

Global Pork Quarterly Q4 2022

Producers Cautious as Global Uncertainties Rise

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Global Pork Quarterly Q4 2022

Production growth constrained by high costs and demand uncertainty

Main global issues for Q4 2022 and early 2023

- **Slowing economy weighs on demand, even as pork remains good value** – Retail pork volumes should rebound in Q4 2022 as consumers work to balance higher costs of living with nutritional needs. Holiday demand is expected to improve on the back of high-cost alternatives and a return to larger family gatherings, although not to pre-pandemic norms. To satisfy the anticipated rebound in demand in Q4, processors have built up inventories. Any shortfall in demand could pressure markets.
- **Trade to strengthen in Q4 2022, with more upside possible in 2023** – Lower global pork inventories and tight supplies of competing proteins are likely to support increased trade in Q4 2022 and early 2023. Prices are already higher in key export destinations, including China, where the uptick in seasonal demand should draw product from low-cost pork exporters. While weaker economic growth and geopolitical uncertainty could limit early 2023 interest, pork remains good value for most markets.
- **Producers limit production growth through 1H 2023** – Disappointing 2H 2022 returns due to steady increases in production costs (feed, energy) and rising regulatory hurdles will challenge producers globally and be especially difficult for European growers. Few regions have seen sow inventories grow despite steady progress in disease management. Supplies are expected to remain flat versus year-ago levels into 2023.

What to watch in Q4 2022 and early 2023

- Feed cost volatility due to planting in the Southern Hemisphere, US barge transport/basis, and final grain and oilseed yields in Europe, the US, and China
- Herd health, including incidents of African swine fever (ASF), and its impact on production growth in 2023
- Post-Covid consumer demand recovery in Asia
- Macroeconomic conditions that may impact currency and commodity values
- Competing protein supplies and the competitiveness of pork in retail and foodservice channels
- Geopolitical challenges that could impact trade policies and flows





Global Pork Market Summary

Production growth constrained by high costs and demand uncertainty

North America

- Lower production in response to high costs, health challenges, and regulation
- Exports soft on currency strength; domestic demand remains stable as the economy slows

Europe

- Continued decline in production due to ongoing margin pressure
- Consumer demand to be tested as consumers face higher energy bills in the winter

China

- Hog supply remains tight, supporting continued strength in prices
- Pork demand may improve despite vulnerability to Covid policies

Brazil

- Production margins improve but still face challenges
- Exports remain under pressure, with volumes down 5.05% YTD

Southeast Asia

- ASF continues to impact production, but recovery is underway
- Strong input costs pressure margins

Japan

- Frozen imports remain high
- Domestic production affected by CSF

Global Outlook

Consumption and trade uncertainties are rising



Inflation limits near-term growth potential

As inflation outpaces wage growth, lower real wages will negatively impact protein consumption in Q4 2022 and 1H 2023 (see Figure 1). Historically, as macroeconomic conditions soften, pork does better in most markets than many protein alternatives, yet we expect global pork prices to be impacted by lower consumer confidence. Value-conscious consumers are already seeking out lower-value cuts and trading down from branded to private label alternatives at retail. Consumers are also limiting foodservice purchases, adding further weakness to premium product markets.

Anticipating some seasonal strength in demand, processors have built inventory to satisfy a modest rebound in Q4 2022. Holiday sales will test the market's resilience and its ability to absorb premiums. Lower GDP growth expectations in 2023 will limit market needs and slow herd-rebuilding efforts.

Trade prospects remain steady, despite growing uncertainty

Weaker economic growth expectations will also impact trade volumes in Q4 2022 and early 2023. Pork shipments to most markets through Q3 2022 were relatively strong, with local supplies insufficient to satisfy demand in key markets in South Korea, Japan, and Mexico (see Figure 2). Disappointing shipments into China and a lack of clarity around the prospects for improvement given ongoing Covid-related restrictions have forced other markets to absorb the excess. Efforts to stabilize production in some regions have been slow due to productivity challenges and consumer uncertainty, resulting in improved trade prospects for 2023.

Higher pork prices in key exporting nations (the US, Canada, and the EU) limited pork's competitiveness in Q3 2022, although recent price setbacks and government interventions to stabilize food prices could work to strengthen demand. Spain and the Netherlands continue to see strong export interest, especially in Asian markets. Canada is also experiencing a rebound in export sales, with higher exports to the Philippines and South Korea displacing exports to Mexico and parts of Latin America.

Figure 1: Consumer inflation will pressure demand

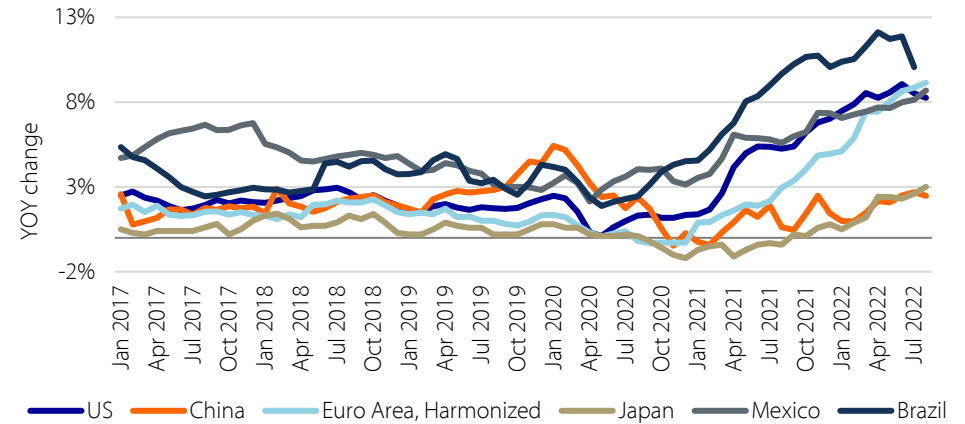
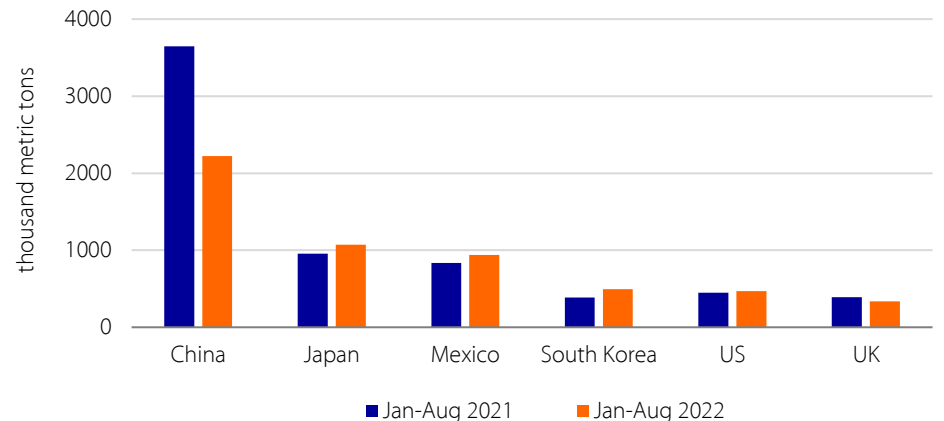


