

Towards Competitive Livestock, Poultry, and Dairy Industries: a Benchmarking Study

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Towards Competitive Livestock, Poultry, and Dairy Industries: Consolidated Benchmarking Study

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Industry profiles

Swine industry: Philippines

- After recovering from disease problems in the 2010s, the swine industry suffered a catastrophic decline from 2019 to the present owing to ASF
- The dominant production system for swine is backyard production involving small-scale producers, though the share of commercially-grown pork has been increasing
- Consistent with inventory trends: pork supply, imports, and consumption in the Philippines were rising in the 2010s → 1.94 million tons in 2019.
- But not enough to meet domestic demand → imports on an upward trend, growth averaging 9% over the decade.

International comparison

- In 2019, China the top global producer of pork at 42.6 MT; Vietnam at 3.3 MT; due to ASF, now off production peaks by 29% and 8% respectively
- In contrast: Thailand - pork production on upward trend since 2010 → *managed to contain ASF*
- Thailand: 92% of swine-growers owned < 50-head; in China, 90% swine farmers < 50 head; in Vietnam, 97% small-scale → *swine production is still mostly small-scale in China, Vietnam, and Thailand*
- In Thailand, *ASF is forcing consolidation of swine industry* – shutdown of very small scale producers

Chicken industry: Philippines

- COVID19 pandemic reversed the upward trend of the chicken industry in the 2010s.
- Native/improved chicken is 45 % of total
- Meanwhile, about 20% of industry produced by backyard operators

International comparison

China a top global producer of chicken; its chicken production has been falling, in contrast to that of Vietnam and Thailand.

Chicken inventory, China, Thailand, and Vietnam, 2010 – 2020, '000,000 head (excludes layers)

	2010	2015	2016	2017	2018	2019	2020
China	5,303	4,792	5,164	5,137	5,191	5,247	-
Thailand	131	165	259	284	304	313	327
Vietnam	218	259	277	300	317	383	409

Dairy industry: Philippines

- Dairy production in the country has been growing
- Almost all of the country's milk consumption is imported
- Import dependency ratio (IDR) for dairy ~ 100%
- Bulk of milk production by backyard operators → mostly organized into cooperatives

International comparison

- China a top global milk producer, mostly from cattle, at > 35 MT in 2019; in 2020 about 70% of dairy farms were large-scale.
- Thailand → 1.2 million tons in 2019, all from cattle; its IDR is 60%
- Vietnam: milk production reached 1.0 million tons same year
- In Thailand and Vietnam, output has been rising, unlike in China.
- Vietnam: 66% of dairy households are in the small-scale category; likewise dairy in Thailand mostly small-scale.

Cost and returns analysis

Cost and returns - swine

- In 2018, cost per kg of swine meat (carcass weight) was Php 148 for backyard operators, but just Php 112.40 for commercial operators.
- Cost lower for the latter owing to a much larger output, which reduces per unit cost of utilities, labor, rent
- Cost and returns estimates for China, Thailand, and Vietnam, likewise confirm the presence of economies of scale, lower cost per unit for large-scale operations

Cost and returns - swine

	CHINA (2017-19)	Philippines (2018)	Thailand (2019-20)	Vietnam (2017-19)
Small-scale farms				
Operating Cost	125.47	148.26	121.97	133.81
Large-scale farms				
Operating cost	106.97	112.40	97.53	120.44
Price	128.46	168.57	132.13	148.82
Net Revenue	21.49	56.17	34.60	28.38
Shares in operating cost (%)				
Cost of feeds	51.18	57.41	54.71	63.49
Cost of stocks	36.02	22.60	27.94	28.51
Labor	6.73	3.53	1.71	0.83
Cost of veterinary supplies	1.57	1.15	2.30	1.49
Electricity and water	0.67	0.27	1.99	0.52
Others	1.04	15.04	3.55	0.96

Cost and returns - swine

- Philippines the highest cost producer, Vietnam the lowest.
- The largest cost components - feed and grower stock
- Feed cost per kg is Php 64 in the Philippines, which is higher than in the other countries (e.g. Php 61 in Vietnam, etc.);
- Cost of production are lower in in global export leaders such as Spain and Denmark, at Php 86.50

Cost and returns - broiler

- As with swine, economies of scale allow commercial broilers to reduce cost per kg of broiler.
- Cost per kg of broiler production is Php 71 per kg (liveweight) for the commercial operator but up to Php 78 per kg for the backyard operator.
- Commercial production involves a lower cost of feed per kg of broiler, as well as lower overhead cost (utilities, rent, labor) owing to larger output.

