Samsung and Apple. Although values are driven by multiple influences, generally the companies in this sector have seen their share prices rise which could be attributed to AI. There is a correlation between the companies which mentioned AI in their annual meetings and stocks which have increased in value (although this could be due to numerous other factors).

That being said, company's definitions of AI vary widely and the company's that are not actually building AI into their business models, rather they are using the phrase AI to describe something else, are being recognised by investors.

Finally, the companies which use AI in their businesses day-to-day stand to benefit for different reasons, and the industries these companies operate in are very varied. Not all companies will fare successfully and the companies which fail to incorporate technology into their processes are not likely to be around for long (think of Blockbuster, which failed to adapt while Netflix emerged with its streaming service – although there is still one Blockbuster store open in the US).

As well as the services sector, manufacturing and other labour-intensive companies can potentially use AI to reduce their reliance on physical labour, switching to cheaper technology driven processes.

Pharmaceutical companies can use AI to better develop and test new medicines, reducing their R&D expenses and making their businesses more efficient.

These are just a few examples of services which may incorporate AI into the running of their businesses in the future, but the applications are much more widespread than this.

One of the biggest questions and fears for the consumer is how many jobs will be replaced by AI in the future.

A study by the International Monetary Fund (IMF) has estimated that 40% of global employment is exposed to AI, with up to 60% of jobs in developed economies at risk of impact.

Previously automation has replaced more routine tasks, such as car manufacturing. AI could have the ability to replace more highly skilled jobs, such as professional services, therefore particularly impacting developed economies.

As we have recently seen, integrating AI into the service industry is not as easy as it seems.

McDonald's in the US, for example, has had to roll back the use of IBM's AI software in its drive-thru's due to customer orders not being taken properly (adding bacon into a customer's ice cream order, or ordering hundreds of chicken nuggets).

The key (which we won't understand for some time) is whether AI will complement and enhance a job (such as correcting my spelling mistakes as I type this article!) or replace a job completely (for example, writing this article on my behalf and removing the human element entirely).

AI is expected to impact emerging economies to a lesser extent as they don't have the infrastructure to fully utilise the technology. This could create further inequality divides between nations and create further income inequalities between people.

While jobs may be replaced in the future, jobs will also be created which presently don't exist. This is a big grey area and could merit pages of discussion, but at a high level it is certain that some jobs will be replaced, saving companies' labour costs and boosting their profit margins.

How this impacts on an individual country's inequality and social security system is not yet clear.

Another dot com bubble?

One final consideration, and a big question on investors' minds, is are the AI related companies like Nvidia overvalued?

Given the uncertainty around how transformative (or not) AI will prove to be, this is an extremely difficult question to answer – but as investors, we must at least try.

While valuations are higher, we do not yet think they are stretched too far. For some historical context, the biggest ten technology company price-to-earnings ratios are presently around 28. Back in the 2000 dot com bubble these ratios were much higher at 52 (data by Goldman Sachs).

Nvidia's 12 month forward price to earnings ratio (P/E) is estimated to be 47. Cisco, which lost 80% of its market cap during the bursting of the dot com bubble, had a forward P/E of over 150 at the time the bubble burst in 2000.

While it cannot be said for all companies, Nvidia, whose share price has increased by 200% over the last year has seen its P/E ratio remain pretty stable, meaning that although its price has increased, its managed to grow its earnings at a similar rate.

Critics of this comparison argue that the two periods are different that we are not comparing like with like. While there is some merit to this argument, the dot com bubble had a much broader range of newer and immature companies which did not generate any positive earnings in their history. In the present environment the big technology companies are very established and already generate significant earnings, with the potential for these to spiral higher.

Ultimately no one knows until after the fact whether companies are overvalued. Value is simply the price one puts on something to own it, and at present no one wants to miss out on AI so prices are high, and rising.

Conclusion

I hope that this highlights how AI is not just about Nvidia or the big technology companies often seen in the news, and that in fact its potential for long-term investment is widespread.

Furthermore, investing is not all about inflation and interest rates and there are very exciting opportunities on the horizon. These opportunities are very much long-term and while the story unfolds, we will see volatility from shorter-term factors.

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