



The Next Chinese Outsourcing Wave: Drug Development

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INVESTOR'S BUSINESS DAILY

Posted 11/30/2007

Jason Jin is champing at the bit.

The founder of the U.S. arm of **ShanghaiBio**, a Chinese biopharma research company, is busy helping his company prepare for its initial public offering in the U.S. That should happen next year.

Jin personifies a big change coming to the global biopharma industry, says Andrew Forman, managing director of health care research for W.R. Hambrecht & Co. and author of a recent report on a research shift to China.

"China is undoing its earlier brain drain," Forman said. "It's creating intellectual capital, evolving from a low-tech manufacturing economy to a higher value-added, knowledge-based economy."

Much of that intellectual capital is being developed in the U.S., either at colleges or at corporations. Many Chinese scientists who got their training here are returning to the homeland.

Jin, 43, got his M.D. from Shanghai Medical University, then came to the U.S. for more study. After earning a biology degree at the University of California at San Diego, he worked at the Salk Institute. He then led genomics research at privately held Purdue Pharma before putting his knowledge to work building the China-based company.

"I was originally a scientist and now I'm part of the new generation of entrepreneur combining education in the U.S. and opportunity in China," Jin said.

Well Prepared

People like Jin are experienced in U.S. regulatory standards and quality, Forman says. And, "They have leadership and management expertise and they can talk to Wall Street and put it in English."

Those kinds of strengths drew many U.S. investors to China firms earlier in the year. Most of those companies have seen shares sag over the past couple of months.

One of them, **WuXi PharmaTech**, ([WX](#)) went public on Aug. 9 at an opening price of 14. Shares more than tripled in two months. The stock has since declined sharply, though it's still up more than 100% since its IPO.

The company's business model is simple, Forman says: "WuXi can replace one **Pfizer** ([PFE](#)) Ph.D. in New London, Conn., with 10 scientists in Shanghai."

Other Chinese firms attracting attention this year include biologic drug developer **3SBio** ([SSRX](#)); traditional Chinese medicine firms **American Oriental Bioengineering** ([AOB](#)) and **Tongjitang Chinese Medicine**; ([TCM](#)) generic drug maker **Simcere Pharmaceuticals**; ([SCR](#)) medical device maker **Mindray Medical**; ([MR](#)) and retail drugstore group **China Nepstar Chain Drug Stores**. ([NPD](#))

Building Bridges

While China has long been seen as a low-tech, low-quality economy, these and other companies are examples of innovation, Forman says.

That's particularly true of contract research organizations, or CROs. These firms conduct tests on and trials of new biopharma products for the companies that own the technology.

Getting his CRO on a U.S. exchange is a key part of Jin's strategy. "It's an opportunity for us to link and bridge the two countries," he said.

The bridging effort requires a U.S. office with an American-sounding name as well as the NYSE listing, Jin says. ShanghaiBio's U.S. subsidiary is called MaxyBio, with offices in North Brunswick, N.J.

There should be plenty of business for Chinese CROs, says analyst Tycho Peterson of JPMorgan, which has done business with WuXi. Global research and development outsourcing totals \$24 billion a year. The market will grow by 15% per year for the next three to five years.

In the U.S., pharma companies outsource 33% of the \$45 billion they spend on R&D yearly, Peterson says. He expects that figure to rise to 41% by 2009.

That increase partly will be driven by consumer trends. Retiring boomers will demand more affordable health care. At the same time, U.S. competitiveness will be dragged down by cost of health care.

As health insurance premium costs are passed on to consumers, the popularity of generic medicines at the expense of patented drugs will continue.

The 2008 elections could have an impact as well — particularly if Democrats win the White House and increase their majorities in the House and Senate.

"That would lead to national health care legislation in 2009, with implementation in 2010," Forman said.

The result would pose a challenge to the current high-price, high-margin big biopharma model, he says. Drug makers will have to cut costs. One way they would do that is outsource R&D to China and other low-cost regions.

'Gravity Shift'

Outsourcing already is becoming more prevalent in the drug industry. After conducting interviews with 185 senior pharma executives worldwide, PricewaterhouseCoopers found that 72% of multinational drug firms have been considering outsourcing clinical trials to Asia.

The industry is "gearing up for a global gravity shift," Pricewaterhouse's report said.

ShanghaiBio looks to be part of that shift. The firm's CRO sales are small — about \$3.5 million so far this year — but they should double or triple every year, Jin says. He expects \$10 million in CRO sales next year and at least \$20 million in 2009.

The company's client list features numerous drug industry heavyweights, including **GlaxoSmithKline**, ([GSK](#)) **Merck**, ([MRK](#)) **Johnson & Johnson**, ([JNJ](#)) **Eli Lilly**, ([LLY](#)) **Pfizer**, ([PFE](#)) **Wyeth**, ([WYE](#)) **Novartis** ([NVS](#)) and **AstraZeneca**. ([AZN](#))

WuXi, founded in 2001, is the leader in Chinese CROs, with about \$135 million in projected 2007 sales. Thomson Financial analysts see 2007 earnings of 46 cents a share, rising to 73 cents in 2008 and \$1.04 in 2009. The company says it has 80 customers.

Last November WuXi inked a deal with U.S. drug developer **Vertex** ([VRTX](#)) to work on its hepatitis C drug, Telaprevir. The total value of the contract could reach \$300 million from 2007 to 2012, Peterson says.

Using the 10-to-1 cost ratio, that would be the same as a \$3 billion contract to a U.S. CRO.

WuXi has won the trust of U.S. clients by working solely on a fee-for-service basis, Peterson says. It seeks no ownership of intellectual property.

Shanghai Bio follows the same plan as WuXi. Both try to sign up with big biopharma at the earliest stages of drug development, even before clinical trials.

"By partnering with customers at the beginning of R&D projects, WuXi has been building a strong potential revenue stream for its downstream businesses," Peterson said. "It's more R than D."