SCOTTISH MORTGAGE
INVESTMENT TRUST

Embracing discomfort: manager insights

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June 2023

Your capital is at risk. Past performance is not a guide to future returns. A Key Information Document can be found at scottishmortgage.com.

The current environment

For much of our financial year, the market was focused on macro-economics and geo-politics and the news on both fronts was mostly grim. It has hit the share prices of companies we own and our discount to asset value.

As you know well, we focus on companies which have the opportunity to grow substantially. In 2020 and 2021, our companies delivered extraordinary growth but have slowed considerably since the start of 2022. Various factors feed into this. Partly it is a result of interest rates, which have increased at one of the fastest paces on record. And that's confidence in certain parts of the economy and increased the cost of products bought with finance.

Partly, the buoyant environment caused over-investment that temporarily inflated demand. As many companies have cut back simultaneously, this has decreased demand for one another's products. It's clear that there has been over-hiring and we are seeing companies react to the slower demand environment by cutting costs.

We are disappointed with the outcome we've delivered for shareholders this year. However, we hope you do not own Scottish Mortgage shares based on the outcome in any one year. It takes much longer than that for the fundamental drivers of companies to play out in the stock market.

We invest with a minimum of a five-year time horizon and often for far longer. The challenges companies have faced recently are predominantly transient in nature. We have seen many examples of entrepreneurs adapting to the changed environment and taking steps to reduce costs.

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But these challenges, while unhelpful, rarely affect the core reasons we have for holding our investments. We don't anticipate, when investing in a company, that the business cycle will always be buoyant or that financial markets will always be generous. We look for companies whose long-term prospects are not closely tied to the economy and are building big, new opportunities based on long-run structural trends.

So we aren't changing what we're doing in response to a period of poor performance. We aren't following the market's current enthusiasm towards companies and investments that are perceived as reliable and safe. Predictability can be very attractive when investors are fearful and investing in this way may be appropriate for others. However, we are sceptical that our shareholders will benefit in the long run if we follow the crowd.

Instead, it is precisely by embracing discomfort that we can generate outsized returns from exceptional companies. The universe of steady, predictable, over-analysed stocks is unlikely to yield extraordinary outcomes.

Indeed, it may be far worse than that, as very little is genuinely predictable in a world that is changing so quickly. Technology-driven change can upend long-established industry structures and yesterday's safety is tomorrow's capital destruction. We want to own the companies that are driving change.

Opportunities

What gives us the confidence to stay the course and stick to our approach? It is the ongoing, deepening and widening of technological progress. Growth and innovation are not dependent on the direction of macro-economic trends. Instead they march forward to their own drumbeat and this continues regardless of the gyrations of the broader economy.

It certainly was not a phenomenon that was driven by the low-interest rates and cheap money that have characterised much of the last decade. It is the combination of developments across fields as diverse as semiconductors, advanced software, gene sequencing, machine learning and cloud computing that open up new approaches and possibilities. Backing the founders and entrepreneurs that can harness these technologies to better serve their customers and society is the core of our approach.

The opportunity set from investing in this way is not what it was ten years ago. It is much larger. Huge swathes of the economy are now experiencing disruption and new approaches.

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To give some examples, starting with our largest holding, Moderna which became a household name thanks to its covid vaccine. In December, the company demonstrated that its approach can be used to create effective personalised cancer vaccines. Phase 2 trials in advanced melanoma showed a 44 per cent increase in survival for those taking the therapy in addition to the current standard of care. Pharmaceutical giant Merck paid $250 million to co-develop the technology with Moderna, and we expect Phase 3 trials in various cancer types to launch this year.

Moderna now has 30 vaccines in clinical trials for infectious diseases and with the addition of therapies for cancer, liver disease and lung disease, the number of potential applications for Moderna's technology is multiplying.

While the focus of energy markets was on the macro and the immediate impact of the war in Ukraine, the long-term trajectory away from carbon remains. The Inflation Reduction Act in the United States has created a framework for significant investment in electrification, aiming to prevent Chinese companies from dominating the supply chain.

