

Ongoing Change in Global Pork Markets in 2021





**March 2021** 

### Summary: African Swine Fever Remains a Major Driver of Change



# African swine fever is actively influencing pork markets around the world

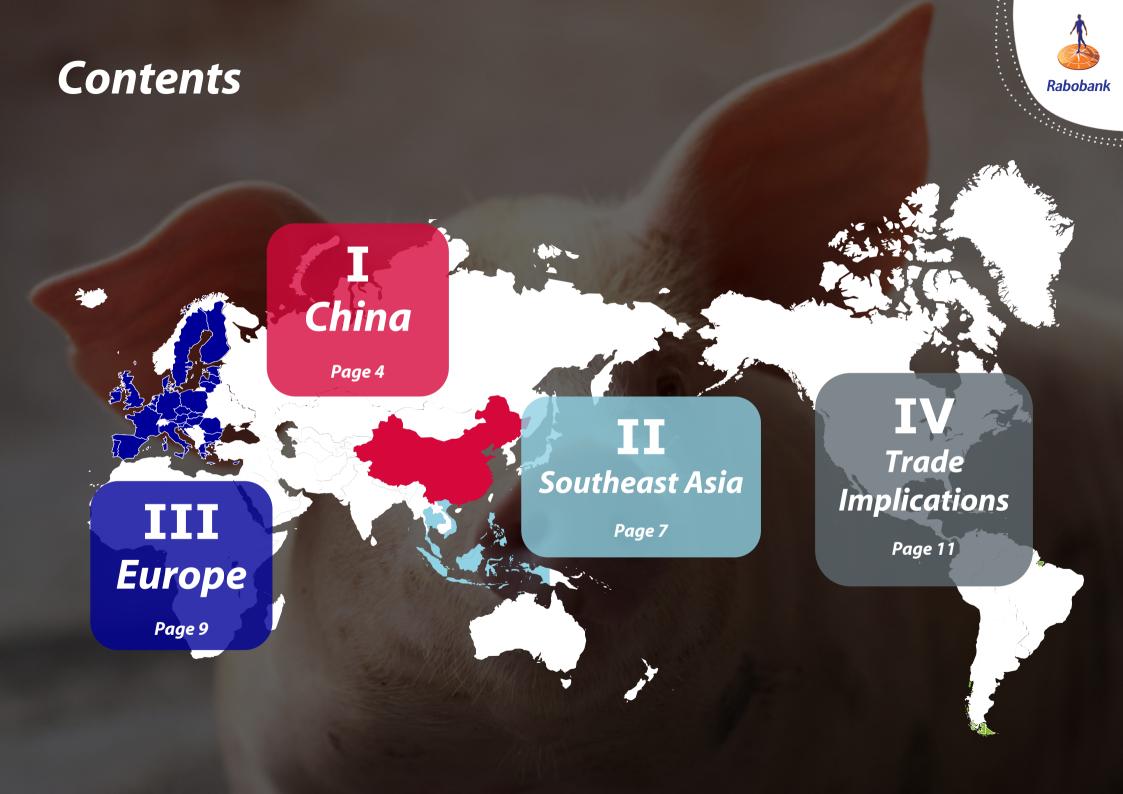
- China is the most obvious country where ASF continues to have a major influence.
- The spread of ASF over winter highlights the challenges of managing this disease. It has complicated the picture of China's pork supply and demand.
- The ongoing pressure from ASF's spread in Germany is also significant. While progress has been made in containing the disease, more work is needed.
- The situation in Germany has implications for other parts of Europe as well.

ASF is creating many areas of uncertainty – mainly in China, but also in Germany – which will not be resolved quickly

- China's herd numbers and the outlook for 2021, especially for the sow population, are major areas of uncertainty.
- Consequently, China's pork production and pork prices also present significant uncertainties.
- Moreover, the way high feed costs will affect production costs during 2021 is also difficult to assess.
- Further obscuring the outlook are how quickly ASF will be controlled in Germany and when trade bans will be (partially) lifted.

