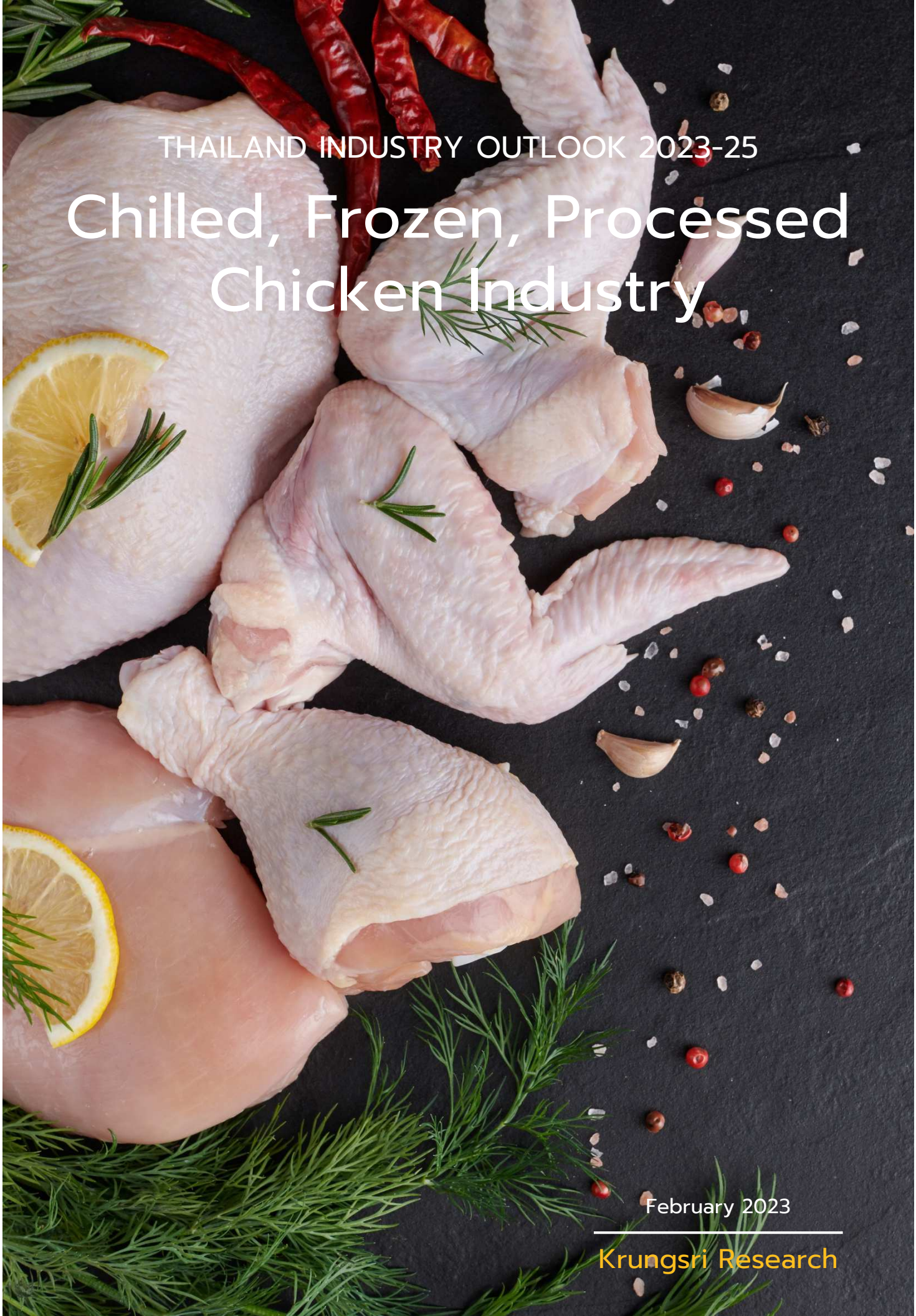


THAILAND INDUSTRY OUTLOOK 2023-25

Chilled, Frozen, Processed Chicken Industry

February 2023

Krungsri Research

Author

Suppakorn Kornboontritos

Analyst

suppakorn.kornboontritos@krungsri.com

+662 296 2000 Ext. 10262

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EXECUTIVE SUMMARY



Output Thailand's chicken products is forecast to expand by an average 2.5-3.5% annually over 2023 to 2025. Within Thailand, the full reopening of the country is underpinning an accelerating rebound in tourist arrivals. This, coupled with broader recovery in the economy, will support stronger demand for chicken from restaurants and food processors. Exporters of chicken products can also look forward to an improving business environment thanks to: (i) greater sales into major overseas markets, including Japan and the UK, thanks to the effect on demand from food security; (ii) increasing penetration of new markets in the Middle East, especially in Saudi Arabia, where trade connections are deepening; and (iii) the widespread recognition of Thai chicken's high production standards and the impact on sales of free trade agreements signed between Thailand and major trade partners. Nevertheless, despite this broadly positive outlook, the impact of a sustained rise in inflation on the cost of living will mean that global economic growth will likely drag through 2023, and this will then affect exports. In addition, the higher cost of inputs, most obviously of animal feed, will also weigh on the industry.

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Krungsri Research view

Over 2023-2025, demand for processed, chilled, and frozen chicken will strengthen on both domestic and international markets. Growth in downstream industries will generate benefits along the length of chicken supply chains, though will be especially noticeable for chicken farms. However, rising production costs may weigh on profits, with this likely to be a particular problem for smaller players.

- **Producers of frozen and processed chicken: Income growth will be supported by stronger exports** and the benefits Thailand gains from the widespread acceptance of its production processes, recognition of which is gaining ground in export markets. Players will thus be able to both develop existing major markets and extend into high-potential new areas, most notably in Saudi Arabia, which is opening up as trade relations deepen. The prediction is therefore that exports of frozen and processed chicken will rise by 2.0-4.0% and 1.5-3.0% respectively, although weakness in the global economy and the high cost of animal feed will drag on growth in 2023.

- **Chicken farms: Improving economic activities at home and abroad will support greater demand for chicken products**, especially for large operations that are able to benefit from their economies of scale, effective cost control and well-established markets, or for players that are embedded in supply chains operated by producers of frozen and processed chicken goods. However, while these players will gain from more vibrant export markets, small independent operations that are dependent on the domestic market will face greater difficulties due to their lower production standards and their restricted access to markets. The industry is also marked by the large number of suppliers active in the market, and so competition is intense. In this situation, rising operating costs will likely impact profitability, especially for smaller operations

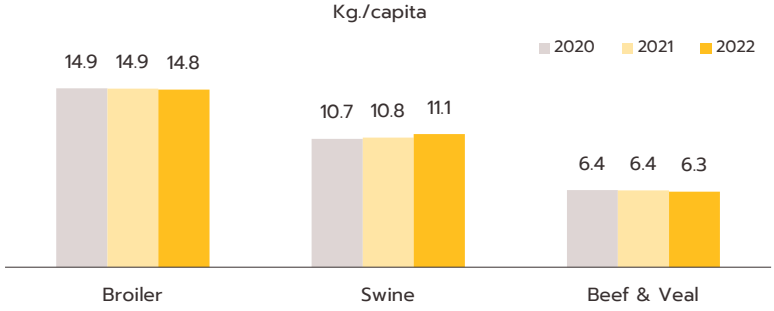


OVERVIEW

Chicken meat has the advantage of being a protein-rich[1/], low-fat commercially-farmed animal, and because modern breeds grow to maturity very rapidly, chicken flocks return profits over a relatively short time-span compared to other meat products. As a commercial undertaking, raising chickens also benefits from the animal's high conversion rate[2/] and resistance to disease, and the result of this is that chicken is farmed and consumed in greater quantities than any other animal (Figure 1); per capita global consumption[3/] averages 14.8 kilograms/person/year, compared to 11.1 kilograms for pork and 6.3 kilograms for beef (data correct as of 2021). The majority of the consumable output of the chicken industry is distributed in the form of (i) chilled chicken products, (ii) frozen chicken products, and (iii) processed chicken (chicken that is cooked or flavored and then frozen). Each of these product groups involves a different type of processing.

