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

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World Meat Production, 1961-2010

Source: FAOSTAT 2012
Pork Production in Reform Era China, 1978-2009

Source: China Statistical Yearbook, 2010
## Pork in 2012: China & World

<table>
<thead>
<tr>
<th>Category</th>
<th>China</th>
<th>World</th>
<th>China %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pork Production (1,000 MT)</td>
<td>51,400</td>
<td>104,363</td>
<td>49%</td>
</tr>
<tr>
<td>Pork Consumption (1,000 MT)</td>
<td>51,940</td>
<td>103,791</td>
<td>50%</td>
</tr>
<tr>
<td>Pork Imports (1,000 MT)</td>
<td>775</td>
<td>6,749</td>
<td>11%</td>
</tr>
<tr>
<td>Pork Exports (1,000 MT)</td>
<td>215</td>
<td>7,237</td>
<td>3%</td>
</tr>
<tr>
<td>Swine Production (1,000 head)</td>
<td>684,000</td>
<td>1,229,260</td>
<td>56%</td>
</tr>
</tbody>
</table>

Source: USDA, 2012
Why Pork?
Chinese Indigenous Pigs

- Domesticated 10,000 years ago in Southern China
- Raised extensively throughout the country for 6-7,000 years
- 1960: 100 indigenous pig breeds

Source: Zheng, 1984

Photo© Mindi Schneider
Home: “put a roof over a pig”

jiā
“The pig is a fertilizer factory on four legs.” – Mao Zedong
“Meat [pork] signifies wealth. The more money you have, the more meat [pork] you will eat.”

- Agribusiness executive in Shanghai

When I was a boy, my dream was to eat meat. Today I can eat meat for breakfast, lunch, and dinner if I want to…This is progress.”

- Beijing man who grew up in Liaoning

Source: Schneider, 2013
Meat & Pork Consumption in China

- Meat consumption has quadrupled in China since 1980 to an average of **119 pounds** (54kg) per person, per year.
  - **USA**: 275.6 pounds (125kg) /person/year
  - **Australia**: 242.5 pounds (110kg) /person/year
  - **UK**: 176.4 pounds (80kg) /person/year

- Pork consumption in China has doubled since 1990 to an average of **87.3 pounds** (39.6kg) /person/year.

Source: FAO
How did China achieve this “Pork Miracle”?
Feedstuff Imports

Feeding China's Pigs
Implications for the Environment, China's Smallholder Farmers and Food Security
By Mindi Schneider
Institute for Agriculture and Trade Policy

Global Meat Complex: The China Series
The Need for Feed
China's Demand for Industrialized Meat and Its Impacts
By. Shefali Sherma
Institute for Agriculture and Trade Policy
February 2014
Share of Pig Production in China by Farm Type, 1985-2007

Source: INFORMA, 2009
Industrialization, Integration, and Consolidation

- 2008: number of pig-raising rural households dropped by 50% (Li, 2010).

- 2009: farms with annual production of more than 50 pigs per year accounted for almost 60% of total slaughter (Woosley & Zhang, 2010).

Domestic Agribusiness

Dragon Head Enterprises

- Agricultural processors, distributors, intermediaries, and increasingly producers.
- Supported through subsidies, loans, tax breaks, and brand recognition.
Pork and Dragon Heads

Top 3 Processors: Shuanghui, Jinluo, and Yurun

• 2011 combined sales: 115.6 billion RMB ($19 billion)

• 2011 combined profits: 6 billion RMB ($965 million)
  • 86% of total profits of the top 10 pork processors
Profits of the top 50 meat enterprises in China account for 84.6% of total meat sector profits.

Zhou, Zhang, and Xu, 2012
<table>
<thead>
<tr>
<th><strong>Dragon Head Enterprises: 2011</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of national-level DHEs</td>
<td>110,000</td>
</tr>
<tr>
<td>Number of rural households engaged with DHEs</td>
<td>110 million</td>
</tr>
<tr>
<td>Sales revenue of all national-level DHEs</td>
<td>5.7 trillion RMB ($917 billion)</td>
</tr>
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**Share of production under Dragon Head-led Vertical Integration**

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<tbody>
<tr>
<td>Crop area</td>
<td>60%</td>
</tr>
<tr>
<td>Livestock production (pigs &amp; chicken)</td>
<td>70%</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>80%</td>
</tr>
<tr>
<td>Total farm produce and processed foods</td>
<td>1/3</td>
</tr>
<tr>
<td>Average food basket in major cities</td>
<td>2/3</td>
</tr>
</tbody>
</table>

Source: Ministry of Agriculture, 2012
Foreign Agribusiness Firms

- Grain Traders: ABCD
- Genetics: PIC, Hendrix
- Equipment Dealers: Big Dutchman
Foreign Meat Processors

- JBS
- Tyson
- Cargill
- Brasil Foods
- Vion

- Nippon Meats
- Smithfield Foods
- Marfrig Alimentos
- Danish Crown
- Hormel Foods
Shuanghui and Smithfield
Implications of the Pork Miracle
Food Safety Issues

Source: http://www.china.org.cn/opinion/2011-12/31/content_24299048.htm
Dietary Inequalities

Rural-Urban Meat Consumption

Source: Ministry of Agriculture, 2010
Inequality

- Gini coefficient: 0.61
- Urban to rural income ratio is 3.13 to 1
- # of millionaires: 1.11 million (ranks 3rd in the world)
- # of billionaires: 115 (ranks 2nd in the world)
- # living under $1.25/day: 214 million (UN poverty threshold)
- # living under $2.00/day: 500 million
- # living under $362/year: 128 million (China poverty line)
Diseases of Affluence

- **Diet-related diseases:**
  - Type II diabetes, coronary heart disease, obesity, cancers

- **Overweight in 2008:**
  - 1 in 4 Chinese adults
  - 20% of children

- **Obesity:**
  - **2010:** 100 million obese
  - **30-50%** annual growth in number of obese

Source: French and Crabbe, 2010
Declining Genetic and Species Diversity

Feed crops
Livestock

Photos© Mindi Schneider
Manure from industrial livestock production is China’s most significant source of water pollution.
Greenhouse Gas Emissions

- Transportation
  - Feed imports, meat products

- Manure
  - The livestock industry is responsible for 37% of all human-made methane emissions.
  - Manure also accounts for 65% of human-made nitrous oxide emissions (Lappé, 2010).

- Land-use change
  - Feed and meat production
Issues for Smallholders
Overcapacity in Processing

<table>
<thead>
<tr>
<th></th>
<th>2011 Slaughter Capacity in Million Head</th>
<th>2011 Actual Slaughter in Million Head</th>
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<tbody>
<tr>
<td>Shuanghui</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>Yurun</td>
<td>46</td>
<td>15</td>
</tr>
<tr>
<td>Jinluo</td>
<td>20</td>
<td>8</td>
</tr>
</tbody>
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Source: Company Websites & Rabobank, 2012
Consumer Demand?

• Rabobank (2013) reports a slowdown in annual meat consumption growth to 2% (from a high of 8.3%).

• Pork’s share is decreasing from 80% of meat consumption in 1985, to 65% in 2011.

• Are wealthy and upper income urban consumers eating less meat?
How long can/will the “pork miracle” continue?

When will we reach “peak meat”?
Global Meat Complex: The China Series

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

By: Mindi Schneider with Shefali Sharma
Institute for Agriculture and Trade Policy
February 2014
World Meat Consumption, 2009

12% of humanity: 34% meat production, 30% meat consumption, 68% meat trade

50% of humanity: 1/6 meat production & consumption

Sources: FAOSTAT 2013 (GeoCurrents), Weis 2013