Cost and returns - broiler

	China (2017-19)	Philippines (2018)	Thailand (2019-20)	Vietnam (2019)
Small-scale farms				
Operating cost	88.75	77.90	91.65	114.91
Large-scale farms				
Cost	86.70	92.36	66.88	76.55
Price	97.02	100.08	75.15	111.36
Net returns	10.32	7.71	8.26	34.81
Shares in operating cost (%):				
Feeds	68.26	64.63	74.06	60.69
Day-old chicks	14.20	29.93	21.03	17.66
Labor	8.07	1.07	1.46	2.57
Veterinary supplies	3.33	2.86	1.43	7.51
Utilities, fuel	1.63	0.66	0.52	2.57
Others	1.49	0.85	0.72	3.65

Cost and returns - broiler

- As with swine: cost per unit for commercial scale broiler farms is highest in Philippines compared with China, Thailand, and Vietnam.
- Operating cost is largely due to feeds (65 percent) and day-old chicks (30 percent). In Vietnam, share of feed cost is lower at 41 percent; similarly, cost share of day-old chicks is 18 percentage points lower than in Philippines.

Corn in the LP value chain

- High tariffs on corn imports is driving up the cost of livestock and poultry feed.
- In both swine and poultry, feed is the main driver of cost.
- Price per 50-kg of swine feed in EU exporting countries range from Php 13 to 16K in 2018; vs in Philippines which ranged between Php 1,000 to Php 1,800 per 50-kg sack (2017).

Corn in the LP value chain

- Major ingredient of feed (accounting for 50%) is corn. In the 2010s, Philippines is at the upper bound of corn price (USD 0.42 to 0.44 per kg), followed by China (USD 0.28 to 0.38 per kg), Vietnam (USD 0.22 to 0.29 per kg), and finally Thailand (USD 0.19 to 0.24 per kg).
- Philippines unable to benefit from low cost of imported corn owing to high corn tariffs: 50% out-quota rate, and 35% in-quota MAV currently set at 217,000 tons
- N.B. ASEAN rate is 5 percent (accounts for ~80% of imports) but ASEAN exports limited in availability

Cost and returns - dairy

- PCAARRD (as of 2010): multi-year estimate of cost and returns for dairy cattle milk production (25 head) with meat as a by-product:
 - Net income → from Php 0.5 to Php 0.96 million per year
 - Internal rate of return (IRR) of 22%
 - Net present value (NPV) of Php 0.92 million.
 - Assumes productivity of 10 L/day per cow;
 - Compare: 10 L/day in Thailand, but lower than the 15 L/day in China and 16 – 17 L/day for Vietnam

Cost and returns - dairy

- PCC (2016): for carabao, 5-head herd, initial investment is Php 0.51 M
 - Net income per year from Php 0.17 to Php 0.54 million; IRR is 21% and the payback period is 6 years.
 - Assumes productivity of 3.5 - 6 liters per day per cow, price of about Php 50 per liter.
- N.B. Ordinary farmers have difficulty replicating this profit stream
- *Dairy cattle and buffalo milk at semi-commercial scale can be profitable*
- However **the business case for backyard dairy needs to be strengthened**

Developing the LPD industries

Policy environment

Regulations:

- Government regulates the industry to safeguard human and animal health, the environment, and animal welfare (BAI, NMIS, EMB, LGUs)
- Regulations poorly enforced in backyard operations
- To contain ASF, government implemented a disease management scheme - movement restriction, culling, indemnification, repopulation
- Less successful than a similar program in Thailand → generous spending for disease management, some consolidation of the industry

Policy environment

Support programs

- Except for dairy, government has mostly relied on private sector investment to actively promote the development of the LPD industries.
- For dairy, support includes R&D, importation and distribution of breeder animals, organization of cooperatives, provision of processing and marketing support, and linking farmers to the school feeding program (NDA, PCC)
- However the scale of milk feeding in Philippines is dwarfed by that of Thailand, which has created a large captive market for its dairy farmers.

Recommendations

1. Undertake a comprehensive review of trade policies affecting the value chain towards greater competitiveness of the LPD industries.
2. Earmark the collections from tariffs on pork and chicken imports to fund regulatory services and production support.
3. Invest in research and data collection as inputs to policy and program development.
4. Develop government institutional capacity at both national and local levels towards improved delivery of technical assistance, regulatory services, and production support.

Recommendations

5. Reset the oversight system over the LPD industries in terms of regulatory compliance, zoning, imposition of grades and standards, food safety and animal welfare.
6. Focus on upgrading technology and business practices for backyard operators using a collaborative approach to extension.
7. Strengthen FOs to encompass most or all backyard operators to facilitate delivery of government assistance, technical and regulatory services, and realize gains from economies of scale and scope.



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