- **Chilled Chicken:** Chilled chicken products include whole chickens, filleted chicken meat and offal, and other parts of the body, which are preserved at a temperature of 0-5 degrees Celsius.
- **Frozen Chicken:** Frozen chicken products include whole chickens, filleted chicken meat and offal, and diced and minced chicken meat, which is stored at temperatures below -18 degrees Celsius.
- **Processed Chicken:** These are downstream products that provide manufacturers with the opportunity to generate added value. Processed chicken products can be split into two main classes: (i) uncooked processed chicken, which consumers will then prepare themselves, and (ii) semi- or fully-cooked chicken products that are frozen at temperatures below -18 degrees Celsius. This includes grilled chicken legs, smoked chicken wings, chicken satay, chicken burgers, chicken nuggets, chicken steaks, chicken karaage, chicken meatballs, battered and fried chicken, and marinated chicken.

Figure 1: World Meat Consumption per Capita



Source : Organisation for Economic Co-operation and Development (OECD), Krungsri Research

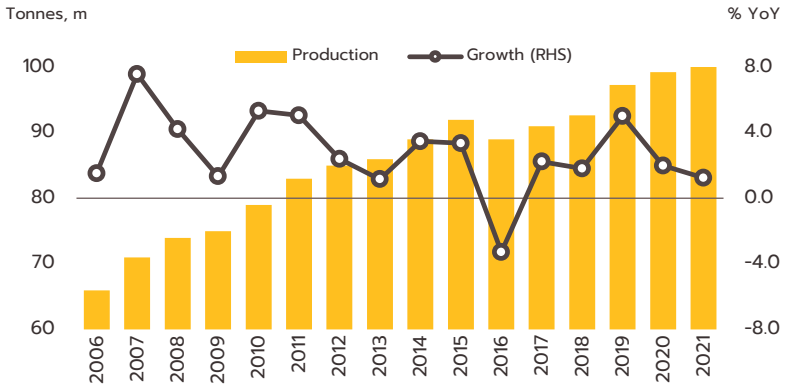
Global output of chicken meat rose 1.3% YoY to 100.5 million tonnes in 2021 (Figure 2). The Americas is the world's primary source of chicken, accounting for 46.9% of global production, followed by Asia (33.8% of output), Europe (14.7%), Africa (3.2%) and Oceania (1.3%). In terms of individual markets, **the USA sits in first place, producing 20.4 million tonnes of chicken per year** (20.3% of all global output), followed by China with 14.7 million tonnes (14.6%), Brazil with 14.5 million tonnes (14.4%), and the European Union with 10.9 million tonnes (10.8%) (Figure 3). Thailand's annual production of chicken meat comes to 3.2 million tonnes, which gives it a 3.2% share of world output and places the country in 7th position globally (source: USDA). **In terms of consumption, the overwhelming majority of output is absorbed by domestic markets (an average of 97.6% globally).** Thus, the biggest buyers of chicken are US consumers, which with a market sized at 17.2 million tonnes, accounts for 17.5% of global demand, followed by China (15.0 million tonnes, or 15.3% of the global market), Brazil (10.3 million tonnes, or 10.5%), and the EU (9.7 million tonnes, or 9.9%).

1/ Based on the animal's protein conversion efficiency (PCE) and its energy conversion efficiency, i.e., how efficiently the animal converts food obtained from vegetable or animal sources into body mass. Chicken ranks highest on this score, followed by pork and then beef (source: Alexander et al. and information available online from Our World Data).

2/ The feed conversion rate (FCR) refers to the ratio of the animal weight to the weight of its feed. Chicken farming typically produces 1 kilogram of meat per 3.3 kilograms of feed, whereas producing 1 kilogram of pork, lamb/mutton and beef requires respectively 6.4, 15, and 25 kilograms of animal feed (source: Alexander et al. and information available online from Our World Data).

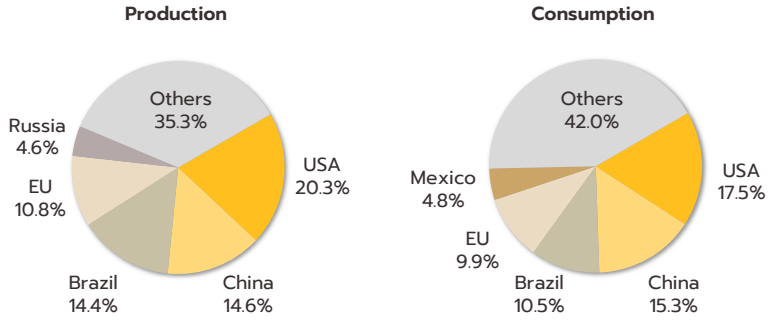
3/ Source: OECD-FAO Agricultural Outlook 2022-2031.

Figure 2: World Broiler Production



Source: USDA, Krungsri Research

Figure 3: World Broiler Meat Production and Consumption (2021)

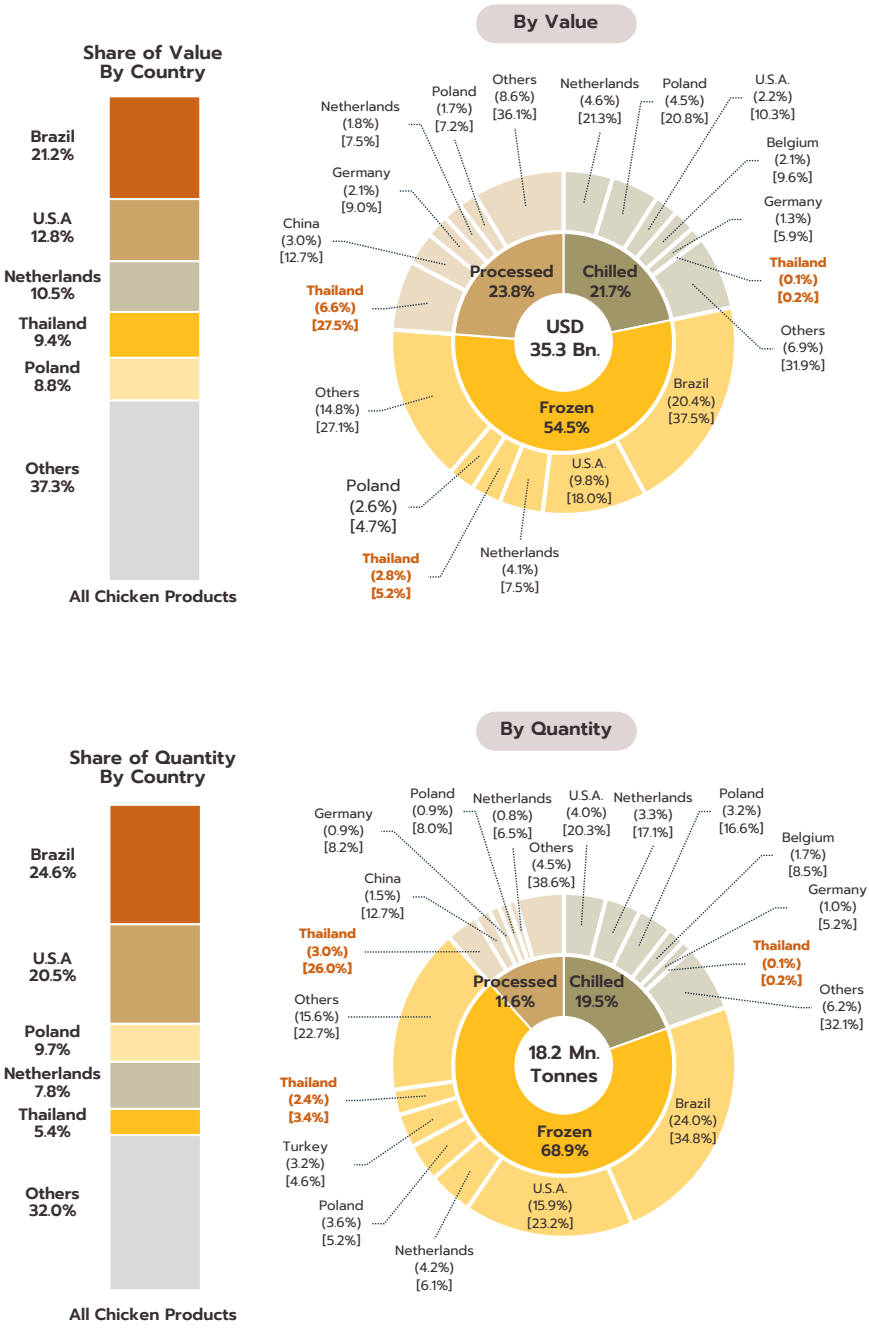


Note : Estimated by USDA
Source: USDA, Krungsri Research

Worldwide, chicken exports total 18.2 million tonnes, which in 2021 generated annual receipts of USD 35.3 billion. With a 24.6% share of this market, Brazil is the world's most important exporter of chicken products, followed by the US (20.5% of the market), Poland (9.7%), the Netherlands (7.8%), and Thailand (5.4%) (Figure 4). Details of exports of the different product groups are given below:

- **Frozen Chicken:** By volume and value, this accounts for respectively 68.9% and 54.5% of global chicken exports. Within this category, by value, 85.8% of all exports are of filleted chicken products, with the remainder being of whole chickens. The world's three biggest exporters of frozen chicken products are Brazil, the US, and the Netherlands, which together have a greater than 64% market share. By comparison, Thailand has just a 3.4% slice of the market, putting the country in 6th place in the global rankings.
- **Processed Chicken:** While by volume, only 11.6% of global exports are of processed chicken, the share jumps to 23.8% when considered by value. Within this segment, Thailand is the world's biggest exporter, enjoying a 26.0% market share by volume, followed by China (12.7%), Germany (8.2%), and Poland (8.0%).
- **Chilled Chicken:** Considered by value and volume, respectively 21.7% and 19.5% of global exports of chicken products are of chilled chicken. Of this total, 85.0% (by volume) are of filleted products, the remainder being of whole chickens. With a 20.3% market share (by volume), the US is the world's biggest exporter, followed by the Netherlands (17.1%) and Poland (16.6%). Thailand's presence in this market is very slight, the country sitting in 25th place in the world rankings with just a 0.2% market share.

Figure 4: World Chicken Exports (2021)



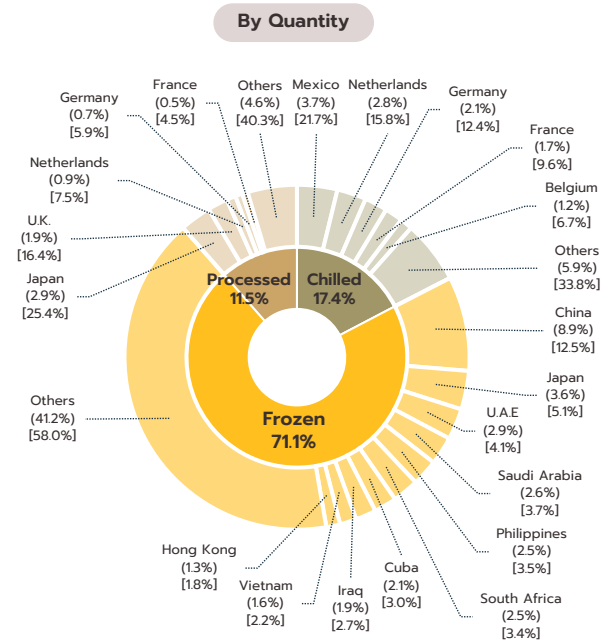
Note : (...) refer % share of total chicken export
[...] refer % share by type chicken export

Source : Trademap, Krungsri Research

However, the leading importers of chicken products are somewhat diverse (Figure 5)

- **Frozen chicken:** This accounts for 71.1% of global demand for chicken by volume. The most important markets are China (12.5% of all imports of frozen chicken worldwide), Japan (5.1%), the UAE (4.1%), and Saudi Arabia (3.7%).
- **Chilled chicken:** This segment represents 17.4% of chicken imports worldwide, though importers generally buy from within their own region. Within Europe, the biggest importers are the Netherlands (15.8% of global imports of chilled chicken), Germany (12.4%), France (9.6%), and Belgium (6.7%). In North America, Mexico absorbs 21.7% of global exports and Canada another 3.7%, with these products originating largely in the US.
- **Processed chicken:** This accounts for the remaining 11.5% of global chicken imports. The world's biggest importers are Japan (25.4% by volume of all imports of processed chicken), the United Kingdom (16.4%), the Netherlands (7.5%), Germany (5.9%), and France (4.5%).

Figure 5: World Chicken Imports (2021)

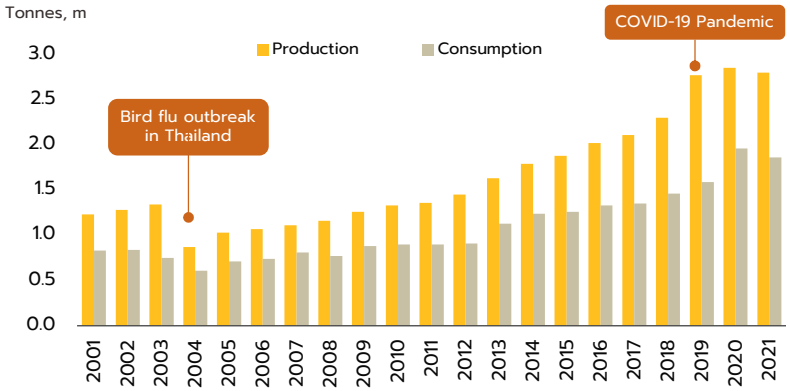


Note : (...) refer % share of total chicken import
[...] refer % share by type chicken import
Source : Trademap, Krungsri Research

Thai output of chicken products totaled 2.8 million tonnes in 2021, of which 66%, or 1.9 million tonnes, was consumed by the domestic market (Figure 6), with Thai consumers typically buying fresh filleted products. The remainder of national output was then processed into chilled and frozen chicken products, mostly for export; by value, Thailand is the world's biggest exporter of processed chicken and its 6th biggest exporter of frozen chicken (source: Trademap, 2021).

The export market has undergone significant changes since 2004, when Thailand was affected by a major outbreak of Highly Pathogenic Avian Influenza (HPAI)[4/]. As a result of concerns over possible infection and thus of the safety of raw chicken originating in Thailand, imports by Japan, Germany, South Korea, and China (a combined 79.5% of exports by volume) were halted. In response to this, Thai producers overhauled their operations and placed a much greater emphasis on the production and output of processed chicken, which was still accepted in Thailand's export markets[5/]. This then led to the establishment of processed chicken as the sector's primary product (Figure 7), and so processed chicken now accounts for 60.3% of all Thai chicken exports volume. Thus, as of 2021, Thailand had a 26.0% share of the global market for processed chicken goods.

Figure 6: Thai Chicken Production and Consumption



Source : Office of Agricultural Economics (OAE) , Krungsri Research

Figure 7: Highly Pathogenic Avian Influenza (HPAI) Outbreak Map during 2005-July2022



Source : World Animal Health Information Database (WAHIS) Interface, OIE

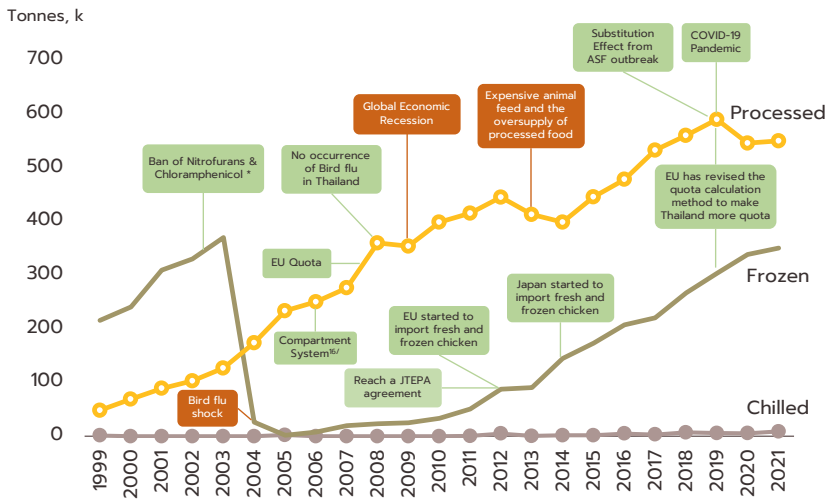
4/ HPAI is caused by an avian virus but the severity of the illness depends on the particular strain. The H5N1 and H7N9 strains are potentially serious variants that can infect humans who are in close contact with infected flocks.

5/ Research shows that the HPAI virus cannot survive temperatures above 70 degrees Celsius so cooking chicken through frying, boiling, steaming, baking or grilling will kill the virus and render the meat safe for human consumption (source: Department of Disease Control, Ministry of Public Health).