# The implications of ASF for world pork trade are a major swing factor in global pork markets

- China's booming import demand for pork and other species was a major demand driver in global animal protein markets in 2020.
- Rabobank sees China's pork imports declining in 2021.
- At the same time, we see all exporting countries looking to maintain trade with China.
- Price will be one major factor that determines which countries will maintain high pork trade flows to China in 2021, along with availability and geopolitical considerations.



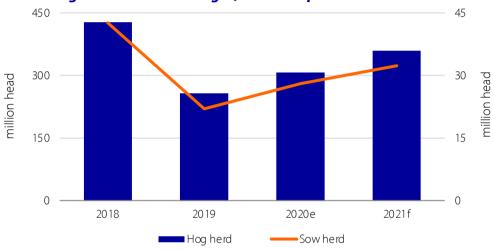
# China's Herd Rebuilding Will Continue, Despite Headwinds

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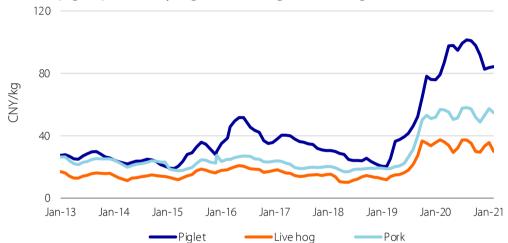
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ASF has been a serious threat during this winter, slowing down the pace of restocking

#### Restocking encounters challenges, but we expect it will continue



#### China's piglet prices stay high, indicating the shortage of sows



#### Sow herd decline in early 2021 to impact the restocking pace

- Illegal vaccines, new variants of the ASF virus, and pressure from other diseases, particularly porcine reproductive and respiratory syndrome (PRRS), have resulted in a rising mortality rate of piglets and culling of the sow and hog herd in recent months. It is estimated that the sow herd dropped from December 2020 to February 2021, down 3% to 5% MOM in each month. However, we believe the current sow herd is still 10% to 15% higher than one year ago, and we consider this a setback during the upward trend of restocking rather than a turning point.
- Moreover, the impact of ASF on overall pork production is lower than in 2019 and early 2020.
   Strong piglet and sow prices suggest that many farmers have sufficient confidence to restock.
- As the hog population density increased in 2020 due to successful restocking and will
  continue to rise in the coming years, risks of ASF recurrences increase as well. Restocking will
  encounter headwinds from time to time in the coming years, and we maintain the view that
  full recovery will not be possible before, and more likely after, 2023.

#### Restocking to continue in 2021, though at a slower pace than in 2020

- After the Lunar New Year, hog prices started to fall, down around 20% in just two months, mostly due to seasonal weak demand but also reflecting panic selling by farmers over concerns about diseases. However, piglet prices have rebounded strongly from CNY 81/kg in December 2020 to CNY 85/kg in February, indicating a tight piglet supply and also a widespread expectation of stronger hog prices for the rest of 2021. As the market anticipates higher hog prices, restocking will continue rapidly, despite the threats from disease outbreaks.
- While the overall sow herd declined, the rates of decline varied greatly between regions, indicating that the disease outbreaks are still limited to specific regions. As the ASF virus mutates and becomes more difficult to control, biosecurity will remain the most effective way to defend the herd. The barrier to enter hog farming is now even higher, due to the technology and capital involved, leading to further consolidation in the near future.

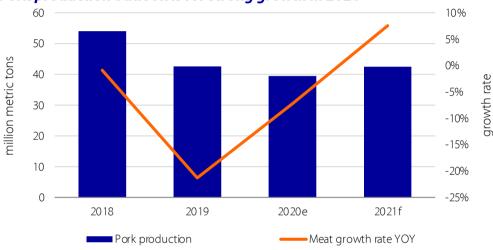
### China's Pork Production Will Grow in 2021, Despite Recent Herd Losses

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While restocking encounters headwinds, pork production will grow due to the higher sow inventory

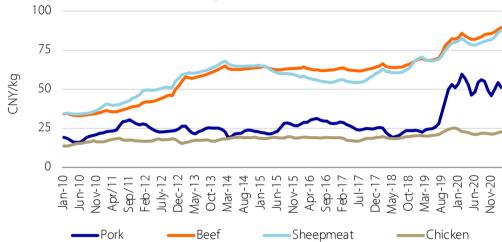
#### Pork production outlook is for strong growth in 2021



