China’s Meat Revolution: Agribusiness, Growth and Its Limits

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February 19, 2014
Figure 1: Change of China’s meat production structure from 1990 to 2011

Translated in English from: 陈志坚,《农发发展深度报告：量增价升,盈利周期反转》(武汉：长江证券, 2013), 6.
Figure 9: Retail prices of pork and poultry in China, 2000–2012

Figure 10: Recent growth of global food service chains in China (number of stores)

Figure 4: Major broiler producers and their share of total production

*The total in this chart is the total broiler production of these 11 world’s largest producers, not world broiler production.*

Figure 7: Poultry meat production, select countries

Figure 20: Share of poultry production farms with different scales in total poultry output in China and the U.S.

Source: 陈振志，全球肉禽产业经营模式之演进与比较(上海：东方证券，2013)，18。
Figure 19: Changes in aggregate annual output of broiler farms by farm size in China.

<table>
<thead>
<tr>
<th>AGGREGATE ANNUAL OUTPUT (NUMBER OF BIRDS)</th>
<th>1998 (IN MILLIONS)</th>
<th>1998 PERCENTAGE OF TOTAL OUTPUT IN CHINA</th>
<th>2000 (IN MILLIONS)</th>
<th>2000 PERCENTAGE OF TOTAL OUTPUT IN CHINA</th>
<th>2005 (IN MILLIONS)</th>
<th>2005 PERCENTAGE OF TOTAL OUTPUT IN CHINA</th>
<th>2009 (IN MILLIONS)</th>
<th>2009 PERCENTAGE OF TOTAL OUTPUT IN CHINA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1,999</td>
<td>4,238.50</td>
<td>61.93%</td>
<td>5260.1</td>
<td>64.95%</td>
<td>4929.1</td>
<td>52.27%</td>
<td>3195.5</td>
<td>30.12%</td>
</tr>
<tr>
<td>2,000-9,999</td>
<td>1,413.70</td>
<td>20.66%</td>
<td>1482.7</td>
<td>18.31%</td>
<td>1751.1</td>
<td>18.57%</td>
<td>1792.1</td>
<td>16.89%</td>
</tr>
<tr>
<td>10,000-49,999</td>
<td>671.5</td>
<td>9.81%</td>
<td>817.6</td>
<td>10.10%</td>
<td>1687.3</td>
<td>17.89%</td>
<td>3095</td>
<td>29.17%</td>
</tr>
<tr>
<td>50,000-99,999</td>
<td>174.8</td>
<td>2.55%</td>
<td>208.1</td>
<td>2.57%</td>
<td>386.3</td>
<td>4.10%</td>
<td>953.4</td>
<td>8.99%</td>
</tr>
<tr>
<td>100,000-499,999</td>
<td>132.1</td>
<td>1.93%</td>
<td>139.3</td>
<td>1.72%</td>
<td>322.5</td>
<td>3.42%</td>
<td>679.8</td>
<td>6.41%</td>
</tr>
<tr>
<td>500,000-999,999</td>
<td>80.5</td>
<td>1.18%</td>
<td>63.7</td>
<td>0.79%</td>
<td>119.1</td>
<td>1.26%</td>
<td>235.1</td>
<td>2.22%</td>
</tr>
<tr>
<td>1 million or more</td>
<td>132.7</td>
<td>1.94%</td>
<td>127.1</td>
<td>1.57%</td>
<td>235.5</td>
<td>2.50%</td>
<td>658.6</td>
<td>6.21%</td>
</tr>
<tr>
<td>Total production from intensive farms (with an annual output larger than 2,000 birds)</td>
<td>2,605.30</td>
<td>38.07%</td>
<td>2838.5</td>
<td>35.05%</td>
<td>4501.8</td>
<td>47.73%</td>
<td>7414</td>
<td>69.88%</td>
</tr>
<tr>
<td>Total</td>
<td>6843.8</td>
<td>100.00%</td>
<td>8098.6</td>
<td>100.00%</td>
<td>9430.9</td>
<td>100.00%</td>
<td>10609.5</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

WAL*MART
Figure 11: How poultry products are distributed in China in 2010 and 2020 (forecast)

Role of Transnationals

- Tyson’s Cobb Vantress (80% of grandparent breeders)
- Erich Wesjohan (German) and Hendrix Genetics (Dutch) layer hen breeds
- Tyson
- Marfrig’s Keystone Foods
- Illinois-based OSI Group
- Cargill
- Brasil Foods
- Perdue
- Goldman Sachs
I have a dream and my dream is that each Chinese person, especially the children, can afford to buy one jin [500g] of milk to drink every day.