The situation for exports of frozen chicken returned to a more positive state after 2011 with the abating of the HPAI outbreak. In addition, the development of evaporative air-cooling systems (EVAPs)[6/] for use on Thai chicken farms also helped to cut infection rates, in particular in flocks managed by the major players and on contract farms[7/]. The introduction of the World Organisation for Animal Health's compartment system[8/] was another important factor helping to support the industry, and as such, despite periodic outbreaks elsewhere, no cases of HPAI have been reported in Thailand since 2007 (Figure 7). This then helped to significantly boost exports of frozen chicken to the EU from 2012, and from 2014, to Japan too (Figure 8), though sales to the latter were helped further by the signing of the JTEPA agreement.

As such, export volume of Thai frozen chicken products surged by an annual average of 29.2% over the period 2011-2021, and this then helped Thailand expand its global market share to 3.4% and to lift the country into 6th place in the world ranking of exporters (up from a 0.5% share of the global market and 17th place in 2011). This rapid expansion was helped by: (i) the lifting of restrictions on the import of frozen chicken by Thailand's trade partners; and (ii) outbreaks of chicken flu in other exporting nations, including the US, and EU. **Export volume of processed chicken products also rose through this period, though this was at the lower average rate of 3.2% per year over 2011-2021**. Overseas sales have been boosted by confidence in the safety of closed EVAP-style farms operated by the major Thai players, and at present, the most important markets for Thai exports of processed chicken are Japan, the ASEAN region, and the EU. Sales have also been helped by the exit of the UK from the EU and the resulting changes to quotas for imports of chicken products from Thailand; these now stand at 0.19 million tonnes for imports to the EU and 0.13 million tonnes for those to the UK, giving a total allowance of 0.32 million tonnes, compared to the earlier pre-Brexit quota of 0.27 million tonnes.

Figure 8: Thai Chicken Exports Volume



Note : * Nitrofurans In the past, the nitrofurans class of chemicals were used to prevent and to cure bacterial and protozoan infections in livestock, but these are now banned because they can cause cancers and genetic mutations.

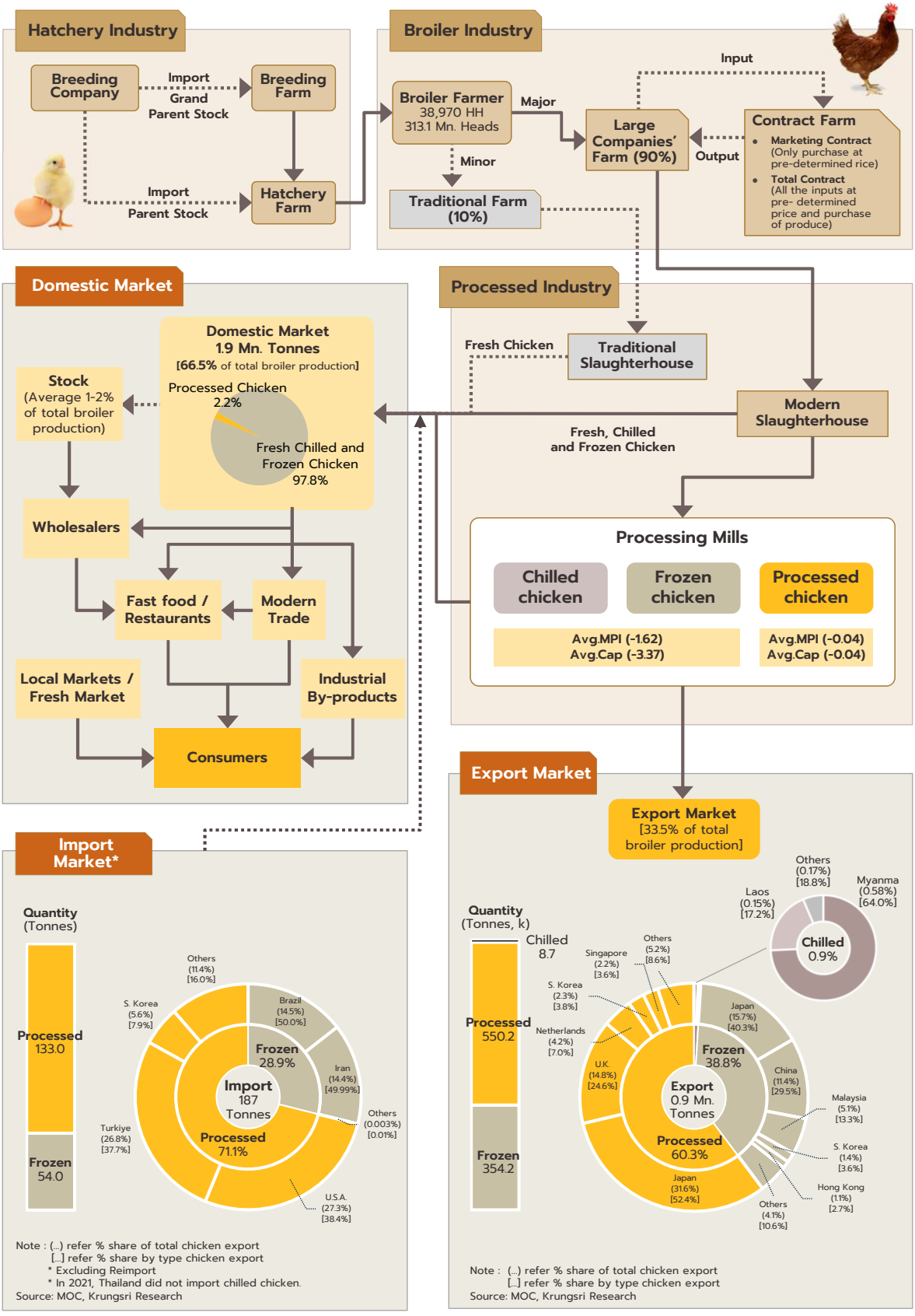
Source: MOC, Krungsri Research

6/ EVAP systems are used on farms to provide a closed temperature- and humidity-controlled environment for the raising of commercial livestock. The use of these systems helps to reduce the risk of infection and death from communicable illnesses, although they also have the advantage of allowing for higher stocking ratios, raising average animal weight and providing protection against infestation by animals and insects that can act as disease vectors.

7/ Under contract farming arrangements, independent farms are contracted to produce chickens for large agribusinesses. The latter supply the smaller contracting farm with technology and support, and agree to buy a fixed quantity of chickens at a pre-determined price.

8/ The compartment system was developed by the World Organisation for Animal Health (OIE) to help maintain comprehensive hygiene and biosecurity standards in the food processing industry.

Figure 9: The Supply Chain of Thai Chicken Industry (2021)

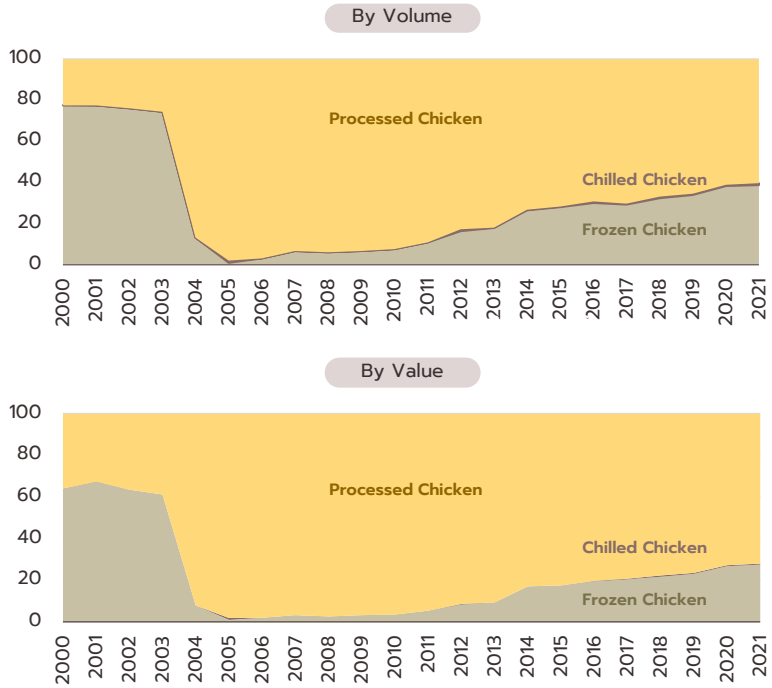


Source : OAE, OIE, MOC, compiled by Krungsri Research

By volume, Thai exports of chicken products are split between 60% processed, 39% frozen, and 1% chilled chicken (data correct as of 2021). The main export markets are Japan, which buys mostly processed and frozen chicken, and the EU, which imports processed chicken (Figure 10). Thailand's main competitor is Brazil, the world's biggest exporter of frozen chicken. Details for individual product categories are given below:

- **Processed chicken:** This accounts for 60.3% of all exports of chicken products from Thailand. The main markets are Japan (52.4% of all exports of processed chicken), the UK (24.6%), the Netherlands (7.0%), and South Korea (3.8%).
- **Frozen chicken:** 38.8% of chicken exports are of frozen goods, and these go to Japan (40.3% of all exports of frozen chicken products), China (29.5%), Malaysia (13.3%), and South Korea (3.6%).
- **Chilled chicken:** Only 0.9% of Thai chicken exports are of chilled chicken products, and the main markets are all bordering or near to Thailand. Thus, Myanmar takes 64.0% of exports of these, followed in importance by Laos PDR (17.2%), Hong Kong (14.2%), and Cambodia (4.1%).