Figure 2: Imports higher in most markets, despite lower shipments to China



Global Outlook

Slower growth ahead for the global herd on production costs and uncertainties

Challenging 2022 harvest places burden on next Brazilian crop

Feed costs remain near record levels after a disappointing harvest in the US, parts of Europe, and Asia. This is resulting in near-record-low grain and oilseed inventories and historically high prices (see Figure 3). The acreage of corn and soybeans being planted in the Southern Hemisphere could help ease, but not eliminate, the strain in 2023. Logistics are presenting additional challenges to the market, adding further costs and volatility. We believe feed availability and cost will remain challenging through 2023.

Competition for reduced grain and oilseed inventories and the resulting price increases are compounding challenges producers face from labor and energy costs. Producers' growth plans remain muted in most regions, with limited growth in the sow herd expected to curb 2023 global pork production.

Global growth outlook slows as producers remain cautious

Historically high global production costs are limiting herd expansion in most regions. With few prospects for cost relief and limited visibility around the strength of consumer demand given the challenging economic environment in 2023, producers have scaled back plans to add to their herds. Global production is expected to fall 2% in 2022 and see almost no material growth in 2023, with production in key growing regions significantly lower.

Herd health challenges and the ongoing impact of ASF are reducing near-term production and impacting producers' willingness to invest in future growth. While herd rebuilding efforts in most of Asia have been successful, current demand does not support more aggressive increases. Only Brazil is expected to expand its herd in 2023, while expectations have been pared back in China, the US, and Europe.

Figure 3: Low global feedstock inventories continue to stress producers

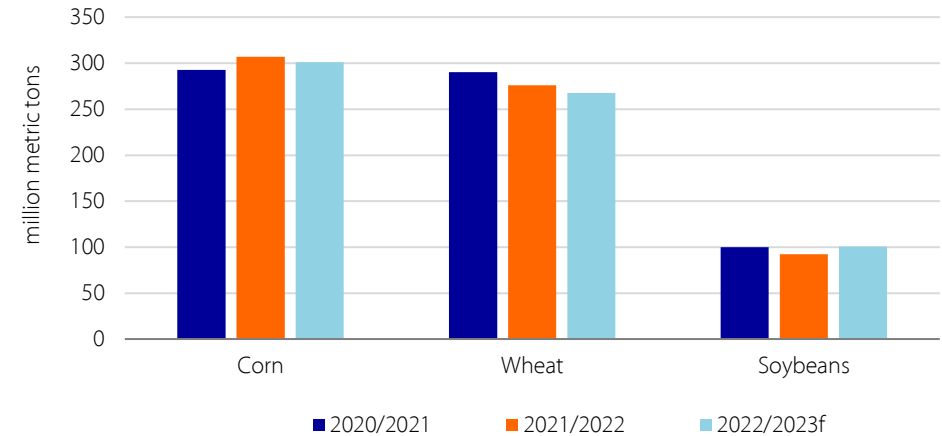
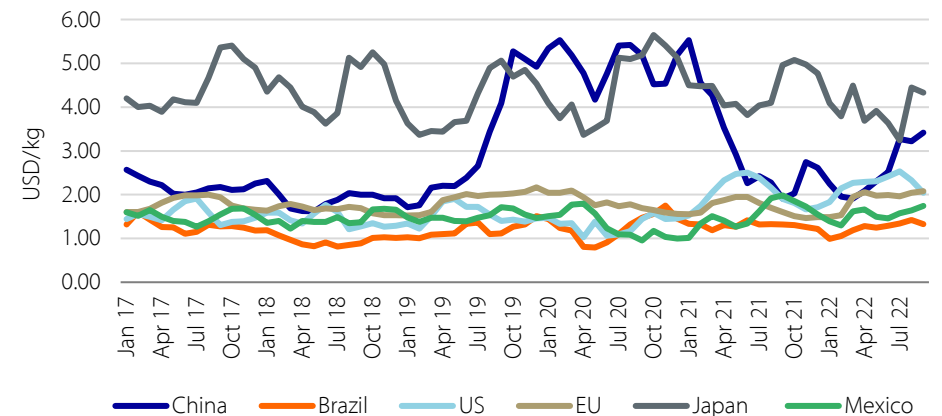


Figure 4: Pork prices in selected countries, Jan 2017-Sep 2022



Global Outlook: Macroeconomic Dashboard

Foreign exchange and GDP forecasts, shipping costs, and consumer confidence



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Figure 5: Indexed FX forecast for the next 12 months

