



China Emerging as Global Biotechnology Player

25 June 2025

Key Takeaways

- ▶ Significant state-supported investment in research and development, combined with established life science infrastructure, is bolstering the rapid growth of a Chinese biotechnology industry.
- ▶ China has seen early success as “fast followers,” licensing and commercialising drugs developed by Western biopharmaceutical companies into a domestic health care market with large patient populations.
- ▶ We believe China must develop and commercialise its own treatments to become a profitable biopharmaceutical competitor. This has begun to occur as an expanding number of Chinese biotechs are now licensing new compounds to multinational pharmaceutical firms.

Swift Evolution Sparked by Health Care Push, R&D Spending

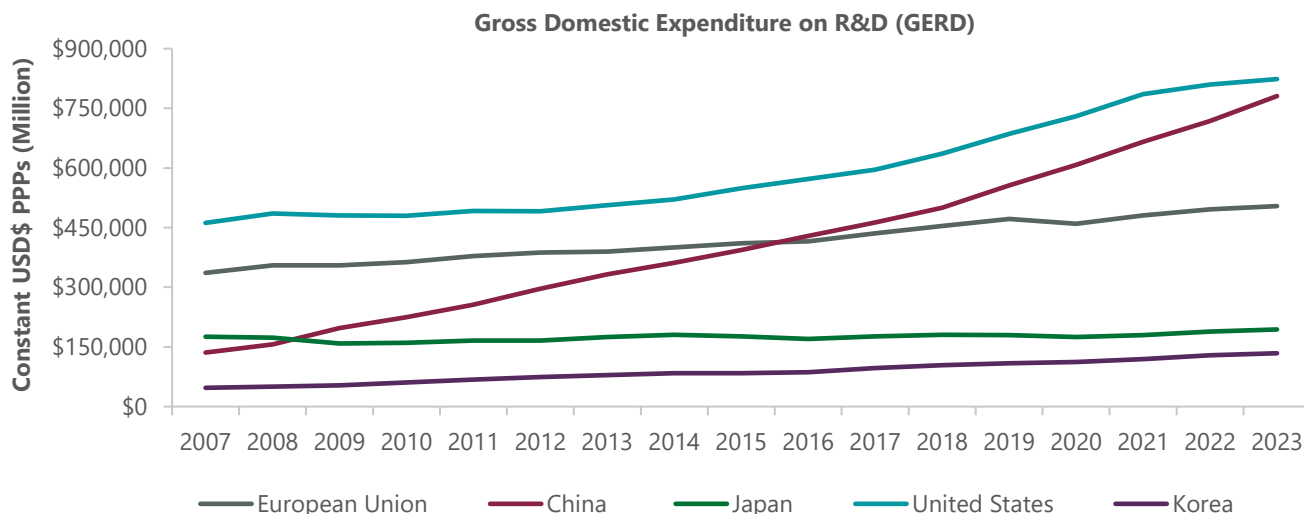
China’s quest for independence from the West, most notably the rise of its own technological prowess as evidenced by global leadership in EV production and the success of its DeepSeek AI model, is also reshaping an overlooked part of the world’s second-largest economy: health care. Just five years ago, China was dependent on Western companies for access to leading drugs. Today it is investing heavily in the research and development (R&D) necessary to create its own therapeutics through a homegrown biotechnology industry. The fruits of these innovative efforts are starting to show, which we believe will create opportunities for global investors.

A viable biotechnology industry is part of the country’s push over the last 50 years to elevate its health care system to treat an aging and sick Chinese population. Commercial biotech treatments are needed to address diseases and other conditions beyond the scope of traditional Chinese medicine, which today still represents 30%–50% of treatments, according to the World Health Organization. Yet China is not simply trying to improve domestic medical care, it is also seeking to claim a profitable share of the global biopharmaceutical market.

Compared to the U.S. and other developed markets that currently dominate clinical development and sales of prescription drugs, China arguably has greater life sciences infrastructure and institutional support. The country’s focus on technological self-sufficiency has led to more STEM graduates than the rest of the world combined and about 50% of the world’s total. The country produces 120,000 PhDs every year, three times the U.S. output.

