Change is central to the way that companies, economies and industries operate. Change creates uncertainty and it is in uncertain situations that our analysis is most valuable. We therefore focus our investments on companies that are catalysing change in their industries, in themselves or are at the epicentre of multiple changes. Biotechnology is an industry that is at the intersection and convergence point of many transformational changes in technology. When there is a company that sits at a nexus of change like this, it often has the potential to grow rapidly for many years and offer outsized returns that can skew the upside/downside heavily in our favour. We believe that Wuxi Biologics is one of these companies.

We have written articles and discussed why Biotechnology is such an exciting industry on our podcast, Global Infusions. Biotechnology is at the convergence point of many new and rapidly accelerating technological changes, spanning from DNA and ribonucleic acid (RNA) sequencing, understanding of epigenetics, machine learning and Artificial Intelligence, stem cells, nanotechnology, gene therapy, cheaper computing power, novel chemistries, aptamer binding, improved biologic molecule production yield, understanding of the microbiome, protein structure, folding and engineering, to improving our understanding of disease mechanisms. The pace at which these technologies are progressing and how they overlap accelerates further advances and is a very powerful force that we are investing in across the portfolio. Overall, the technological transformation underway in biotechnology creates a very supportive industry background.

The tools and techniques that are effective in designing drugs are getting cheaper every quarter. The range of tools, understanding and expertise is expanding and service providers are making capital light business models viable. This latter point is one worth delving into – the rise of cloud computing and everything-as-a-service has enabled the tech industry to expand rapidly. Outsourced, shared facilities allow companies based solely on intellectual property (IP) to compete and innovate more vigorously. As value chains segment and modularise, the companies that can provide services at a scale whilst maintaining an enduring competitive advantage have the potential to grow for many years at a rapid pace. They have a chance to be in the fat tail of positive extreme returns that we look for in the probability distribution of potential returns for our holdings.

One of our more recent investments in this area is Wuxi Biologics. Wuxi works with biotech and pharma companies that have an idea for a biologic drug, working with them to develop that idea into a manufacturable drug, which Wuxi then manufactures for trials and scales up for production if clinical trials are successful. Wuxi calls this strategy "follow the molecule" and it has several attractive facets. First, by baking its own IP into a new drug, Wuxi can earn high margin royalties if a drug is successful. Second, Wuxi also has specific expertise in manufacturing drugs efficiently in its own cell lines and smaller bioreactors. Using proprietary technology makes it expensive, difficult and challenging from a regulatory perspective to move production to another manufacturer.

The third benefit of the "follow the molecule" strategy is that success leads to a natural ramp up of revenues with each drug. An early-stage drug candidate will perhaps generate revenues for Wuxi in the hundreds of thousands of dollars, and as it progresses through trials to production, the revenues and royalties can grow to the tens of millions of dollars. This natural progression and contemporaneous ramping of revenues with customers' success leads to great alignment between Wuxi and its customers and a natural propensity for growth within the business model.

Wuxi's competitive advantage stems, in part, from its low cost of scientists in China. The wage differential is approximately threefold and this enables Wuxi to price its research and development offering very competitively in a global context while maintaining attractive gross margins and returns. Furthermore, despite a global shortage of specialists in some areas of commercial research, Wuxi has consistently been able to find high quality scientists to staff its facilities and enable its rapid growth.

The pace of growth at Wuxi has been exceptional. Over the three years from 2018 to 2021, revenues increased from $380m to $1.6bn, a compound annual growth rate of over 60%. Wuxi also has a track record of bringing on new facilities rapidly while meeting good quality standards. It calls this aspect of its culture "Wuxi speed".

The outsourcing trend of pharmaceutical and biotech companies' development and manufacturing to Wuxi, a consolidator of demand, is likely to continue. A good example of the relative efficiency of its model is the path to Alzheimer's biologic (antibody) drugs. There are currently at least five competing antibodies in late-stage trials. The companies involved want to have capacity to manufacture the drugs if they are successful and are building it, but it is unlikely that all succeed. Any spare capacity is unlikely to be outsourced to a competitor. However, Wuxi can offer manufacturing capacity that can be used by one or another pharma company and have spare capacity that it can bring on rapidly if multiple pharma companies were successful.

Wuxi is a strong advocate of single-use bioreactors for cultivating cells and growing drugs. Our view is that for most applications these are superior to the traditional, large stainless steel vats that have been used for many years. Indeed, we have an investment in the Fund in Sartorius Stedim, a company that provides these smaller single-use bioreactors and the equipment and supplies around them. This is another great example of multiple technologies amplifying each other to make the generation of copious amounts of biologic drug from a relatively small batch of cell culture possible and reasonably priced. This approach also allows a more rapid scaling up of production (by using large numbers of small reactors simultaneously) and more cost-effective production of the small quantities of drugs needed for clinical trials.

Wuxi Biologics' business model is successful, in part because it benefits from a lower cost associated with its Chinese domicile (Wuxi is a city just outside Shanghai). China accounts for around a quarter of revenues, with the US being Wuxi's largest market. There is undoubtedly support from the Chinese Communist party for Wuxi Biologics. The 14th five-year plan prioritises research and development in bioscience, an area where Wuxi is a leader. The corollary to political support at home is political challenge overseas and, in particular, fear of restrictions or sanctions on Wuxi. This has been a dampener on the company's share price and in part gave us the opportunity to build our position in recent months.

Wuxi has been caught up in what we believe is an unfortunate coincidence of covid travel restrictions and equipment deliveries. To summarise, the factories that receive some specific equipment and specialist supplies must undergo an inspection by the US FDA to confirm that the equipment is being used for its stated purpose. The advent of China's zero covid policy has made it impossible for inspectors to visit and certify some facilities. These have been put on an unverified list, which precludes further deliveries to these specific facilities until they are inspected. Since this was announced, Wuxi has successfully won new contracts with US and multinational pharma companies and has explained that it has sufficient inventory and breadth of facilities to continue as normal. However, there is a risk that this is the start of a more prolonged attack on the company and industry by US regulators. Wuxi is trying to build increased resilience against this risk by expanding its non-Chinese operations, with new facilities in Singapore and Ireland.

Wuxi Biologics acts as a centralised resource of research, development and manufacturing prowess in biologic drug development and manufacture. At a high level, Wuxi Biologics plays into a few themes that we believe often support innovation and growth. Furthermore, Wuxi has proven adept at scaling at "Wuxi speed", is increasing the resilience of its business to political challenges, has a natural progression to ramp revenues as it "follows the molecule" and has proven itself popular by continuing to win new projects from both existing and new customers. With a mid-single digit global market share in outsourced biologic production, there is plenty of opportunity for the company to grow. Our analysis points to a skew of potential returns to the upside of almost 10:1, which we find attractive and merits Wuxi a position in the portfolio.

Key Risks

Past performance is not a guide to future performance. The value of an investment and the income generated from it can fall as well as rise and is not guaranteed. You may get back less than you originally invested.

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