TACKLING THE CHANGING LANDSCAPE OF PORK PRODUCTION IN CHINA

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With over 50% of worldwide pig production, 735 million marketed pigs in 2014, China is the powerhouse leader of the world's swine industry. By comparison, the world's second largest producer, the United States, is only 1/5th of China's size. Indeed, many market opportunities exist due to China's dominating size, but even more exist due to the significant productivity gaps across its pig production. For example, the national average weaned pigs per sow per year is about 15 and the feed conversion is 3.1:1, compared to 25 and 2.6:1 respectively in North America, Europe, or Brazil.

Realizing both the intense market size and the obvious productivity gaps, Chinese farms and entrepreneurs have been in search of solutions, making large investments to be top producers. Worldwide players in genetics, nutrition, animal health, farm equipment and facilities, design, and management consulting have participated in this trend and benefited from its growth.

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Unfortunately, negative price trends have put significant pressure on the industry over 15 months. From 2011 to Q3 of 2013, China's average live pig price was primarily within the range of RMB15-19 a kilogram. However, since the last quarter of 2013, the live pig price has dropped to under RMB11 per kilo, recovering slightly to a price range of RMB13-14 in 2014, in line with the average operating cost of pig production in China. Moreover, limited access to financing, high investment cost, and frequent animal disease outbreaks further add to the challenges faced by the industry. With the majority producers operating in the red for over a year, many have started wondering: what is going to happen in the near term for 2015, and in the long term for the entire Chinese swine industry?

CLOSURE OF NON-PRODUCTIVE FARMS

In contrast to the US, where production is primarily consolidated amongst large players, China's market landscape is heavily fragmented. Large, highly productive farms have only recently appeared in the Chinese market, and account for less than 15% of national output. In contrast, the majority of Chinese farms are small and medium sized, as it has been the historical norm in China. The majority of these smaller pig producers of low productivity and the heavily leveraged new farms have been hit especially hard by the consequences of China's severe price declines.

As a result, many of these producers, unable to turn a profit for over a year, have begun to exit the market. According to the Ministry of Agriculture, the national sow herd has been dropping for 17 consecutive months—a 16% drop from 50.4M in mid-2013 to 41.9M in January 2015. On-farm pig inventory is down to 408 million in January 2015, a 3.2% drop from the prior month and 7.4% drop since January 2014. Many more such producers will follow even after the equilibrium is achieved.

PIG PRICE RECOVERY

The key reason behind China's pig price drop is oversupply. On the demand or consumption side, with the increase of living standard and urbanization in China, meat consumption has been greatly increased, with pork at the forefront, making up about 65 percent of meat consumption. The total pork consumption in 2013 is 52.62 million metric tons, having increased over 4 times in 30 years since 1983 with compound annual growth rate (CAGR) of about 5%. This growth has slowed in recent years, growing at 1.8% CAGR from 2003 to 2013, with the China Economic Times predicting a 1.6% CAGR over the next 10 years.

By contrast, from the supply side, China's pork production grew at 4% CAGR from 2011 to 2014 (50.6 million metric tons to 57 million). This does not include imports and exports, though this would only increase supply further as China has historically been a net importer of pork (2014: import 810,000 tons vs export 275,000 tons).

Given these supply and demand trends, oversupply is the primary reason behind the historical price drop. As the drop of sow herds and closing down of non-productive farms continues, China's price should begin to drive upward in 2015.

LOWERING OPERATING COST VIA PRODUCTIVITY IMPROVEMENTS

The key opportunity ahead lies in the improvement of pig farm productivity given China's large technological gap. Indeed, tomorrow's market will belong to farms equipped with higher-productivity practices and to the businesses that enable these farms with the means to do so.