Europe must respond with an equivalent strategy to avoid all the industrial capacity being built elsewhere. Our holding Northvolt, the European battery manufacturer, made its first commercial deliveries in 2022 as its production facilities in Northern Sweden ramped up.

It is tapping into enormous latent demand for electrification and has announced $55bn of contracts to supply major automotive companies. It is expanding its manufacturing footprint outside Sweden as it scales up rapidly to meet the industry's needs.

Our largest private holding, SpaceX made 60 launches in 2022, more than one per week and twice the number it achieved the previous year. The commercial space market has finally become a reality thanks to SpaceX's reusable rockets, which have reduced launch costs by 95 per cent from those of the space shuttle.

That’s even more striking when you consider that Moore's law and associated software have made each kilogram of payload much more productive.

Business services in sectors such as agriculture and mining have grown first. Consumer applications are now appearing, such as T-Mobile and SpaceX's collaboration to eliminate the mobile-reception dead zones that still cover 20 per cent of the US landmass. Over time, R&D, manufacturing, tourism, and other space-based applications will become more common.

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We have been commenting on progress in Artificial Intelligence for some time, and we saw some meaningful breakthroughs this year. At the risk of hyperbole, this could start another computing paradigm akin to the personal computer or smartphone. Most noteworthy was the success of ChatGPT in making AI technology available to non-technical users. The service signed up a 100m users in just two months as engineers and entrepreneurs recognised the potential offered by this approach to computation.

AI can already augment human software programmers and enhance productivity, and AI services will likely write most computer code in the future. While much of the coverage rightly focused on the risks and challenges, we shouldn't fall into the technophobe's trap of forgetting how wonderful this could be for productivity and economic growth.

AI will likely transform many parts of the economy, but it would be foolhardy to make specific predictions. We can though say with some certainty that AI systems will require a lot of silicon. The computing power needed to run the latest systems doubles about every 14 weeks.

Our holding NVIDIA is a key supplier and enjoys formidable advantages, as the chip technology it has built over decades for computer games has proven ideally suited for AI computation. The semiconductor industry depends on ASML's exceptional engineering skills to produce cutting-edge chips, and AI is just one driver of the strong demand we anticipate for the company over the next decade.

One of the largest AI companies in the world, Tesla, rolled out initial access to its full self-driving software in the US this year. It has now driven 150 million autonomous miles, providing a vast data advantage over the rest of the automotive industry.

The system's capability is already impressive, but the pace of improvement will be most important over time. In the short run, new vehicle sales will face headwinds from higher interest rates. But electric vehicles continue to gain share and Tesla, as the market leader, has the scale and profitability to invest and grow in challenging conditions. In the long run, its software and AI capabilities will be deployed to a much larger fleet of vehicles, and others will struggle to compete.

Lawrence and I recently returned from a trip to China. A lot has changed since we were last there, prior to the pandemic. We significantly reduced some of our Chinese holdings last year although we still have £1.8bn of investments there.

It was encouraging to see our holdings start to grow again as the challenges of lockdown fade away and the regulatory environment has become more business-

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friendly. In fact, a Chinese ecommerce company, PinDuoDuo was our best-performing stock in 2022, and I think that highlights the importance of focusing on individual companies rather than dwelling too much on geographic generalisations.

The scale of investment in electric vehicles and infrastructure as well as renewable generation in China is astonishing and it is clear they are a long way ahead of us down the path to electrification of the passenger vehicle market. Tesla's future competition is far more likely to come from Chinese manufacturers such as Geely or BYD than from Ford or General Motors.

Conclusion

I'd pull my remarks together by saying that we are sorry for the disappointing performance of SM shares this year. That there is nothing in what we've seen to make us change our approach of owning the drivers of change for the long term. And that there have been lots of encouraging developments that have gone unrecognised by the market. But we look forward to the future with enthusiasm and with optimism.

Annual Past Performance To 31 March each year (net %)

	2019	2020	2021	2022	2023
Scottish Mortgage Investment Trust plc	16.5	12.7	99.0	-9.5	-33.6

Source: Morningstar, share price, total return, sterling.
Past performance is not a guide to future returns.

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