–Premier Wen Jiabao, 2006
**Figure 2: Number of dairy products sold in retail stores in Beijing, February 2006**

<table>
<thead>
<tr>
<th>SUPERMARKET</th>
<th>TOTAL PRODUCTS VARIETIES</th>
<th>VARIETIES OF DAIRY PRODUCTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrefour</td>
<td>22,000</td>
<td>181</td>
</tr>
<tr>
<td>Wal-Mart</td>
<td>20,000</td>
<td>272</td>
</tr>
<tr>
<td>Lotus</td>
<td>18,000</td>
<td>127</td>
</tr>
<tr>
<td>Chengxiangcangchu</td>
<td>5,100</td>
<td>190</td>
</tr>
<tr>
<td>Chaoshifa, Shuanggan Store</td>
<td>3,000</td>
<td>179</td>
</tr>
<tr>
<td>Champion</td>
<td>4,500</td>
<td>126</td>
</tr>
<tr>
<td>Chaoshifa, Shuangyushu Store</td>
<td>6,000</td>
<td>182</td>
</tr>
<tr>
<td>Chaoshifa, Nongkeyuan Store</td>
<td>4,200</td>
<td>126</td>
</tr>
<tr>
<td>Xidan</td>
<td>4,200</td>
<td>124</td>
</tr>
</tbody>
</table>

Source: Hu 2009, pg. 31
Figure 1: Milk output in China, 1980–2006

Source: Chinese statistical yearbook
Reproduced from Hu 2009
Figure 8: China’s Whole Milk Powder Production and Imports 2003–2012

Figure 4: Market share of Chinese dairy companies, 2006

Reproduced from Gale et al. (2009), pg 16.
### Figure 5: Number of Chinese Dairy Farms at Different Herd Sizes (2007–2010)

<table>
<thead>
<tr>
<th>ANNUAL INVENTORY (HEAD)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>% CHANGE 09/08</th>
<th>% CHANGE 10/09</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–4</td>
<td>2,159,701</td>
<td>1,970,755</td>
<td>1,816,359</td>
<td>1,750,895</td>
<td>-7.32</td>
<td>-3.60</td>
</tr>
<tr>
<td>5–9</td>
<td>295,789</td>
<td>398,744</td>
<td>374,541</td>
<td>345,667</td>
<td>-6.07</td>
<td>-7.70</td>
</tr>
<tr>
<td>10–19</td>
<td>149,106</td>
<td>143,358</td>
<td>138,265</td>
<td>138,246</td>
<td>-3.55</td>
<td>0.00</td>
</tr>
<tr>
<td>20–49</td>
<td>42,079</td>
<td>51,804</td>
<td>49,490</td>
<td>49,450</td>
<td>-4.47</td>
<td>-0.10</td>
</tr>
<tr>
<td>50–99</td>
<td>14,175</td>
<td>13,842</td>
<td>13,685</td>
<td>14,758</td>
<td>-1.13</td>
<td>7.80</td>
</tr>
<tr>
<td>100–199</td>
<td>4,421</td>
<td>4,425</td>
<td>4,324</td>
<td>4,640</td>
<td>-2.28</td>
<td>7.30</td>
</tr>
<tr>
<td>200–499</td>
<td>2,336</td>
<td>2,679</td>
<td>3,341</td>
<td>3,579</td>
<td>24.71</td>
<td>7.10</td>
</tr>
<tr>
<td>500–999</td>
<td>768</td>
<td>1,026</td>
<td>1,773</td>
<td>2,061</td>
<td>72.81</td>
<td>16.20</td>
</tr>
<tr>
<td>1,000 and above</td>
<td>339</td>
<td>454</td>
<td>706</td>
<td>898</td>
<td>55.51</td>
<td>27.20</td>
</tr>
</tbody>
</table>

Reproduced from FAS 2012 Semi-Annual (P6) and 2011 Annual (P3)
Figure 9: Infant formula market share

- Mead Johnson: 12.3%
- Danone Dumex: 11.7%
- Nestle's Wyeth: 11.0%
- Nestle: 3.7%
- Shengyuan: 3.9%
- Mengniu's Ya: 4.5%
- Biostime: 6.7%
- Yili: 7.7%
- Abbott: 8.7%
- Beinmate: 5.7%
- Others: 24.1%

Source: http://www.bjnews.com.cn/finance/2013/06/19/268973.html
Other Developments
Figure 10: STAMPEDE
China has ramped up the number of live dairy cows it imports to boost production and improve quality

Reproduced from http://online.wsj.com/article/SB10001424052702303863404577281302732745814.html
Figure 11: U.S. Alfalfa Hay Exports (in metric tons)

Source: http://www.agweb.com/article/alfalfa_exports_surge/
Has China reached “peak” meat and dairy?
Antibiotic overuse in China’s livestock industry

• In 2008, China produced 210 million kgs of antibiotics.
• Half of which was used in livestock production
• The US uses 29 million pounds of antibiotics (13.2 million kgs)

So if the problem of antibiotic resistance is a crisis in the U.S....

What does it mean for China?
Global Meat Complex: The China Series

China’s Pork Miracle?
Agribusiness and Development in China’s Pork Industry

Fair or Fowl?
Industrialization of Poultry Production in China

Global Meat Complex: The China Series

China’s Dairy Dilemma
The Evolution and Future Trends of China’s Dairy Industry

Global Meat Complex: The China Series

The Need for Feed
China’s Demand for Industrialized Meat and Its Impacts
Final Webinar:

From Melamine to Dead Pigs to Bird Flu: Can Food Safety Become a Game Changer Against Industrializing Meat Production in China?

Tuesday, February 25, 10:00 a.m. CST
To learn more, register for future webinars and download The China Series reports, visit:

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