#### Pork production expected to grow in 2021

- We expect pork production to grow by 8% to 10% YOY in 2021. We have recently
  adjusted our estimate down, due to the headwinds created by the new wave of ASF
  outbreaks. We believe pork production will continue to grow, as the sow herd has
  expanded on a year-on-year basis, despite the losses during the winter.
- Pork production will see fluctuations during the year. In Q1, we expect a rapid increase due to liquidation driven by disease concerns, with a slow down in Q2. Slaughter volume by scaled slaughterhouses increased by 29% YOY in January 2021, showing the general improvement in hog supply, although liquidation also played a role. Most listed farming companies reported month-on-month declines in hog sales in January, but all have reported significant year-on-year growth. Strong sales in winter suggest the market may repeat what we saw in 2019, when the hog herd decreased but pork production increased in 1H, before the situation reversed in 2H.

#### Retail prices of various animal proteins have shown resilience



#### Pork prices will soften but will remain supported by recovering demand

- While we believe pig supply will generally increase in 2021, we expect prices to fluctuate due to the uncertainties of disease development, restocking interests, feed costs, and import policies. Our view is that average hog prices in 2021 will be lower than in 2020 and subject to strong ups and downs during the year.
- At the retail end of the chain, China's economy is expected to recover further from Covid-19 impacts in 2021. This will support foodservice demand and institutional consumption, as well as household consumption. As pork prices will soften from the high levels of 2020, they will get support from improved demand.
- China's government has reiterated its policy of supporting local hog production, emphasizing the importance of building the breeding/genetics system. As a result, a number of leading companies with breeding capacity will likely receive favorable policy support. We also expect breeder imports to continue in 2021, after the import of over 20.000 GGP breeders in 2020.

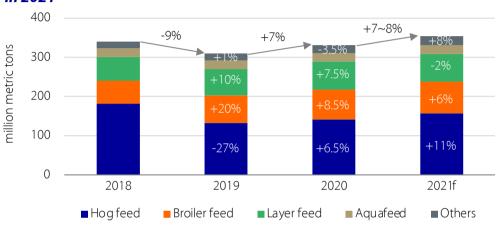
### China's Feed Consumption Will Continue Its Upward Momentum

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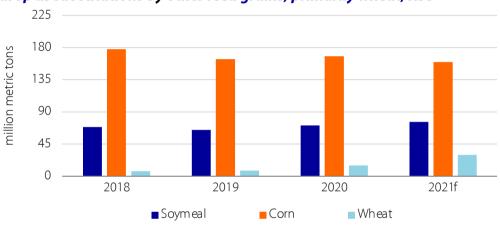
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China's strong feed demand will offer price support to protein meals and energy feed grains

### Chinese feed consumption, particularly hog feed, will steadily increase in 2021



# Soymeal use will generally be in line with feed growth; feed corn use will drop as substitutions by other feed grains, primarily wheat, rise



#### Feed for all species will rise, although layer feed is expected to decline

- Chinese hog feed consumption registered a 6.5% YOY rebound in 2020, driven by rapid hog rebuilding in 2H. Furthermore, slaughter weights also increased by 10% to 20% YOY, varying between regions and time periods, which further boosted hog feed use.
- In 2021, hog feed consumption is expected to increase by 11% YOY. Recent disease outbreaks and a large number of two-line crossbred sows with low productivity will limit the pace of recovery. As large-scale integrated hog farms continue to gain market share, the proportion of in-house feed usage will rise.
- For other species, broiler feed will further expand in 2021, albeit at a slower pace. Layer feed will have a slight drop as a result of the declining hen inventory in 2H 2020, and aquafeed use is projected to have a clear rebound.
- We estimate that Chinese feed consumption will increase by 7% to 8% in 2021, similar to 2020 levels or slightly higher.