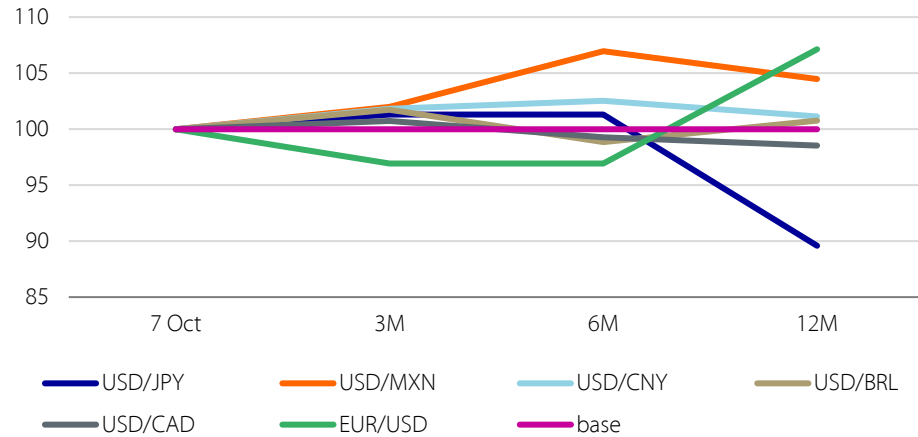


Figure 6: GDP growth outlook of selected countries, 2021-2023f

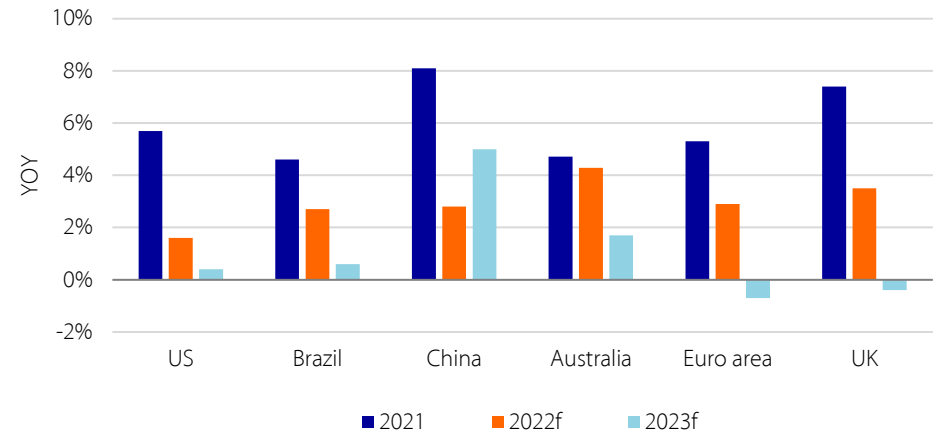


Figure 7: Global container and reefer indices remain at high levels, Jan 2019-Sep 2022

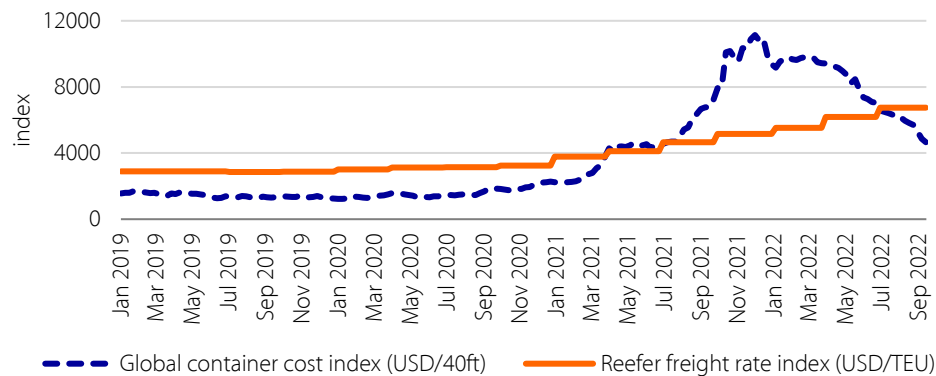
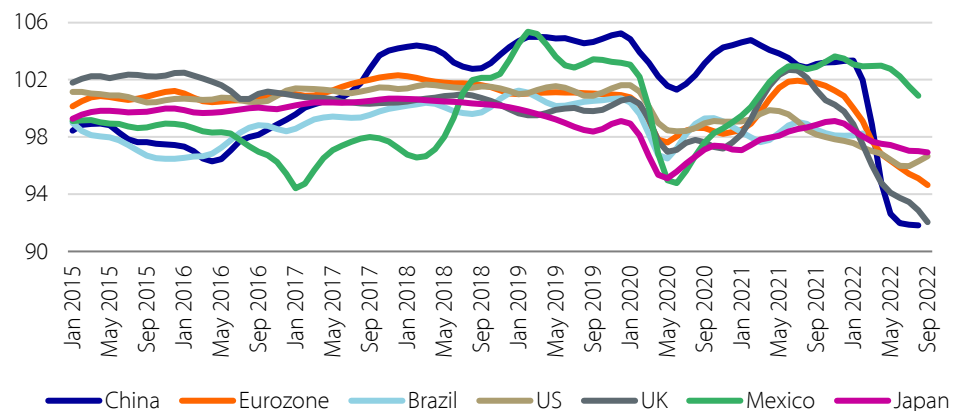


Figure 8: Consumer confidence in selected countries, Jan 2015-Sep 2022





US

Supply growth on hold as industry remains cautious

US herd growth elusive as producers remain cautious

In the USDA's September Hogs and Pigs report the US breeding herd was 0.6% below year-ago levels (6.2m head), nearly 1% below industry expectations (see Figure 9). The decline reflects a previously announced west coast plant closure and the lower ROI on planned expansion. Elevated feed and energy costs and an uncertain regulatory environment continue to limit growth. Challenging herd health and higher sow mortality also play a role. Rabobank continues to expect a stabilization in the sow herd and a modest uptick in growth in 2023, although we are not expecting any significant expansion before 2024/25.

Though still well ahead of historic averages, carcass values struggle

Pork values were above expectations in Q3 and are expected to remain strong through year-end on steady demand and tighter availability (YTD production -2.3% YOY). Ham demand in domestic and export markets is expected to remain strong (prices +14% YOY) on reduced domestic turkey availability (lower due to recent HPAI outbreaks), which should support prices. Lower belly prices (-38% YOY) should improve retail bacon prices, further supporting carcass values through year-end. According to IRI, September fresh pork sales at retail were down 1.4% YOY, with better prices offsetting a 1.7% YOY decline in volume. We expect increased seasonal production and promotions for National Pork Month to boost volumes but expect increased competition at retail from low-cost chicken. Average packer margins (USD 17/head) have improved on the recent drop in hog prices, yet they remain below the long-term average.

Exports still under pressure as prices remain uncompetitive

Pork exports were down 3.4% in volume in August but up 2.4% in value (see Figure 10). Steady volumes to Mexico (70,4000 metric tons, +2.2% YOY), along with a jump in shipments to China/Hong Kong (+7.1 % YOY) and South Korea (+36% YOY), helped offset weaker exports to Japan (-19% YOY) and Canada (-7% YOY). Import volumes remain steady (+1% YOY), with Canada supplying two-thirds of the volume.

