

China Crisis?

How has the financial crisis affected outsourcing to China?

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THE FINANCIAL CRISIS SPREADING around the world has been felt by all industries. The pharma outsourcing industry is not immune to that. A much softer demand for outsourcing has been felt by the industry since the third quarter of 2008. And it is expected that reduced demand will remain at least throughout the first half of 2009 and may even extend to 2010. Many CROs/CMOs around the world have been reducing their earning forecast of 2008. For example, Charles River Laboratories reduced its full-year (2008) outlook by 3%. Similarly, Lonza also stated that it would miss its full-year earning targets, mainly due to the postponement and/or cancellation of the projects originally booked by customers.

In last couple of years China has been the primary choice of destination for outsourcing for a number of reasons. And Chinese pharma outsourcing industry has been thus growing in an exponential rate during this time period. For example, according to my firm's latest research, in the last three years (2005-2007) the Chinese pharma outsourcing industry had grown an average annual rate of 87% (See Figure 1 for market development of the industry). By the end of 2007 the total market size of the industry has already reached more than \$1 billion.

Although demand for outsourcing in China is still relatively high at this moment, a slowdown has been seen. For example, in its 3Q08 earnings statement, WuXi PharmaTech reported a slight decrease in outsourcing demand. Its 3Q earning was 6% lower than expected. The company thus reduced the forecast of

its 2008 service revenue from \$300 million to approximately \$265 million, about 12% lower than expected, indicating that there might be even softer demand for its service in the last quarter of 2008.

On the surface, the impact of the current financial crisis on pharma outsourcing to China will likely be a growth slowdown in the next one to two years. However, the degree to which each service sector is affected by the crisis could vary as several factors, both positive and negative, are in play. These factors include the change of outsourcing approach by both major pharma and small biotech companies. Pharma outsourcing to China might also benefit from the November 2008 terror attack at Mumbai of India, as it may cause some drug companies to change their mind on outsourcing destinations.

New Approaches by Major Pharma

To those major pharma/biotech companies that mostly have drug products on market, outsourcing to China or collaborat-

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Figure 1: Development of China Pharma Outsourcing Market

ing with Chinese counterparts has two drivers: reducing cost and marketing their drug products in the country. The latter has been the key factor, as China's potentially huge drug market is so attractive.

Due to strong cash reserves, almost none of the major pharma/biotech companies have been affected at present by the financial crisis. Rather, their drug pipelines could become enriched, as they are currently poised to acquire drug candidates from those small biotechs that are cash poor and thus forced to give up sole ownership. A recent example of this is Bristol-Myers Squibb's acquisitions of two late-stage cancer drug candidates from Exelixis, which reduced its workforce by 10% just one month prior to this transaction.

We anticipate that outsourcing to China by major pharma companies will remain strong in the near future, with no apparent changes. The only difference might be the category of the outsourcing projects. As these major companies will now have more drug candidates in various development stages, they will certainly place more efforts on development rather than on discovery. Thus, we think that, while outsourcing in early-stage drug discovery may diminish, outsourcing in late-stage drug development by these major companies will certainly grow in the near future.

New Approaches by Small Biotech

In fact, the significant decrease in outsourcing demanding is from the small even medium-sized biotech companies. As mentioned earlier, both Lonza and WuXi PharmaTech reported that many projects originally booked but recently postponed or cancelled were from small biotech customers.

It seems that those small biotech companies — in particular those still in early-stage drug discovery and development — have been hit hardest by the financial crisis. In the two months of last October and November 2008, more than 25 biotech com-

panies announced workforce cuts. The job cuts within these companies ranged from 5% of staff to more than 75%. A number of biotech companies also announced plans to reprioritize their R&D programs with more focuses only on late-stage development. Several of them even completely cut early-stage programs, including those still in discovery and preclinical research. Some even planned to close their R&D facilities or put their programs on idle.

At this moment, most small biotech companies that are cash poor have to seriously think about how they will survive the financial crisis, as many VCs are at present not investing in small biotechs. Most people in the industry believe that there are two options for these cash-short small biotech companies to consider:

- 1) Selling their drug candidates or even their entire company to a major at a significant discount.
- 2) Outsourcing R&D projects to low-cost regions so that they can continue their programs despite a minimal cash reserve.

The first option works only for those companies that have developed a series of lead compounds. Some of these must enter developmental stages and show promising results. To those that are still in discovery stage or early preclinical development stage, the current situation is extremely difficult, as some VCs who have invested in startups or early-stage biotech companies are currently selling their stakes in a marginal discount of as low as 10-60% of their original investment price. To these companies the second option would thus become critically important and could be the best choice. Therefore, outsourcing to China by these cash-poor small biotech companies might increase in near future.

Impact of Terror Attack in Mumbai

The terror attack in Mumbai in November 2008 could have a negative impact on India's booming pharma outsourcing industry, at least in near term. Although Mumbai is an economic center of India and not a biotech hub, but the incident could drive some Western companies away from doing business in the country. Although it is still too early to estimate the long-term effect, the impact will be most felt in the first six to 12 months. Companies that currently have projects in India might scale them down or re-evaluate the feasibility of their Indian operation. For those that have previously planned outsourcing to India, they may opt out for now. The situation

could exert a positive impact on China pharma outsourcing as some drug companies may now select China as an alternative.