#### Soymeal use and prices will likely have great fluctuations in 2021

- Chinese 2021 soymeal consumption will increase by roughly 6% YOY, slightly lower than the growth of total feed demand. Rising feed costs are putting pressure on livestock farming margins, especially for poultry. As a result, feed mills are incentivized to lower the inclusion ratio of soymeal. In addition, mills are increasingly using wheat to replace corn in the feed formula. As wheat has a higher protein level, the use of soymeal will also be adjusted accordingly. Nevertheless, to fulfill the demand, no less than 100m metric tons of soybeans need be imported and crushed in China in the calendar year 2021.
- China's feed grain supply is facing a set of challenges. Chinese corn, which makes up 80% of energy share in feed, has consistently registered deficits in recent years. Skyrocketing prices and low inventories will restrict its consumption, including in feed. In 2021, high imports of feed grains, such as corn and sorghum, are expected, mostly from the US. Meanwhile, China's state reserve is offering stale/old wheat, as well as paddy rice, to feed mills at lower prices. Wheat use in feed will have a significant boost in 2021.

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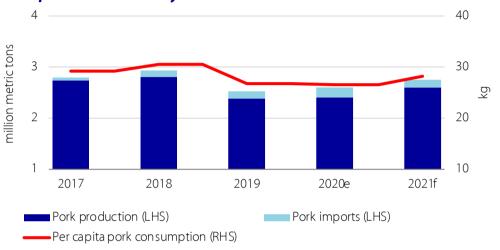
# Vietnam's Pork Production Is Expected to Grow in 2021

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Use of an ASF vaccine in 2H poses the greatest uncertainty

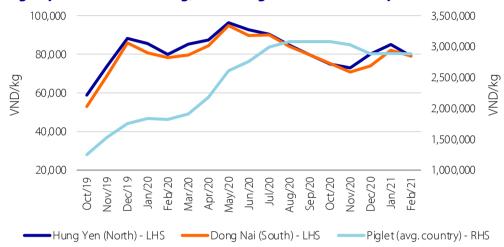
#### Pork production recovery is on track



#### Pork production expected to grow strongly in 2021

- ASF outbreaks continued in some Vietnamese provinces in the winter but have had a smaller impact than previous outbreaks.
- We expect pork production to recover further in 2021, with production output up 8% to 12% YOY. ASF outbreaks mainly threaten small household farms at the moment and have limited impact on large-scale farms due to their better biosecurity. However, with the steadily rising density of the hog population, the risks of new outbreaks are rising as well.
- The game changer could be the introduction of an ASF vaccine. Vietnam's government announced the approval of an ASF vaccine for commercial production in Q2, and, if all runs smoothly, the vaccine could be used on farms within the year. However, vaccine research has not achieved a breakthrough in past decades because of the complexity of the ASF virus, which is a large DNA virus. The use of an unapproved vaccine in China has caused serious problems.

#### Piglet prices remain strong, indicating a small sow herd persists



#### To replenish the sow herd, imports of breeding pigs will continue

- Vietnam's sow herd has increased steadily. However, we estimate a large number of sows is still three-line crossbred females, which have lower productivity than F1 sows. This situation is expected to continue in 2021, as it will take time to build up the F1 sow herd. In 2020, Vietnam imported GGP breeders and parent stock, with the latter mainly coming from Thailand. In total, breeding herd imports reached 242,000 head in 2020, compared with 3,000 head in 2019. Imports account for less than 10% of the total sow herd. We expect imports of breeding herd to continue in 2021.
- Vietnam's pork meat imports increased by over 220% YOY in 2020, reaching 170,000 metric tons. With the recovery of local pork production in 2021, we expect imports will decline by 10% to 20% YOY, but will still be above 2019 levels. Given the various trade deals signed by Vietnam, trade policies are relatively relaxed, and imports will largely depend on the price difference between the local market and the international market.