Figure 9: US sow herd through 2022 remains below year-ago levels

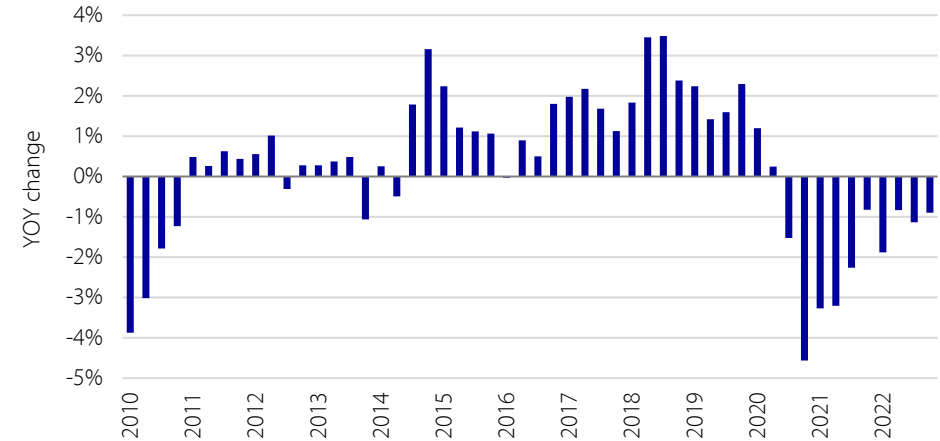
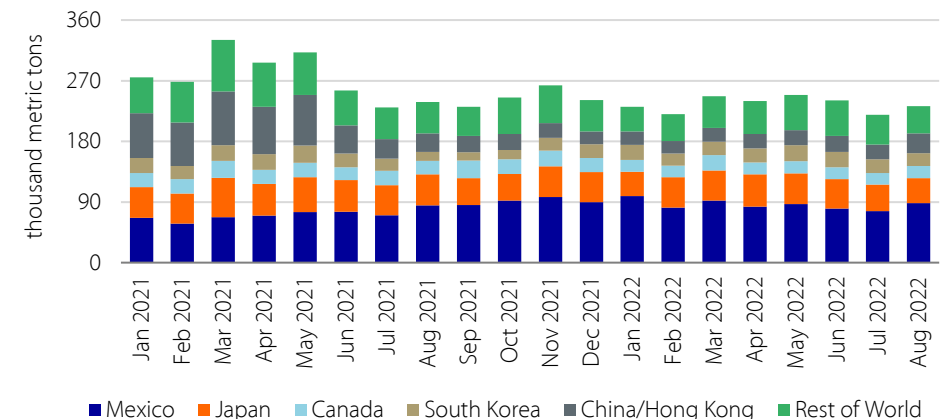


Figure 10: US pork exports slow, Mexico remains a bright spot



Mexico

Strong hog markets help offset rising feed costs



High costs and productivity challenges curb industry growth

Herd growth remains constrained, as higher feed costs (+28% YOY) and productivity challenges continue to weigh on industry profitability. August pork production was 141,000 metric tons (+1.8% versus year-ago levels). Year-to-date production of 1.1m metric tons (+1.9% YOY) continues to trail Rabobank expectations and five-year average growth of 4%. Slower production growth has strengthened markets. At MXN 45.38/kg, September hog prices were down 4% seasonally but 26% above a year ago and near record highs (see Figure 11). We expect tighter hog supplies to remain supportive of hog prices in Q4 2022 and early 2023.

Pork demand steady, despite inflationary trends

Pork prices remain at near-record levels as tight supplies of pork and competing proteins have not kept pace with domestic demand. High beef costs and strong retail support have kept cutout values high, helping packers offset significantly higher hog costs. Food cost inflation has already forced a government response and could put additional pressure on retailers to moderate consumer prices. Current inflation expectations in Mexico remain a concern and are expected to slow consumption of premium proteins, potentially weighing on pork values in 2023.

Exports to Japan rebound, while pork imports remain high

July pork import volumes reached 105,000 metric tons, up 5% YOY, while import value rose 24% YOY (see Figure 12). Pork imports from the US, supplier of 78% of total imports, remain strong (volumes +4% YOY, value +21%), reflecting strong processor demand for ham as a result of HPAI-related trade restrictions on US turkey imports. Canadian pork import volumes declined 3% YOY in July, while import value grew 12% YOY. Pork exports strengthened in July, rising 13% YOY to 21,000 metric tons, with volumes to Japan up 27% YOY. Despite this near-term strength, year-to-date exports continue to trail year-ago levels (volumes -6% YOY, value -4% YOY), with stronger shipments to Japan and the US offset by lower exports to South Korea and China.

Figure 11: Hog prices remain historically high

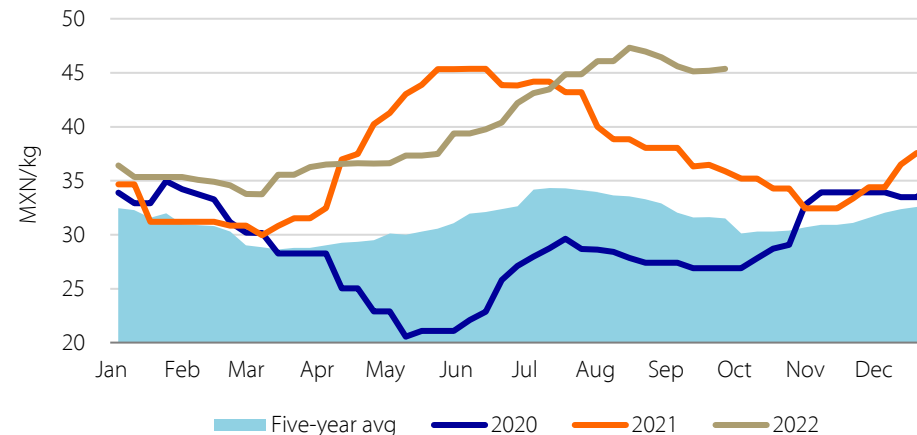
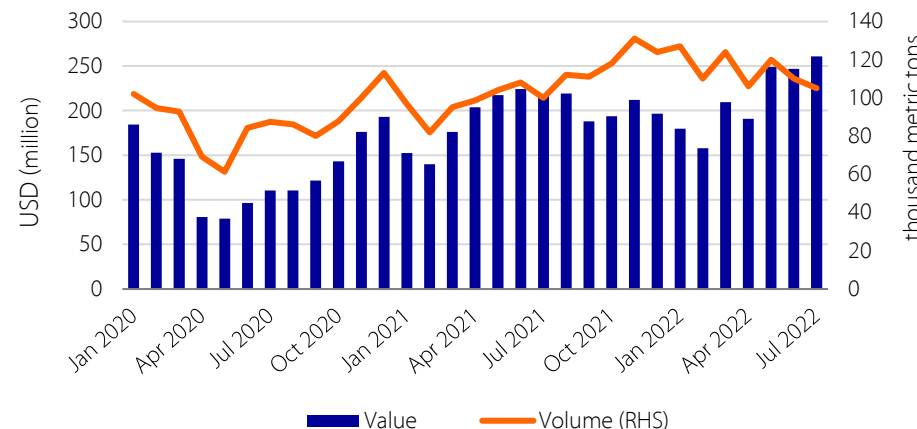