Figure 10: Thai Exports of Chicken Products (%)

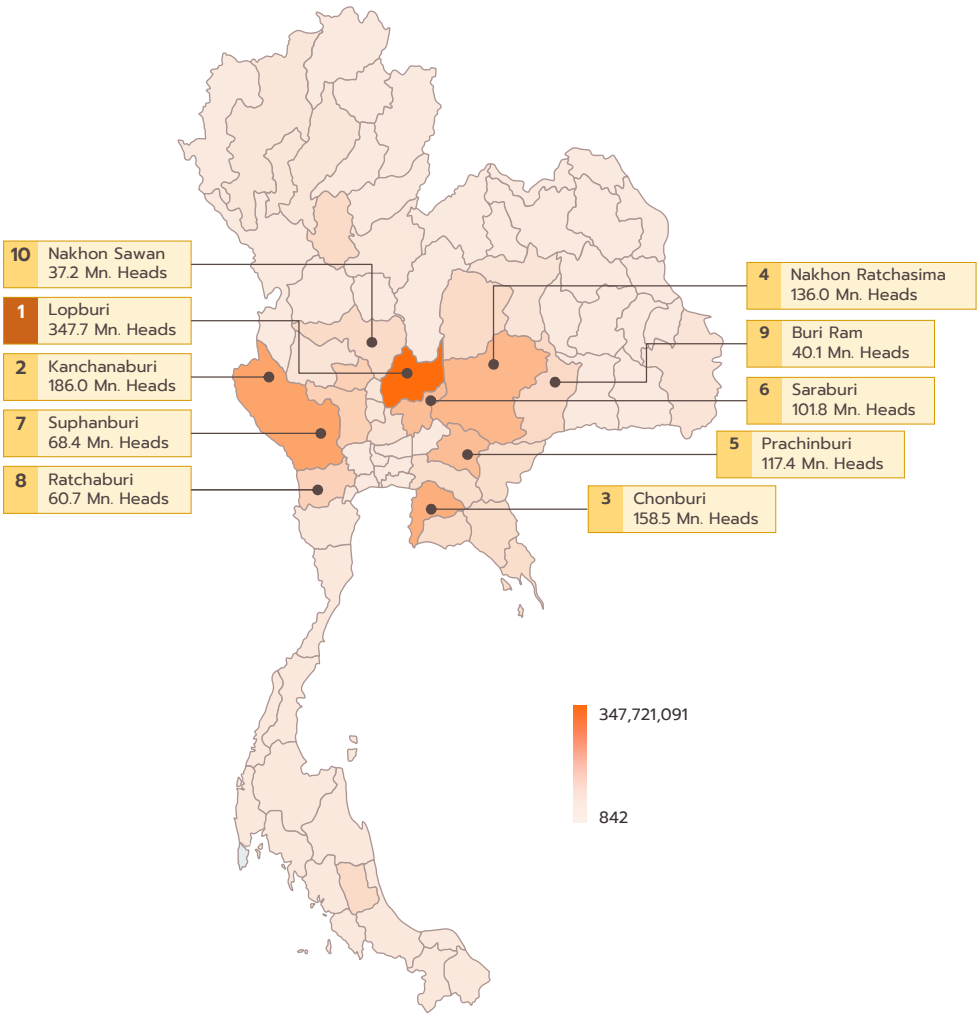


Source : Ministry of Commerce (MOC), Krungsri Research

The large players in the industry, which are the source of around 90% of all chicken produced in Thailand, typically invest in operations across the length of the supply chain, from upstream production of animal feed, through chicken raising (both via their own, directly-managed operations and via independent farmers that operate under contract farming arrangements) to slaughterhouses and downstream food processing plants that operate according to recognized standards. This then gives large players advantages with regard to their more efficient cost control and their greater economies of scale. Small operations account for the remaining 10% of production, with these players almost entirely dependent on the domestic market (Figure 9). In terms of the geographical distribution of flocks, these are overwhelmingly found in the central region (the source of 71.0% of all chicken produced in Thailand)[9/], followed by the northeast (14.6%), the north (8.2%) and the south (6.2%), while by individual province, Lopburi is the most productive (19.8% of all national chicken output), followed by Kanchanaburi (10.6%), Chonburi (9.0%), Nakhon Ratchasima (7.7%), and Prachinburi (6.7%) (Figure 11).

Thai operations benefit from the skill of the local workforce, their access to manufacturing technology, their use of modern production techniques, their ability to develop products that meet market demand, the high standards of their farms, and their success in controlling and preventing outbreaks of disease. Beyond this, the fact that Thailand has agreed FTAs[10/] with many of its trade partners has also helped to strengthen the competitiveness of Thai operations and widened the spread of markets for Thai chicken products.

Figure 11: Thailand's Broiler Production 2021



Source: OAE, Krungsri Research

9/ Based on the quantity of chicken meat produced and sold in a year.

10/ Thailand has agreed 14 free trade agreements with 18 countries, and 10 of these allow for the customs-free import of meat products from Thailand, these being Australia, Brunei, China, Indonesia, Japan, Malaysia, Myanmar, New Zealand, Singapore, and Vietnam.

SITUATION

In 2022 total Domestic output of Thailand's chicken production is 1.8 billion head (up 1.0%) and generated 2.89 million tons of meat[11/] (up 3.3%), helped by stronger demand and elevated fears over food security that were triggered by the outbreak of the Ukraine war. At the same time, supply to global markets was affected by outbreaks of Highly Pathogenic Avian Influenza (HPAI) in many countries (Figure 12), and so overall **Thai exports of chicken products jumped 10.8% to 1.0 million tonnes**, largely due to stronger sales of processed chicken. Overseas sales of processed chicken have benefited from worries over food security in the major markets of Japan and the UK, and from growing Chinese and South Korean acceptance of Thai production standards. The combination of rising demand and weakening supply naturally fed into higher prices, and so **average export prices climbed 12.4% in the period. This then helped to boost receipts from chicken exports by 24.7% to a total of USD 4.1 billion.** The situation for different product categories is given below.

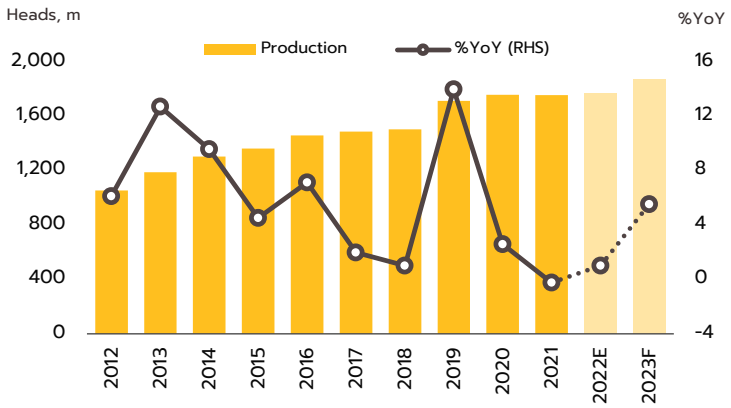
- **Processed chicken:** In 2022, exports jumped 18.5% to 650,000 tonnes, which then generated receipts of USD 2.9 billion (up 24.8%). Average export prices rose 5.4% to 4,497 USD/tonne on stronger demand in some of the main overseas markets.

  1) **Japan:** The Japanese market absorbed 310,000 tonnes of processed chicken (up 7.8%), or 47.6% of all Thai exports. Sales have benefited from JTEPA and AJCEP free-trade agreements[12/], as well as from the 20-30% increase in demand for fast food and ready-to-eat meals in Japan[13/].

  2) **The United Kingdom:** Exports climbed 26.5% to 170,000 tonnes, or 26.5% of total exports of processed chicken, boosted by HPAI outbreaks in Europe that impacted local supply of chicken. Moreover, increasing cost of raw materials and energy put upward pressure on production cost in UK. This support demand for relatively cheaper imports of processed chicken from Thailand[13/].