Figure 2 summarizes these effects.

pharma and biotech companies become more focused on late stage development, it is expected that worldwide outsourcing in early stage drug discovery, including outsourcing to China, will very likely decrease dramatically in the near future.

However, the actual situation may vary in particular for outsourcing to China. As discussed earlier, those cash-poor biotech companies that are still in discovery stage or early development stage may be forced to consider outsourcing to China in order to survive this tough period. In the past this option would not be considered by small biotech companies, but the abrupt change in the financial and investment environment will force them to change their minds. So outsourcing demand in drug discovery by some of these early stage drug companies might slightly offset the otherwise declining trend.

2. Preclinical Development

A similar effect would likely be expected on the preclinical research sector. The reasons are as follows:

- In the past the big pharma and biotech companies were hungrily hunting all types of drug candidates, even those still in pre-clinical development stage. However, as they now have more choices, those still in preclinical development stage will become less attractive to them.
- Most cash-short biotech companies are also cutting their preclinical research stage programs, as they are still far away from the valuable, final product stage.
- On the other hand, those small biotech companies that otherwise would not consider outsourcing to China may now consider this option. Some of them may be able to continue their R&D programs with their current cash reserve if they opt to operate them in China as it would cost them much less.

Figure 2: How outsourcing to China would be affected by the financial crisis

What big pharma companies will do:

- Scale back R&D budget on early-stage drug discovery and development;
- Focus on late-stage development;
- Focus on cost reduction both in R&D and manufacturing;
- Put more efforts on development of novel and generic biologics.

What small biotech companies will do:

- Completely cut drug discovery programs;
- Focus on mid- to late-stage development programs;
- Seriously consider cheaper and more efficient ways to conduct drug R&D;
- Wait for more funding, leaving operations temporarily idle.

Impact of terror attack in Mumbai:

- Big pharma will reprioritize development focus in emerging markets;
- Small biotechs could choose alternate outsourcing destinations;
- Sourcing stability of pharma raw materials will be reconsidered.
- More Indian CROs/CMOs will step up overseas operation offices/facilities.

How outsourcing to China will be affected:

- Significant decrease in outsourcing of custom synthesis, lead discovery/ optimization, and other medicinal chemistry research;
- Significant decrease in outsourcing of ADME/Tox study and other preclinical research;
- Decrease in outsourcing of early stage (phase I) clinical research;
- Almost no impact on outsourcing of late-stage clinical research;
- Increase in contract manufacturing of APIs and intermediates;
- Start to see increase in outsourcing of contract manufacturing of biologics.
- Major companies may consider China development as high priority;
- More small biotech companies may select China for outsourcing;
- More raw material sourcing may go to China;
- Chinese CROs/CMOs will face more competition at overseas markets.

How Each Pharma Outsourcing Sector is Affected

The financial crisis has exerted a complicated net effect on the pharma outsourcing to China. Based on our latest research on this Chinese industry, we reached following conclusions about the possible impacts on each segment of the entire outsourcing value chain.

1. Early-stage Drug Discovery

As almost all small biotech companies that are financially troubled are cutting all early stage research activities, and as major

3. Clinical Research

Clinical research is the most costly part in the entire value chain of drug R&D. But it is also the most valuable part, as it is closest to the final product stage. It seems that even during the financial crisis, most biotech companies still remain focused on the clinical development research. The degree of their focuses varies, depending on how much cash reserve each has on hand. Most companies cut early-stage clinical research such as Phase I trials and focus on the mid-stage trials. As for Phase III, because it is the most expensive stage of development, some companies just

suspend it and seek a co-development partnership with a big pharma or biotech company.

On the other hand, outsourcing of clinical research to China by those major companies will very likely increase, for the reasons stated earlier. So the net effect of the current financial crisis on China's pharma outsourcing in this sector may be positive instead.

4. Contract Manufacturing

Contract manufacturing of APIs for drug candidates is closely associated with the development state of clinical research. As discussed above, while outsourcing of API manufacturing for early phase drug candidates might decrease, contract manufacturing of APIs for late-stage drug candidates would increase instead.

On the other hand, demands for contract manufacturing of APIs for marketed drugs (including generic drugs) would likely become even stronger as more and more companies are forced to conduct cost reduction in every aspect of their operation under the extreme financial crunch. Another positive factor is the recent opening of the FDA's China offices (the FDA now has offices in three Chinese cities). The presence of the FDA in China will certainly ignite the new hope for outsourcing companies as more, strict regulations and inspections will be expected for all Chinese CMOs that provide APIs or contract manufacturing services to the Western companies.

In summary, the current global financial crisis could exert a negative impact on the entire China pharma outsourcing industry. However, the degree of net effects varies from sector to sector. The early stage drug discovery and development would likely be hit hardest, whereas the late stage drug development including the CMO service sector would likely not be affected at all. ■

Reference

1 Market research report, "The changing dynamics of pharma outsourcing in Asia: Are you readjusting your sights?", PricewaterhouseCoopers, October, 2008.