Figure 12: Pork import value record high, volumes seasonally lower



Canada

Lower pork values pressure packers



South Korea

Imports limit pork price appreciation



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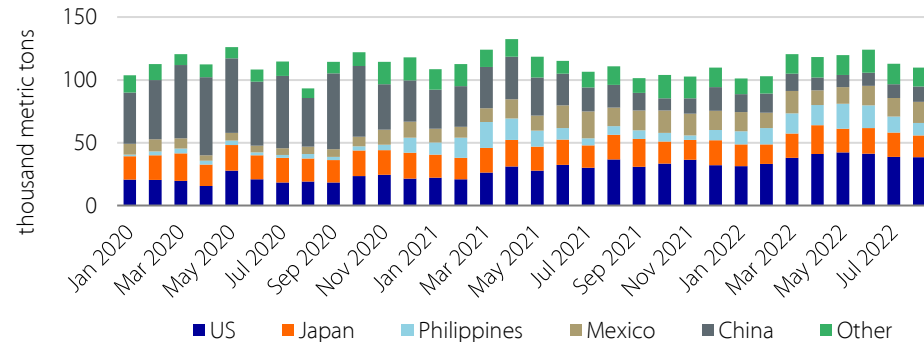
Packer margins suffer on soft domestic demand and labor constraints

Hog slaughter through September is flat versus a year ago, with the 145,000 additional pigs harvested in the east fully offset by equivalent losses in the west. Current slaughter is down 4.1% YOY, led by a 10% drop in the west. Year-to-date hog weights are up 0.8% YOY, despite a seasonal fall in September (-2.4% YOY). At 1.6m metric tons, year-to-date production is up 0.8% YOY, driven primarily by increased harvest weights.

Hog prices remain sharply ahead of year-ago levels in early October (+10% YOY) and up 5% YOY for the year. Higher prices are helping producers offset rising feed costs but are pressuring packer returns. Carcass values are down 12% YOY and 2.4% YTD, as weaker exports have contributed to higher local availability.

Feeder pig exports to the US remain lower (-11% YOY), while market hog movement to the US recently moved ahead of year-ago levels. Pork export volumes were slightly lower in August (-0.9% YOY) as continued weakness in shipments to China (-34% YOY) and Japan (-13% YOY) was not fully offset by stronger shipments to the US (+6% YOY), the Philippines (+45% YOY), and Mexico (+7% YOY) (see Figure 13).

Figure 13: Pork exports lower on declines in volumes to China and Japan



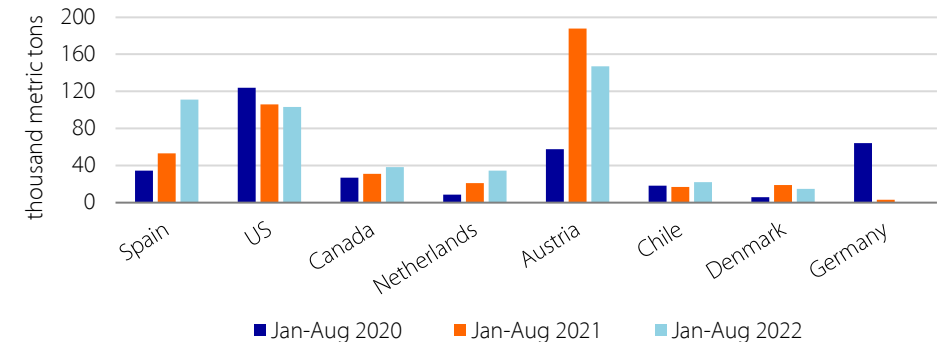
Source: Statistics Canada, Trade Data Monitor, Rabobank 2022

Pork demand begins to soften as inflation takes toll

Hog prices remain volatile, but 12% above year-ago levels, as local supplies continue to run short of packer needs. September production was down 1% YOY, with lower weights offsetting a 0.8% YOY increase in slaughter. The discovery of five additional cases of ASF last quarter is not likely to have a material impact on production (much less than 1% of supply) but adds new risks for producers. High and rising costs continue to pressure margins and limit herd growth.

Pork prices are down from their summer highs yet remain 13% ahead of year-ago levels, as pork imports are being used to stabilize retail prices (+2% YOY). Pork imports increased 28% YOY in August, to 44,000 metric tons. Much of the increase came from the EU (+43% YOY) and Brazil (+152% YOY), which continues to benefit from the removal of import tariffs. Imports from Canada were also significantly higher, while imports from the US are up modestly (see Figure 14). The government's recent decision to recognize regionalization of ASF risks will expand trade with impacted countries (like Germany) in 2023 but has had limited impact thus far. We expect weaker economic trends and rising inflation to slow pork consumption in Q4 2022 and early 2023.

Figure 14: Europe continues to gain share in South Korea's import market





China

Pork prices expected to increase in Q4 2022 and Q1 2023 amid uncertainties



Pork prices moving up steadily despite policies to curb inflation

China's hog prices continued to rise in September and early October, albeit at a slow pace, despite government measures to curb prices by releasing pork reserves to the market. The sales volume from pork reserves reached a record high for a single month. Live hog prices in the first week of October reached over CNY 25/kg, more than double the March 2022 low of CNY 11/kg and 30% higher than last October (see Figure 15). We expect 2022 pork production to be higher than 2021, driven by high slaughter numbers in 1H, which offset lower production in 2H. However, strong prices have thus far failed to encourage herd replenishment. This is reflected in piglet prices, which recently weakened after strong growth in July and August. This may show that producers lack confidence in market prospects given various uncertainties, including the Covid policy, government measures to stabilize CPI, and rising feed costs. In addition, sales volumes of pig feed for June through August declined 6% YOY. Considering the growing interest in raising large animals and second fattening phase, which requires more feed than normal, we believe the total herd inventory has fallen by over 6% YOY, with the sow herd down by over 10% YOY. We expect 2023 production to be even with or slightly lower than 2022, if sow replenishment remains slow in the coming quarter.

While there is still great uncertainty around the Covid policy, pork demand generally improves in Q4, which is the peak season. Pork prices will likely go up further and stay high until Chinese New Year at the end of January 2023.