Look into the operating costs, the highest is the feed cost, which is 67% – 70% of total operating costs. Improvement of the feed conversion from 3.1 to 2.6 would improve 11% of the total operating costs, or RMB138 for every marketed pig. Nationally, this would conserve 30 million tons of grain enough to supply 150 million people a year. There exist several low hanging fruits that can improve feed conservation, as the primary causes of feed loss are due to physical waste, spoilage, and unnecessary over-feeding. Additional remedies exist in cultivating better swine genetics and insulating

facilities well so the pigs would not eat to keep warm in winter.

The second highest operating cost component is the labor costs, which takes about 7.5% to 9% in most of Chinese farms. Reliable automation is not only the solution to reducing labor, it is also a means to minimize human error. Furthermore, research shows that the animals would have higher productivity in reproduction and growth if there is less human interruption. China top farms' near-term targets are to have one labor for 300 sows and one labor for 5000 nursery pig or finishing pigs through automation.

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Another key indicator that China left behind is the weaned pig per sow per year as mentioned above. If reaching North America level, China would be able to eliminate 40% of the sow herd, or 40% of the operating cost and investment of the gestation and farrowing. This is achievable as Wens, the largest farm in China with 12 million marketed pigs in 2014 (1.6% share of China), claims that they have achieved 23 weaned pigs per sow per year. That is a key reason, in addition to feed savings, that Wens ad good profit margin of its pig production in 2014.

BRINGING INNOVATION TO ADDRESS KEY CHALLENGES

In order to address the key challenges of high productivity faced by the Chinese farms, Comax and Osborne Asia have been working together to provide the best equipment solutions and management services to pig farms. With Comax as a manufacturer of proven worldwide quality equipment and products in China through partnerships with worldwide technology leaders and Osborne Asia as the chief marketing and technical service partner, we've developed a capable ecosystem to address critical pain points:

- To eliminate the feed waste, we provide big wheel round feeders, stainless steel feeders, and automatic genetics testing stations to select the best feed conversion genetics. Research also shows that Osborne ESF stations are not only saving feed through precise sow feeding but also increasing weaned pigs.

- For total automation, Comax and Osborne Asia provide total turnkey solutions from farm design to equipment supply. Different from other turnkey providers, we manufacture our own products, equipment, and integrated systems of worldwide leading technology including feed systems and ventilation products (Valco technology), automatic sorting equipment (Osborne technology), drinkers, penning, stalls, farrowing beds, heat pads and mats. As their systems are integrated, we are able to provide optimum solution to assist farms to best utilize resources and eliminate waste to become top producers.

- For farm management, we work together with PigCHAMP to provide management software to direct operating actions, pinpoint areas of improvement, and provide data for performance management.

Our operating beliefs of providing the most reliable equipment and never disappointing our customers' trust have enabled us to serve all the top Chinese producers including Wens, COFCO, Shineway, Zheng Bang, TRS Group, Tiuein Group, Jiahua, Sungsing, Luguangli, and more than 200 other top Chinese farms.

CLOSING THOUGHTS

Our research has shown that Chinese producers have shifted their priorities to building effective farm facilities and management systems, now ranked higher than genetics, animal health, and nutrition. This is partially due to the wider availability of genetics, nutrition, and animal health products, whereas solutions to increasing labor costs, management challenges, and environmental restrictions are scarcer. This push towards a more modern facility with reliable equipment is amongst the top efforts in the minds of Chinese producers.

China will continue as the world's power house of pig production and pork consumption. China Economic Times predicts that the total pork consumption will eventually reach 73 million tons in 25 - 30 years, from 57 million today. Indeed, while clear market challenges still exist, key suppliers of innovation will drive the next phase of growth on a national level, ultimately changing the face of pig production in China and propelling it forward.

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Gangpu Lee is the Managing Director for both Comax and Osborne Asia. Prior to his current position, Mr. Lee was a Managing Director at Crimson Investment, a PE firm with over $1 billion assets in management. Before his investment career, Mr. Lee was the Vice President and GM for Danaher Asia Pacific for 11 years, helping grow Danaher's business from $30M to $2.5B, and a founder of Moen in China. Mr. Lee has both MBA and M.S. degrees from universities in the US and China.