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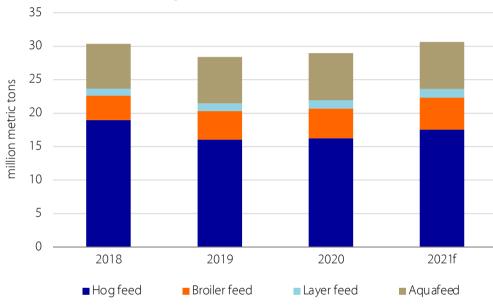
### Feed Demand in Vietnam Will Increase Moderately in 2021

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Recovery in domestic pork production positively impacts domestic animal feed consumption

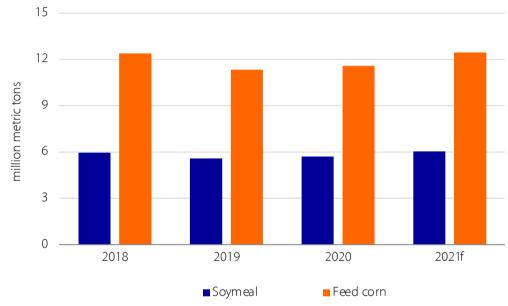
#### Vietnamese feed consumption, 2018-2021f



#### Feed consumption to grow with hog herd recovery

- Vietnamese hog feed consumption is expected to increase by 8.1% YOY in 2021, due to the recovery in domestic pork production.
- Healthy economic growth positively affects domestic consumption of broiler feed, layer feed, and aquafeed in Vietnam. In 2021, total consumption of broiler feed, layer feed, and aquafeed in Vietnam is expected to increase by 3.0% YOY.
- Overall, total animal feed consumption in Vietnam is expected to increase by 5.8% in 2021.

#### Vietnamese soymeal and feed corn usage, 2018-2021f



#### Strong corn and soymeal prices challenge imports

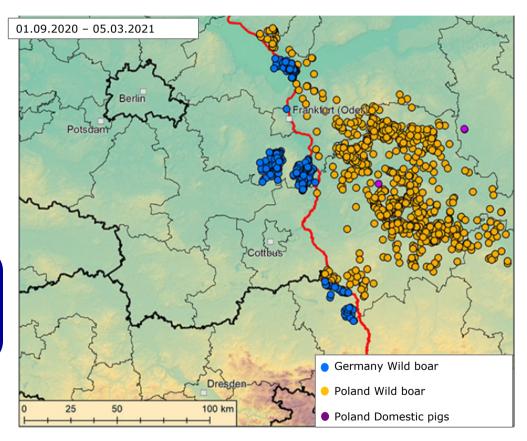
- Vietnam's corn and soymeal demand for animal feed is expected to increase by 7.5% and 6.0% YOY, respectively, in 2021.
- Vietnam's imports of corn and soymeal are expected to increase by 6.7% and 1.0% YOY, to 11.6m metric tons and 5.2m metric tons respectively, in 2021. The relatively high grain and oilseed prices and dry bulk freight rates in 2021 could result in hand-to-mouth procurement of corn and soymeal by Vietnamese feed millers.

### ASF Remains a Challenge in Germany

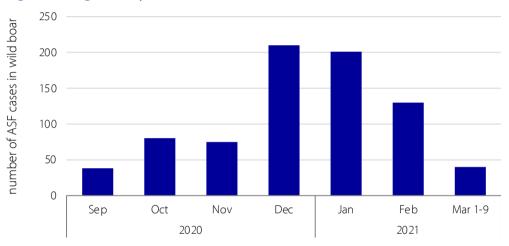


Restriction zones in the south of Germany have been expanded, but the seasonal peak in case numbers may have passed, reducing pressure and creating the opportunity to strengthen control

## ASF has spread further in Germany, and restriction zones around the southern cluster have been expanded



# Number of ASF cases in Germany surged in December due to seasonally high hunting activity and intensified searches for dead animals



#### Effective control over ASF yet to be established

- Since September 2020, 793 outbreaks have been recorded in four clusters, with most cases in the two middle clusters in Brandenburg (734).
- ASF is spreading within the restricted areas in all four clusters. At the end of January, the risk zones in the south (Saxony state) were expanded after ASF-infected wild boars were found outside the core zone.
- A white zone (i.e. a double-fenced zone around core areas) has recently been completed
  in a 5km radius around one of the core zones of the middle cluster in Brandenburg. The
  establishment of the white zone allows the hunting of wild boars to begin in the white
  zone (incl. core zone) to create a disease-free corridor. Similar white zones are to be
  established around the core zones in other clusters.