Pork imports halved in the first eight months of 2022

Pork imports in the first eight months of 2022 declined by 52% YOY, to 1.74m metric tons (see Figure 16). Pork muscle meat dropped significantly, down 65% YOY, while pork offal declined by 17%. Due to the strong US dollar, shipments from the US have declined more than the other main suppliers. In August, Brazil surpassed Spain to become the largest supplier to China, although Spain remained the largest exporter for the first eight months of 2022.

Figure 15: Hog and pork prices increase while piglet prices weaken

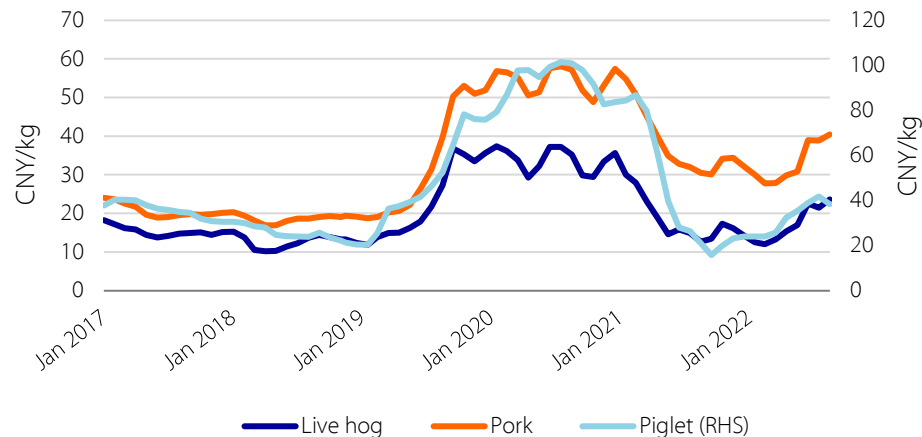
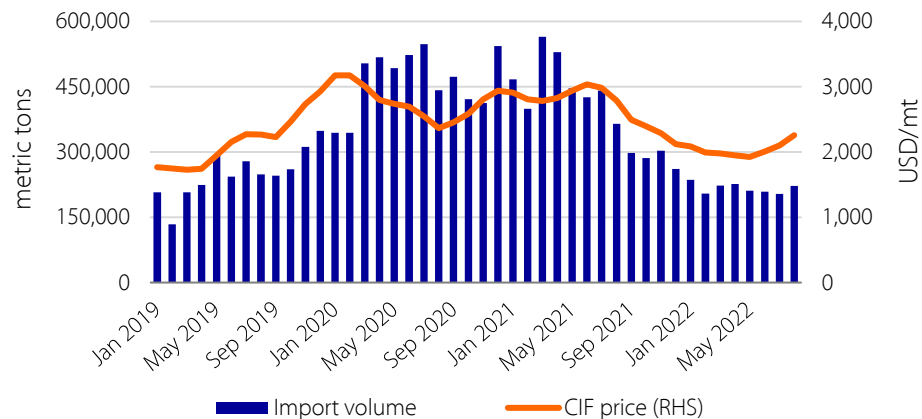


Figure 16: Imports dropped by half in the first eight months of 2022





Japan

Pork imports expected to keep rising



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Consumption remains sluggish

Consumer spending was slow over the summer, affected by a rise in Covid-19 infections and disruptions following the typhoon. Sales in retail and foodservice channels were weak in August, with foodservice down 19.4% on 2019 levels. Due to yen depreciation and higher energy costs, price increases are scheduled for over 6,000 processed foods, starting from October. We are concerned that consumer expenditures in food retail and foodservices will move lower in response.

Frozen imports remain high

Pork imports were strong in Q3 2022, with sales through August up 12.3% YOY. Frozen products increased 26.6% YOY, while chilled imports stayed relatively flat (-3.2% YOY) (see Figure 17). Imports from Spain jumped 185% YOY; imports from Mexico (+16% YOY) and Denmark (+7% YOY) also rose higher. In contrast, imports from the US and Canada slowed due to the high proportion of more premium chilled products. Higher export prices in North America relative to the weakness in the yen also played a role. Retailers continue to shift product offerings toward more affordable consumer options and allocate more shelf space to frozen products.

CSF affects domestic production

A new outbreak of classical swine fever (CSF) was confirmed in July at a farm that had shipped 2.5% of domestic live hogs. The farm went bankrupt after 54,000 pigs were removed. This discovery will further prolong the herd contraction – although the inventory should stabilize in October.

Prices stabilize, yet more weakness likely

Carcass prices have stabilized at JPY 600/kg since August, yielding a modest profit for producers (breakeven is currently JPY 500/kg) (see Figure 18). We expect further weakness in Q4 2022 as pork production expands and demand softens. Most farmers remain reluctant to invest due to the current macroeconomic outlook and high operating costs.

Figure 17: Frozen pork imports remain strong

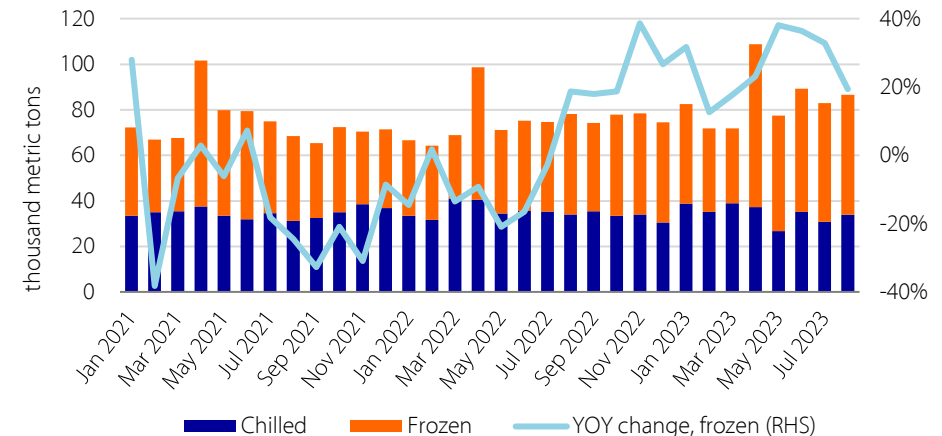
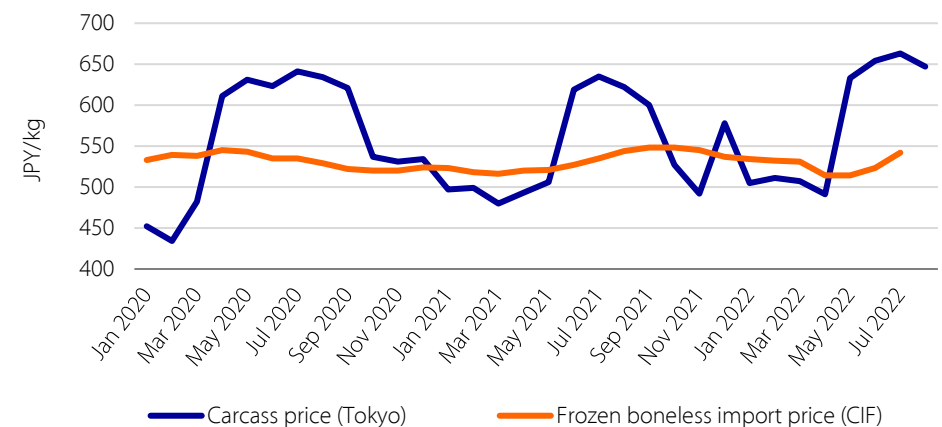