  3) **The Netherlands:** Exports surged 45.3% to 56,000 tonnes, 8.6% of total overseas sales. The Dutch market was affected by a domestic outbreak of HPAI, which then caused a sharp spike in imports from Thailand to replace lost local supply.

Figure 12: Thai Chicken Production



Note : 2020F forecast by Krungsri Research
Source : OAE, Krungsri Research

11/ This is on the assumption that 1 chicken yields an average of 1.60 kilograms of meat (not including the waste generated in the filleting process) (source: Office of Agricultural Economics).
12/ JTEPA is the Japan-Thailand Economic Partnership Agreement, and AJCEP is the ASEAN-Japan Comprehensive Economic Partnership.
13/ Source: USDA.

- **Frozen chicken:** Export volume remained unchanged from 2022 at 350,000 tonnes, but prices climbed 23.8% to 3,159 USD/tonne, which then helped to lift the total export receipts to grow 25.4% to USD 1,130.8 million. The major markets are:

  1) **Japan:** Sales into the Japanese market slipped -5.0% to 140,000 tonnes, though this still accounted for 38.4% of all exports of Thai frozen chicken. This decline contrasts with the strengthening of demand seen for processed chicken, reflecting the shift of customer preference towards cooked and ready-to-eat chicken during the COVID-19 pandemic.

  2) **China:** Exports slumped -18.2% to 90,000 tonnes in the period (24.1% of all exports). This decline was triggered by the introduction of strict food safety standards in China during the Covid-19 pandemic (the GACC[14/] regulations) that caused some Thai processing plants to temporarily halt exports to China as they worked to meet these requirements.

  3) **Malaysia:** Exports climbed 54.3% to 70,000 tonnes, or 20.5% of the segment. Migrant laborers working in the Malaysian food-processing industry returned home enmasse during the pandemic, but many have failed to come back to Malaysia. The resulting labor shortages have meant that domestic supply has been insufficient to meet demand, with Thai imports filling the gap.

- **Chilled chicken:** Exports crashed to 5,300 tonnes (down -39.5%), though a 29.1% increase in average prices to 2,476 USD/tonne kept the decline in overall income to a drop of -20.9% YoY. Receipts thus totaled USD 12.8 million.

  1) **Myanmar :** Exports dropped -42.4% to just 3,200 tonnes (61.0% of all exports of chilled chicken) as a result of the impact of the country's deep economic and political woes on consumer spending power. Exports were further hurt by the closure of border crossings between Thailand and Myanmar.

  2) **Hong Kong :** Stricter food safety standards during COVID-19 pulled imports from Thailand down by -8.6% to 1,130 tonnes, 21.5% of exports within the segment.

  3) **Singapore :** Exports exploded in the period, rising 2,802.4% to 365 tonnes (7.0% of the total) thanks to labor shortages in Malaysia that diverted demand to Thailand.

Figure 13: Highly Pathogenic Avian Influenza (HPAI) Outbreak Map in 2022

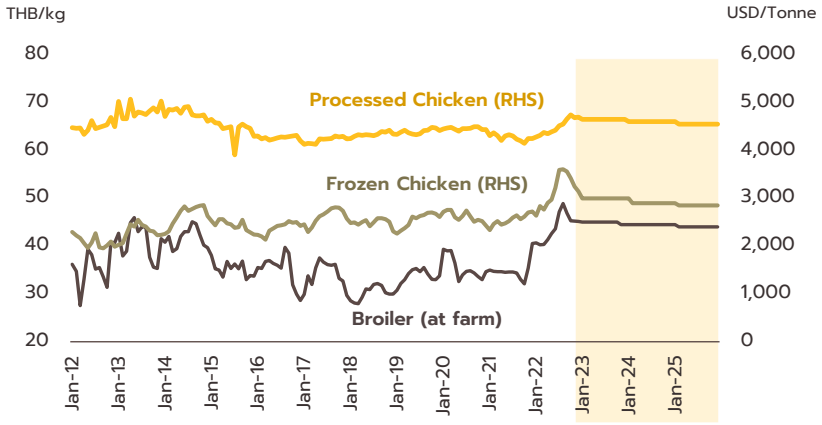


Note: Period from January 2022 - July 2022
Source: World Animal Health Information Database (WAHIS) Interface, OIE

14/ The General Administration of Customs of People's Republic of China (GACC) announced the registration of 7 Thai poultry slaughterhouses in 2018, of 9 more in 2019, and a further 8 in 2020. However, as a result of the country's zero-Covid policy, in 2021, exports from 9 slaughterhouses were temporarily blocked. These restrictions have now been lifted.

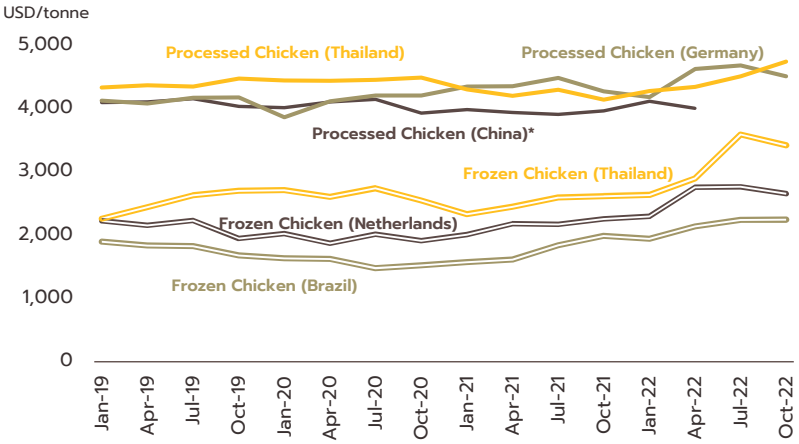
- **Domestic demand:** This is estimated to have expanded 0.9% to 1.88 million tonnes. The market has benefited from the lifting of pandemic restrictions, which then supported recovery in the restaurant and tourism industries, and boosted economic activity generally.
- **Farmgate prices:** The average price is THB 44.0/kilogram, up from THB 34.9/kilogram in 2021 because the higher cost of animal feed, energy, and labor. Prices have also been pushed up by the effects of African swine fever on the supply of pork and the resulting diversion of demand from pork to chicken. Therefore, domestic farmgate prices are expected to remain at a high level (Figure 14).
- **Export prices of chicken products:** The export prices in the world market and of Thailand will continue to rise due to the higher cost of energy and animal feed, together with rising inflation. During 10M2022, the average export prices of frozen chicken from the main exporters such as Brazil and Netherlands rose by 23.4% YoY and 21.1% YoY respectively. Meanwhile, Thailand's export prices increased 25.1% YoY. In addition, the average export prices of 6M2022 processed chicken in China and Germany rose 3.5% YoY and 0.9% YoY respectively, while Thailand's export prices increased 1.2% YoY (Figure 15)

Figure 14: Domestic Broiler Prices (at farm) and Thai Chicken Export Prices (F.O.B.)



Note : Forecast by Krungsri Research
Source: OAE, MOC, Krungsri Research

Figure 15: Comparison Broiler Prices with Competitors in the World Market

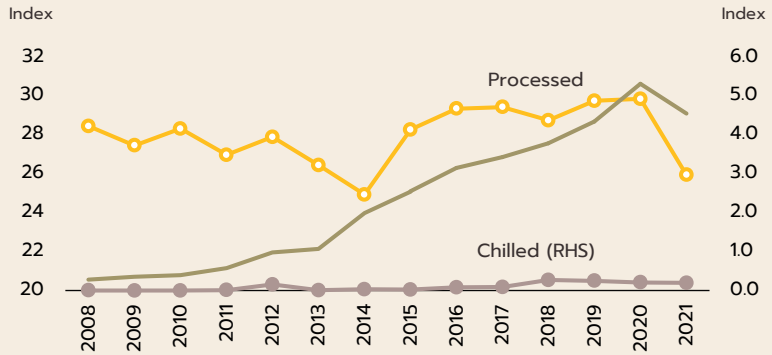


Note : China's Processed chicken export prices are only published until June 2022
Source: MOC, Trademap