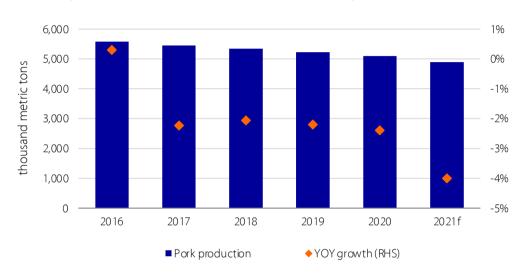
### Germany's Pork Production to Decline at an Accelerated Rate in 2021

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Export restrictions resulting from ASF and structural changes drive contraction and pressure prices

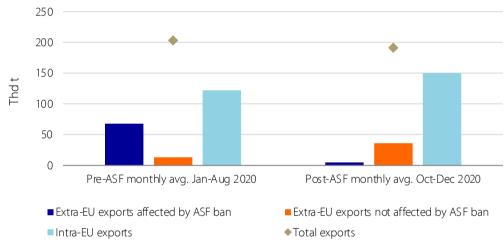
#### Germany's pork production expected to decline by 4% in 2021



# Reduced live piglet and pig imports and contracting breeding herd expected to contribute to decline in production

- The ASF outbreak has already had a significant impact on piglet and live pig imports to Germany, and lower live animal imports will likely continue in 2021.
- From September to November 2020, piglet imports from Denmark and the Netherlands, the
  two major suppliers of piglets to Germany, dropped by 25% and 31% respectively compared
  to the same period in 2019. This represents a total of 0.7m less head imported to Germany,
  approximately 1% of total slaughtered animals in 2020..
- Live pig imports were on the decline throughout the year due to Covid-19-related disruptions, resulting in imports declining by 1.1m head (down 38% YOY) from January to November 2020.
- Germany's sow herd decreased by 5.4% YOY in 2020, the largest decline in the last ten years, as increasing environmental and animal welfare regulations continue to weigh on the industry.
- Increasing pig prices at the end of February already indicate tighter supply and suggest the backlog resulting from Covid-19-related disruptions in 2020 is largely worked through.

# German pork exports decline on trade restrictions, increasing pork supply in Europe



### German exports remain restricted, but excess pork finds market in the EU

- After the ASF outbreak in Germany was confirmed in September 2020, ten countries imposed import bans on German pork, including China, Japan, and Vietnam, leaving about an extra 70,000 metric tons of pork on the EU market each month.
- In Q4 2020, Germany was successful in redirecting the majority of this extra volume. Exports increased to Hong Kong, from an average of 3,000 metric tons/month in the pre-ASF period to 18,000 metric tons/month in Q4 2020. Germany's intra-EU pork exports increased by 23% in Q4 compared to pre-ASF levels.
- A number of countries recently relaxed import bans on German pork. Singapore and Canada accept pork imports according to the regionalization approach. Vietnam again accepts fresh pork from Germany. Brazil, Argentina, South Africa, and South Korea offer exemptions from complete export bans for treated/processed pork products and other pig products.
- As the ASF situation in Germany is still evolving, the import ban by China will likely remain in place for 1H 2021 at a minimum.





We maintain our view that imports will decline by 10% to 30% YOY, despite recent losses in the hog herd

#### Imports in 2021 will decline from the record high of 2020

- China's pork meat imports increased 116% YOY in 2020, and variety meat imports increased 25%, bringing total imports up 85%, to 5.56m metric tons. This was mainly driven by the supply shortage in the domestic market, but it is also partly attributed to market speculation on further increases in hog prices in China.
- We expect pork imports in 2021 to drop by 10% to 30% from the record high of 2020. This is because China's pork production will grow in 2021 and likely exceed 2019 levels. While there will remain a supply deficit, the gap will be smaller than in 2020.
- We expect China to import around 3.9m to 5m metric tons in 2021, including muscle meat and variety meat. This would be the second-highest level recorded and far above the annual average of 2.5m metric tons between 2015 and 2019.