Figure 18: Import prices are flat compared with carcass prices



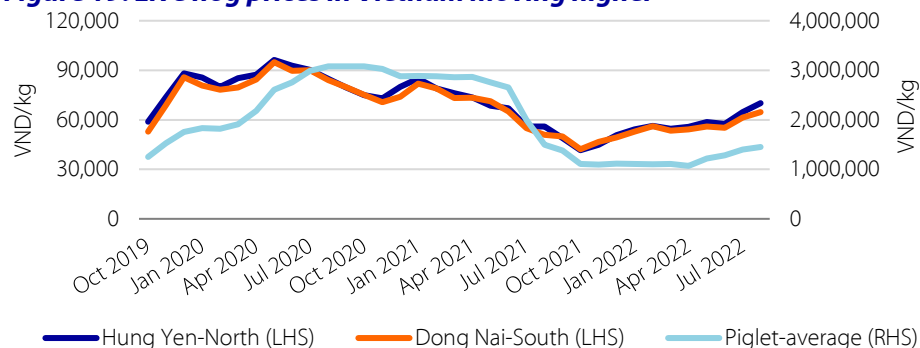
Southeast Asia

Pork production in Vietnam and the Philippines expected to grow in 2022 despite inflation, ASF, and global trade volatility

Vietnamese hog price recovery underway

Hog prices moved sharply higher in Q3 2022, with farmgate prices reaching VND 58,000 to VND 62,000/kg in September (see Figure 19). Prices will likely increase further in Q4 due to seasonal demand strength and strong economic growth. According to the General Statistics Office of Vietnam, GDP growth reached 13.7% in Q3 2022, compared to sharply lower growth (-6% YOY) in the prior year due to the pandemic. Unlike other countries in the region, domestic inflation is under control. The September CPI was 3.9% YOY, and the CPI for food and catering was 3.7% YOY. Pork production is still recovering. Government data shows year-to-date pork production in August at 2.94m metric tons and total pig population at 28.7m head. Based on this outlook, 2022 production is likely to reach 4.3m metric tons. Vietnam has a high reliance on Brazilian imports (40% of total), followed by Germany and Canada. However, pork imports have dropped significantly in 2022, down 63% YOY in 1H. As local production is expected to increase further, Vietnam's imports should stay at current levels in 2H 2022.

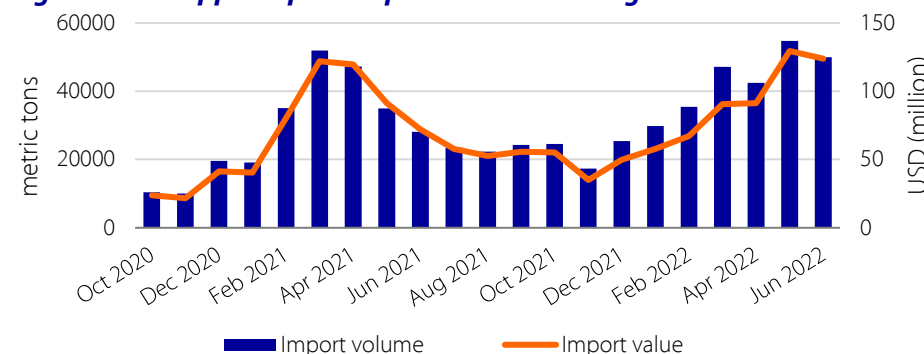
Figure 19: Live hog prices in Vietnam moving higher



The Philippines remains challenged by ASF outbreaks

Pork production continues to be affected by ASF outbreaks, although the pig herd is stabilizing and stood at 9.94m head in June (+3% YOY), according to the Department of Agriculture. A faster recovery on commercial farms, which increased their herds 7.7% YOY, has displaced backyard farmers, which only grew 1.1% in the same period. Retail pork prices softened in Q3 and stabilized in October at PHP 300/kg for pork kasim, driven mainly by rising imports and the recovery of local production. However, producers' margins are under pressure as they cannot pass on rising costs. The corn price index rose 26% YOY in September; meat values only grew 9% YOY. Inflation remains a challenge. The September CPI hit 5.1%, the highest level in nearly three years, and the CPI for food and non-alcoholic beverages climbed to 7.4%. Producers are not actively restocking herds, due to rising feed costs and disease concerns. Pork imports increased significantly in Q2, up 33% YOY (see Figure 20), as most exporters have diverted shipments from China to the Philippines and other destinations in 2022. Canada is the largest supplier, followed by Spain.

Figure 20: Philippines pork imports remain strong





Europe

Consumer demand will be tested as wallets get squeezed going into the winter



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Ongoing decline in pork production

Pork production in the EU-27+UK is expected to continue its decline in Q4 2022, as indicated by the June 2022 pig inventory (Figure 21). For 2022, Rabobank expects pork production to drop by 4% to 5% YOY in the EU-27+UK, with the largest declines likely to occur in Poland, Germany, Denmark, and the UK. Herd contraction reflects increased producer uncertainty, due to rising costs (feed, energy), and an unfavorable margin outlook for processors, given limited upside in pork values and cost pressures. Weaker domestic markets and lower export demand from China are weighing on pork markets. Pork production through July 2022 was down by 4.6% YOY and, at the current pace, could end the year below our current estimate.