In terms of research and development, spending as a percentage of GDP rose to around 2.7% of GDP in 2023 from 0.9% 20 years prior and China has approached parity with the U.S. in gross domestic spending on R&D (Exhibit 1). China surpassed the U.S. in total clinical trials in 2021 and continues to widen its lead. These advantages position it to become a leading maker of commercial molecules to treat cancer and other diseases with large patient populations.

Exhibit 1: Chinese R&D Spending Reaching Parity with Western Economies



PPP: Purchasing Power Parity. Source: OECD, Main Science and Technology Indicators Database, March 2025, <https://oe.cd/msti>.

Evolving Toward Blockbuster Drug Development

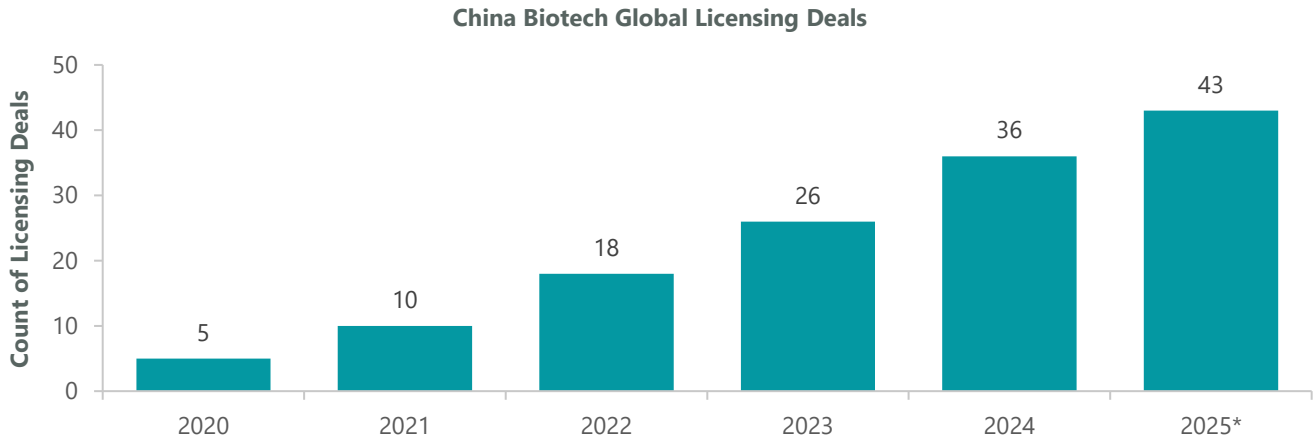
Chinese biotechnology companies are not yet at the leading edge in developing breakthrough drugs with blockbuster potential. However, they have thus far been successful either licensing and commercialising drugs from Western innovators or developing drugs that act as “fast followers” in large disease markets established by Western companies. Chinese firms often license drug candidates developed in the West from smaller U.S. biotechnology companies that lack the capital and regulatory expertise to sell into the domestic Chinese market. In the case of fast followers, certain technologies that become commoditised, such as antibodies and certain small-molecule drugs, can now be produced more effectively by Chinese companies.

One of the drivers of new commercial therapeutics in China is the country’s National Reimbursable Drug List (NRDL) — a list of drugs for which the state health insurance system will reimburse out-of-pocket costs to a large proportion of its patients. China has a population four times the size of the U.S., and a higher prevalence of medical conditions such as certain cancers. While China agrees to pay a fraction of the U.S. price for prescription drugs, it can partially offset this with higher patient volumes. Drugs targeting oncology and rare diseases will likely command lower price concessions due to increased need. In addition, a new development of a C-class drug list (to be finalised in 2025) allows for more costly drugs to fall under China’s health insurance coverage without being held to the same price concession standards of the NRDL.