#### Import origins have changed

- Due to the ban on German pork following ASF outbreaks in the country, shipments from Germany to China declined substantially in Q4 2020. As a result, Germany's position in China's imports slipped from number two in 2019 to number four in 2020. While part of the shipments is believed to come through other European countries for example, shipments from the Netherlands increased considerably in Q4 the EU's total exports to China failed to increase at the same pace as other origins.
- The US increased its share substantially in 2020, partly due to its competitive prices, but also due to the 'phase one' trade deal. US exports accounted for 16% of muscle meat and 19% of variety meat in China's 2020 imports, showing the interdependence of the two countries, particularly in variety meat trading.
- In 2021, we expect the US to further grow its importance in China's pork imports.

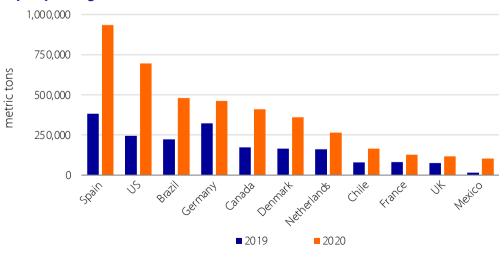
#### Import policies to be relaxed

• For the sake of preventing the spread of Covid-19, China has implemented strict inspections on imported chilled and frozen products. This has increased stocks in cold storage at ports in early 2021. We expect the frozen meat to be released gradually to the market in March and April, and meanwhile, more shipments will be allowed to enter China.

#### Pork imports reached a record high in 2020



#### **Top exporting countries in 2020**



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### Pork Exporters to See Volumes to China Decline in 2021

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Reduction in export volumes depends on the rate of recovery of China's domestic pork supply

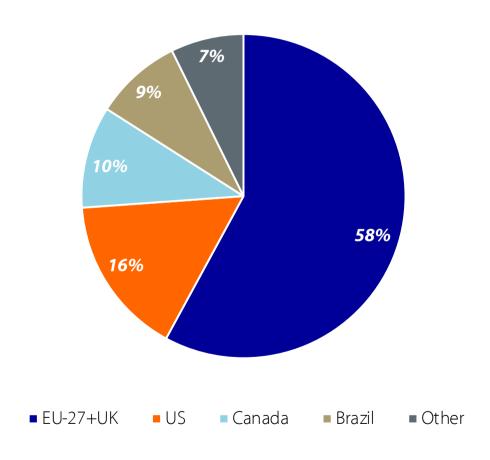
#### China is the world's largest pork importer, by some margin

- In 2020, China strengthened its dominance in the global pork trade and was the destination for about one-half of all pork exports.
- In 2021, we expect China to maintain its dominant role in global trade and to attract attention from all exporting countries.
- In 2020, the EU provided 58% of China's imports, the US 17%, Canada 9%, and Brazil 9%.

#### China's 2021 imports are uncertain

- The level of China's import demand in 2021 is uncertain, and the relative shares between the major exporters are also uncertain.
- Given the persistently high price of pork meat in China, imports will be expected to relieve price pressure in 2021, as well as contribute additional product into those channels working with frozen pork meat and variety meat.
- The relative share of each exporting country will depend on three main issues:
  - Price, which will need to consider freight rates, which are currently very challenging for Europe, and the impact of additional tariff rates;
  - Availability, which impacts Germany and other European countries; and
  - Geopolitical factors, such as the China-US 'phase one' trade deal

# In 2021 we expect change in the relative shares of exporters, and reductions in total volumes from all origins



### **Contact details**

#### **Justin Sherrard**

Global Strategist Animal Protein <u>justin.sherrard@rabobank.com</u>

**Eva Gocsik** — Europe Analyst Animal Protein eva.gocsik@rabobank.com

Christine McCracken – North America Senior Analyst Animal Protein christine.mccracken@rabobank.com

Rabobank

RaboResearch

Food & Agribusiness

Office address

Croeselaan 18 3521 CB Utrecht

Postal address

P.O. Box 17100 3500 HG Utrecht The Netherlands **Chenjun Pan** – China Senior Analyst Animal Protein <u>chenjun.pan@rabobank.com</u>

**Lief Chiang** – China Analyst Grains & Oilseeds <u>lief.chiang@rabobank.com</u>

**Oscar Tjakra** – Singapore Senior Analyst Grains & Oilseeds oscar.tjakra@rabobank.com

Wagner Yanaguizawa – Brazil Analyst Animal Protein wagner.yanaguizawa@rabobank.com

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