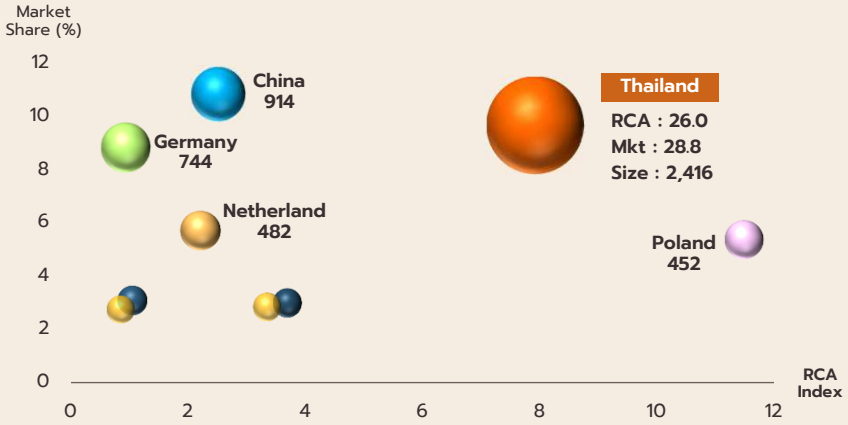
Box 1 The Competitiveness of the Thai Chicken Industry

The 2021 Revealed Comparative Advantage (RCA) index shows that Thai exports of processed and frozen chickens are well positioned on world markets. RCA values above 1 indicate a comparative advantage relative to competitors, and in the processed chicken segment, Thailand's RCA stands at 26.0 (with an average of 29.5 over the period 2016-2020), while the RCA of the frozen chicken segment is 4.6 (averaging 4.0 through the years 2016-2020). However, for chilled chicken products, this drops to 0.2, which points to Thailand having a comparative disadvantage in this market.

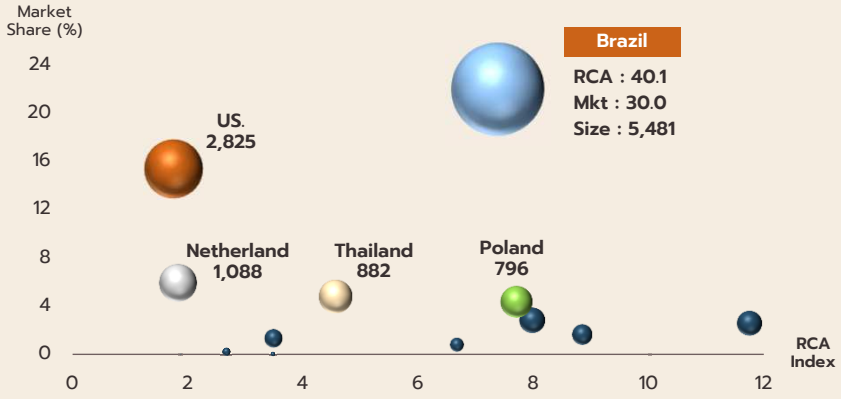
Revealed Comparative Advantage (RCA) Index of Thailand Chicken Exports



Global Competitiveness in Processed Chicken Exports (2021)



Global Competitiveness in Frozen Chicken Exports (2021)



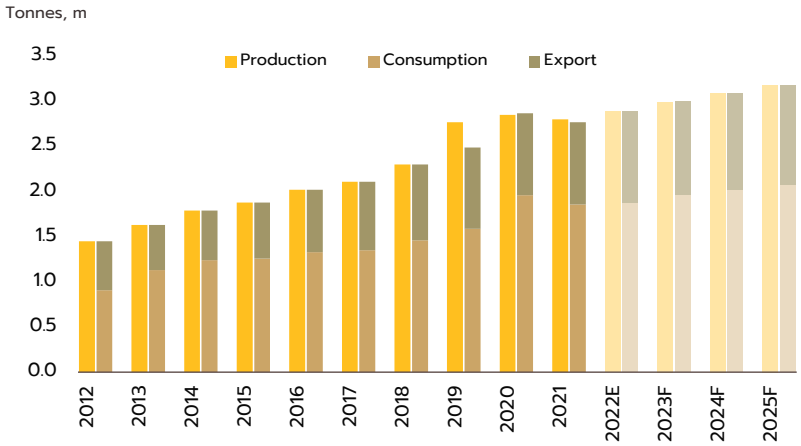
Note : Bubble Size refer to Export Value (Million USD.).
Source: Trademap, Krungsri Research

OUTLOOK

Over 2023-2025, global chicken yields will rise at an average annual rate of 4.0-5.0%, while Thai output of processed, chilled, and frozen chicken should expand by 2.5-3.5 per year. The latter will be boosted by stronger domestic demand and by growth in export markets, in particular in: (i) Japan, where economic activity should recover; (ii) China, where restrictions on imports from Thailand will be relaxed; (iii) EU and the UK, where import quota allowances will be raised; and (iv) new markets such as Saudi Arabia, where trade relations have recently been resumed, as well as other GCC nations[15/]. Details are given below.

- **Domestic chicken yields:** These should rise by 2.5-3.5% annually to a total of 1.87-1.99 billion head, or 2.99-3.18 million tonnes of meat (Figure 16). Production will be lifted by the incentive effect of stronger prices that are forecast to run in the range of THB 44.0-45.0 /kilogram on continuing worries over food security (Figure 16)
- **Domestic demand:** Consumption is expected to strengthen by 3.0-4.0% per year (Figure 16) on steady economic recovery now that the country has fully reopened. In particular, demand will be driven by the rebound in the tourism, hotel, and restaurant industries.

Figure 16: Thai Chicken Industry Forecast

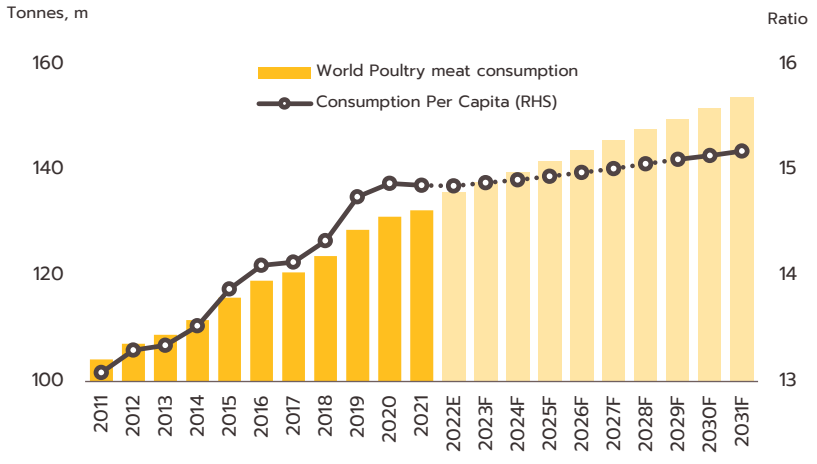


Note : Forecast by Krungsri Research
Source : OAE, Krungsri Research

15/ The Gulf Cooperation Council (or GCC) consists of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the UAE (source: Department of Trade Negotiations).

- **Exports:** Overseas sales will expand by 2.5-3.5% annually. Through 2023, growth will be restrained by sluggishness in the global economy, but the situation should improve in 2024 and 2025 (Figure 16), and growth in exports will accelerate thanks to the following factors:
  - **Global consumption of chicken products is forecast to strengthen by 1.5% annually**, bringing total demand from 135 million tonnes in 2022 to 137-142 million tonnes over 2023-2025 (Figure 17). Growth will partly be driven by rising consumer worries over personal health[16/], which is shifting demand from high-fat red meats such as pork and beef to lower-fat chicken. Chicken is also a favored staple in low- and middle-income countries.
  - **Periodic outbreaks of Highly Pathogenic Avian Influenza (HPAI) and African swine fever (ASF) will affect production in affected countries (China, Brazil, Europe, and the US) over an extended timeframe.** For example, it took more than three years for China and Vietnam to recover from the spread of ASF in domestic herds and for yields to return to their pre-outbreak level. By contrast, Thai chicken production meets recognized international standards, and Thai chicken meat is free from contamination with human pathogens (e.g., Covid-19) or animal illnesses (e.g., HPAI). Thai products are thus broadly accepted for their high quality, and this will help to lift demand further.
  - **The competitiveness of Thai chicken products will be boosted by both free-trade agreements** that have already been concluded and by those that are under discussion (e.g., with Turkey, Pakistan, and Sri Lanka). This process has been accelerated by the establishment in June 2021 of the Joint Economic and Trade Committee (JETCO) that marked the beginning of preparations for negotiations over an FTA with the United Kingdom. This should then lead to an increase in exports to the UK beyond those already gained by the post-Brexit[17/] expansion in the quota allowance for imports of Thai chicken to EU, from 268,743 to 315,541 tonnes per year.
  - **New markets in the Middle East and Asia** will include: (i) Saudi Arabia, which is increasingly recognizing Thai adherence to halal standards, especially in the market for frozen chicken; (ii) China, where following their temporary suspension in June 2021, 9 Thai poultry slaughterhouses and processing plants producing frozen chicken products have been granted permission to operate; and (iii) South Korea, which has granted permission to an additional 7 Thai processors to export to the country.