The paths to profitability in the Chinese biotech industry are evolving rapidly and there will be a mix of business models, from developing products for domestic to a combination of domestic and foreign markets. Profitability at the moment is slim, but we expect to see this industry continue to evolve quickly and gain attention across the biopharmaceutical space.

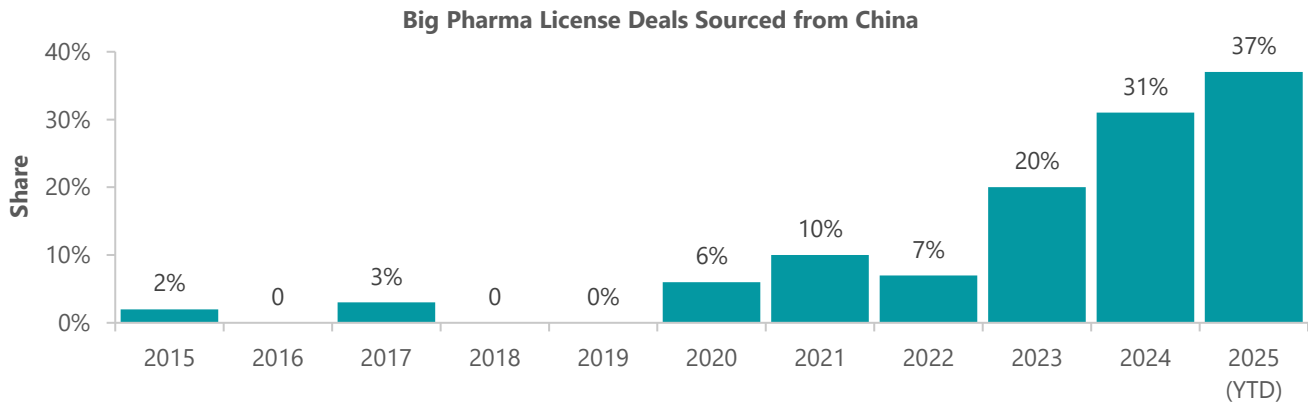
Cost and efficiency are the primarily selling points for Chinese labs in developing early-stage compounds for large cap partners. Over the last several years, these Chinese biotech companies have leveraged their production expertise and deep population of biologists and chemists to develop an impressive innovation engine. An expanding number of Chinese biotechs are now producing new compounds that multinational pharmaceutical firms are licensing in accelerating numbers (Exhibits 2 and 3).

Exhibit 2: Licensing Deals Outside China are Accelerating...



*2025 count is annualised projection. Data as of 31 March 2025. Source: DealForma. Licensing deals with upfront payments of \$10 million or more.

Exhibit 3: ...With Chinese Firms Gaining Share in Large Pharma Deals



Data as of 29 March 2025. Source: DealForma. Licensing deals with upfront payments of \$50 million or more.

The combined value of China’s outside licensing deals reached around \$46 billion in 2024, up from \$38 billion in 2023 and \$28 billion in 2022, according to data provider NextPharma. Meanwhile, the number of global companies licensing into China has decreased across the same period. These tailwinds have helped China expand its share of global drug development to nearly 30% compared to 48% for the U.S., according to data provider Citeline. Strong IP protection has positioned China to receive global investment, with a 2024 policy encouraging more IP collaboration between global and Chinese companies. U.S. investment bank Stifel projects that molecules licensed by large pharmaceutical firms from China will increase to 37% in 2025. This shift has been largely driven by U.S. companies seeking cheaper drug development alternatives and has led to R&D spending in China outpacing that of the U.S. Dozens of partnerships have already been established, including with multinational firms AstraZeneca, Novartis and Merck.

While the current trade standoff between China and the U.S. could impact access to Chinese companies and their IP, the financial benefits for Western pharmaceutical companies of partnering with a well-funded, well-run Chinese biotech innovation engine are clear. For Chinese drug developers, bringing original treatments to market through licensing deals and marketing partnerships creates a compelling investment case. In this fast-developing industry, we are actively looking at the key players.

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