Export competitiveness challenged by high prices

Pork exports through July declined 23% YOY. Monthly exports averaged 100,000 metric tons less than the prior year, with shipments to China down 140,000 metric tons each month on average. The difference found its way into markets outside Europe, with the Philippines, South Korea, Japan, and Australia being the top alternative export markets. In Q4 2022, we expect higher European exports to China compared to 1H 2022. However, high local prices weaken global competitiveness. In August 2022, Brazilian muscle meat exports to China surpassed export volumes from Spain, highlighting competitiveness issues. Availability likely also played a role in the shift, as Spain has been challenged by lower productivity due to disease pressure and heatwaves. Resumption of exports to South Korea from countries affected by ASF, following the acceptance of the regionalization principle, is only expected from 2023, as re-authorizing plants for export will likely take some time.

Pig prices likely to come under pressure

Average EU pig carcass prices remain strong, up 55% YOY in week 38 (see Figure 22). In Q4, we expect a seasonal decline in prices, with larger supplies of pigs from Spain expected. Pork demand is not expected to improve. However, higher energy bills will stress consumers' wallets going into the winter.

Figure 21: Lower pig inventories to reduce 2H 2022 pork production

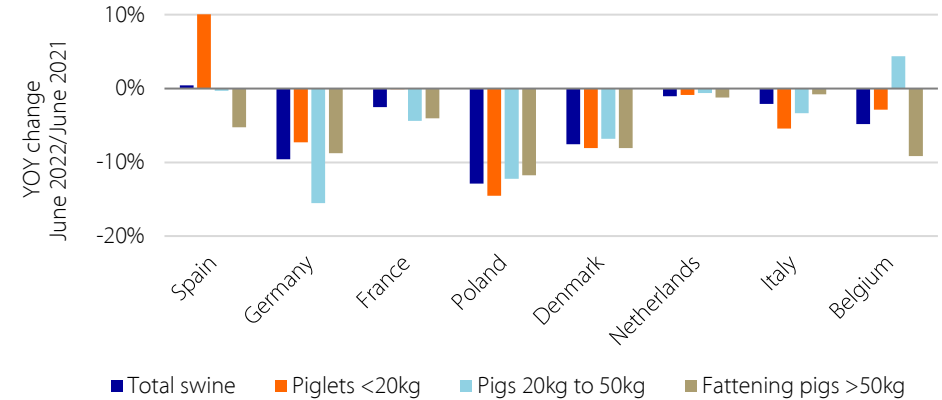
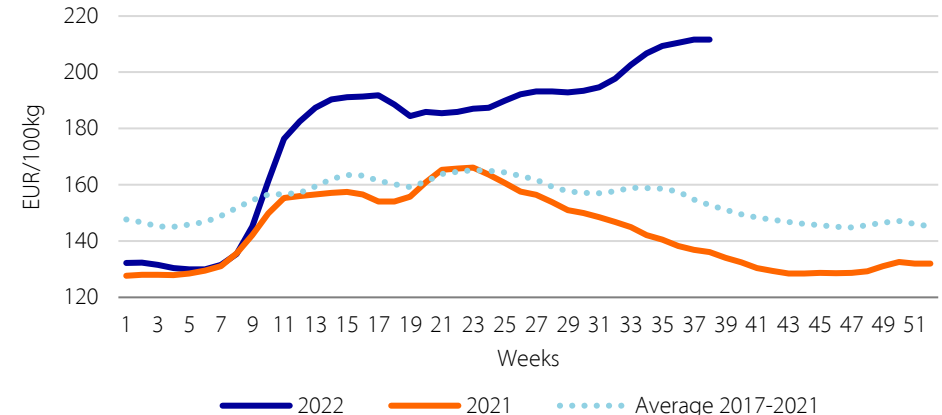


Figure 22: EU average pig carcass price up 37% on the five-year average





Brazil

Improved margins and demand increase the attractiveness of production



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Improved domestic demand and exports favor production

The combination of lower production costs, due to declines in feed prices since April, and a recovery in live hog prices since March has had a positive impact on production margins (see Figure 23). The arrival of colder weather in the Center-South region boosted pork demand and improved margins for both integrated and independent producers. Recent PTA-IBGE data showed that pork production in Q2 increased nearly 6% YOY, with part of this increase due to culling sows.

Independent producers – who are more exposed to input prices, especially feed – have been more challenged in terms of margin, while integrated producers, benefiting from lower costs and guaranteed revenue, have managed to advance production, even with tight margins. Rabobank expects margin pressure rose in Q3 2022 on the back of a seasonal drop in demand. Domestic demand in Q4 should be materially better relative to the year-ago period, due to the elections, the FIFA World Cup, and government financial support. Nevertheless, pork will face stiff competition from beef, which has registered price declines since spring while pork has appreciated.

Resumption of China's imports boosts export sector

August pork exports reached record highs, led by a rebound in shipments to China, which registered its highest monthly volume of the year, at 49,000 metric tons (see Figure 24). Still, volumes for the year are 5% lower, while the value of shipments is down 11% versus the year-ago period. At 37% of total volumes, China remains the largest export destination. Rabobank expects a 3% to 4% YOY drop in export volumes this year, although trade continues to hinge on a successful reopening of markets and holiday travel.

Stronger near-term margins and an improved export outlook are expected to increase production above earlier estimates. Rabobank is now projecting 2% to 3% growth in pork production in 2022.

Figure 23: Prices for pork, live hogs, and feed show margin pressure

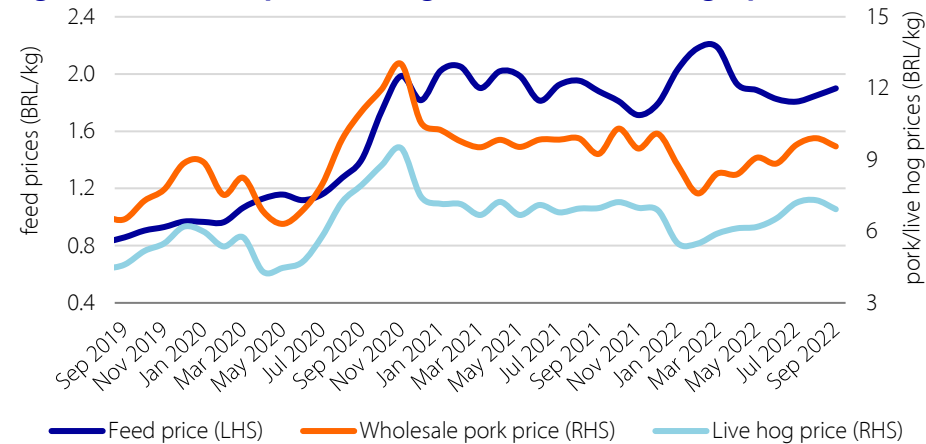


Figure 24: Brazilian pork exports, 2022 vs. 2021



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