Figure 17: Projected Consumption of Poultry Meat

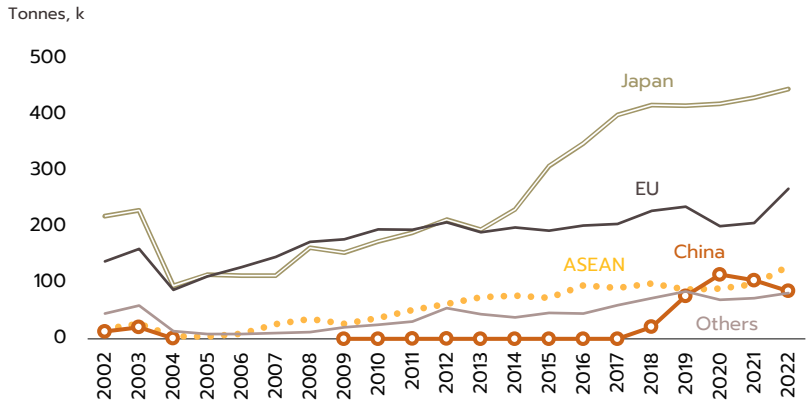


Source: OECD-FAO Agricultural Outlook 2022-2031, Krungsri Research

16/ Research by the US National Cancer Institute shows that individuals who eat chicken in preference to other meats tend to be healthier and to live longer. Eating chicken is linked to a lower risk of cancer and heart disease since chicken has low levels of cholesterol and saturated fats compared to red meats such as pork, beef and lamb, while chicken is also a valuable source of protein, vitamins, minerals (e.g., iron and zinc) and essential amino acids.

17/ Source: Department of International Trade Promotion.

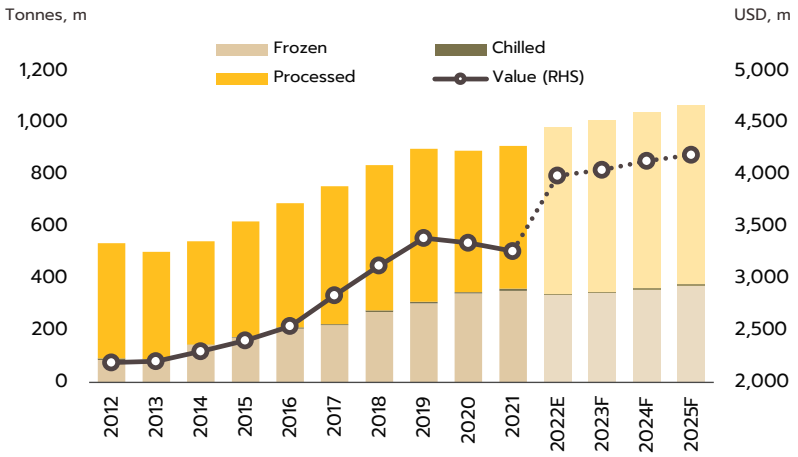
Figure 18: Thailand Export Destinations



Source: MOC, Krungsri Research

The various influences on the market described above will help to underpin growth in exports of the main chicken product groups over the next three years. Due to the competitiveness of Thai players, in particular in the European market, processed chicken will remain the most important segment. Now that the country is rapidly moving away from its zero-Covid policy, exports of frozen chicken will benefit from recovery in the Chinese market, as well as from strengthening demand in Saudi Arabia, whereas for overseas sales of chilled chicken, growth will be dependent on rising regional consumer spending power. **Krungsri Research thus sees export volume of processed chicken increasing by 1.5-3.0% annually over 2023-2025, while for chilled and frozen products, annual growth should average 2.0-4.0%** (Figure 19).

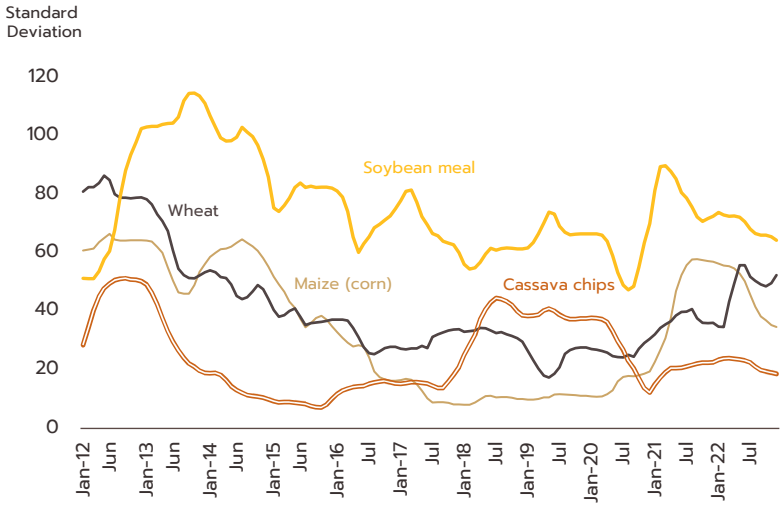
Figure 19: Thailand Chicken Product Exports Forecast



Note : Forecast by Krungsri Research
Source: MOC, Krungsri Research

Nevertheless, Thai producers may have to contend with higher production costs stemming from more expensive inputs. This will likely extend to include the soy meal and corn[18/] (Figure 20) used as an animal feed. Supplies of these sourced from within Thailand are likely to be insufficient to meet demand and so chicken farmers will have to turn to imports[19/], although the additional costs entailed by this will then place Thai producers at a competitive disadvantage relative to players in Brazil and the US[20/], which will continue to be supplied by their domestic markets.

Figure 20: Fluctuation of Global Animal Feed Price



Source: World Bank, Thaifeedmill, Krungsri Research



18/ Production costs for chicken farming are dominated by the cost of animal feed, which accounts for 72% of the total. This is followed in importance by the cost of buying new stock (19%), with the remainder taken up by the cost of services and other expenses (source: Suwanvajokkasikit Animal Research and Development Institute, Kasetsart University).

19/ As per the 12 May, 2022, Royal Thai Gazette, imports of corn for animal feed are now subject to import duties of 20% up to a total of 600,000 tonnes. For imports beyond this quota, duties rise to 73%.

20/ As a share of domestic production, consumption is 62.9% of the total in Brazil, 82.8% of the total in the US, and 133.9% of the total in Thailand (source: USDA).

KRUNGSRI RESEARCH

Macroeconomic Team

Sujit Chaivichayachat
Head of Macroeconomic Research

Churailuk Pholsri
Senior Economist (Forecasting)

Thansin Klinthanom
Economist

Supasyn Itthiphatwong
Economist

Analytics & Intelligence Team

Pimnara Hirankasi, Ph.D.
Acting Head of Analytics and Intelligence Research

Nathanon Ratanathamwat
Senior Analyst

Sathit Talaengsatya
Senior Analyst

Chinnakrit Ampornpannawat
Analyst

Parinya Mingsakul
Analyst

MIS and Reporting Team

Thamon Sernsuksakul
Administrator

Chirdsak Srichaiton
MIS Officer

Wongsagon Keawuttung
MIS Officer

Industry Team

Pimnara Hirankasi, Ph.D.
Head of Industry Research

Taned Mahattanalai
Senior Analyst (Digital)

Poonsuk Ninkitsaranont
Senior Analyst (Healthcare, Mobile Operators)

Piyanuch Sathapongpakdee
Senior Analyst (Transport & Logistics)

Narin Tunpaiboon
Senior Analyst (Power Generation, Modern Trade, Chemicals, Medical Devices)

Thian Thiumsak
Senior Analyst (Energy, Petrochemicals)

Puttachard Lunkam
Senior Analyst (Construction Contractors, Construction Materials, Hotels, Industrial Estate)

Patchara Klinchuanchun
Senior Analyst (Real Estate)

Chaiwat Sowcharoensuk
Senior Analyst (Agriculture)

Wanna Yongpisanphob
Analyst (Automobile, Food & Beverages, Electronics & Electrical Appliances)

Suppakorn Kornboontritos
Analyst (Agriculture)