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Steady Growth in Production Brings Trade into Sharper Focus

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Looking into Q4 2017, global pork supply is expected to increase further, mainly driven by China, the US, Canada, and Brazil.

The most significant story in global pork markets has been the substantial decline in China's imports in recent months, which creates a risk of over-supplied global markets. However, we do expect China's imports to pick up somewhat over the rest of the year. While the Rabobank Five-Nation Hog Price Index suggests a stronger pricing trend (see *Figure 1*), the major importing countries will likely maintain steady import growth.

China: policy impacts industry structure

China's pork farming structure has been impacted by stricter environmental policy enforcement. Despite the exit of many small farms, we maintain our forecast for 2017, with production increasing by 2%. Prices will continue the downward trend, after holding at strong levels in summer. Pork imports were down by 27% in the first eight months, but may rebound over Q4 2017.

EU: exports continue to decline

While high prices in 1H 2017 contributed to declining exports as they reduced the EU's competitiveness in trade flows, they also triggered an expansion in the sow herd. The slight dip in production in 2017 is likely to reverse in 2018. The EU will seek export opportunities for additional production.

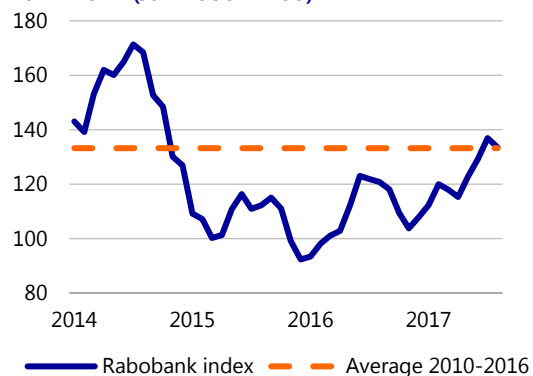
US: prices under pressure as production grows

US pork production will continue to expand over the remainder of the year. Prices are expected to soften under supply pressure. Strong currencies will put extra pressure on the export business (see *Figure 2*). With weaker demand from China offset by stronger demand from Mexico, we still expect total exports for 2017 to be higher than in 2016.

Brazil: export to China declined significantly

Brazilian pork exports increased around 18% by value in the first nine months of the year. By volume, they declined around 4%, particularly due to the slowdown in Chinese pork imports. Given favourable feed costs, we expect Brazilian production to continue rising in Q4 2017.

Figure 1: Rabobank Five-Nation Hog Price Index, 2014-2017 (Jan 2006 = 100)



Source: Rabobank (based on national statistics) 2017

Figure 2: Rabobank currency forecasts to Oct 2018

	24 Oct	3M	6M	12M
EUR/USD	1.17	1.20	1.22	1.25
USD/JPY	113.7	113.0	114.0	115.0
USD/CAD	1.27	1.23	1.25	1.30
USD/BRL	3.21	3.20	3.20	3.35
USD/MXN	19.1	19.5	19.8	19.5
USD/CNY	6.64	6.80	6.95	7.50

Source: Rabobank 2017

Feature story: Bellies rising

Pork bellies have reached record levels in some markets, driven by strong demand. In this feature article, we explain what has been pushing prices up and how high prices distort overall markets.

High belly prices are welcome, but distort markets

The pork belly represents about 15% of the carcass, and is historically seen as a low-value primal cut. But things change, and the value of pork bellies certainly has—belly prices have recently hit highs in several regions.

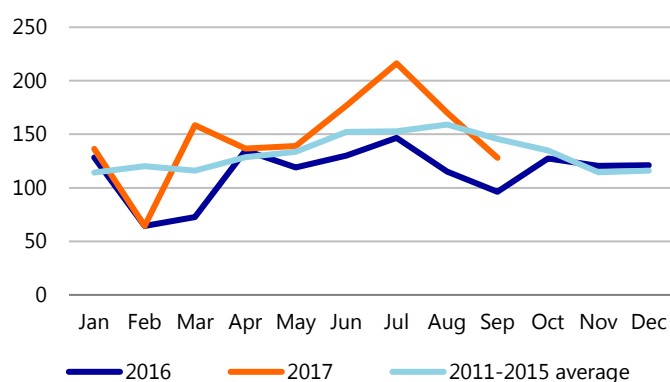
The rise in belly prices has pushed up carcass values, which is good news for the production part of the supply chain. But even if consumers are willing to pay more for bellies and bacon, they are not prepared to pay a premium for all products. Under these conditions, markets can struggle to balance pricing levels across the product range. Price distortion flows back upstream, where higher carcass values stimulate additional production, so that a tight supply situation in pork bellies can be turned around swiftly, plunging the supply chain into negative margin territory.

The US has seen the strongest price rises

Prices for pork bellies in the US hit record highs in July, up by over 50% YOY (see Figure 3). The main reason for high prices is that strong demand has hit a low supply base. Strong demand for bacon limited the pork bellies that went into storage in Q4 2016 and during 1H 2017. In July 2017, bellies in cold storage were at their lowest point in more than 50 years. So when the typical seasonal peak in demand started ramping up in Q2 2017, cold storage had only limited supply. A spike in prices in July and August has been the inevitable outcome.

High belly prices are good news for producers, but create a dilemma for processors, as passing on the higher prices can reduce demand, leading food retailers and food service companies to product substitution. For that reason, processors tend to be cautious in passing higher prices to their downstream customers.

Figure 3: Strong prices for US pork bellies through 2017



Source: USDA, Rabobank 2017

Wholesale prices have now retreated, more sharply than many expected. With production expanding in 2H 2017, softer prices will help the market to absorb additional pork while maintaining reasonable margins along the chain.

Belly demand and prices have risen in other markets

As in the US, in the EU pork belly prices have risen appreciably over the past 12 months (see Figure 4). Pork belly prices have reached levels not seen for over a decade, driven by declining supply and strong demand. The EU demand picture resembles what we see in the US, with growth in food retail and food service channels, but to a lesser extent than in the US given the diversity of food preferences across Europe. Also like prices in the US, prices have now started coming down from their peak in the EU.

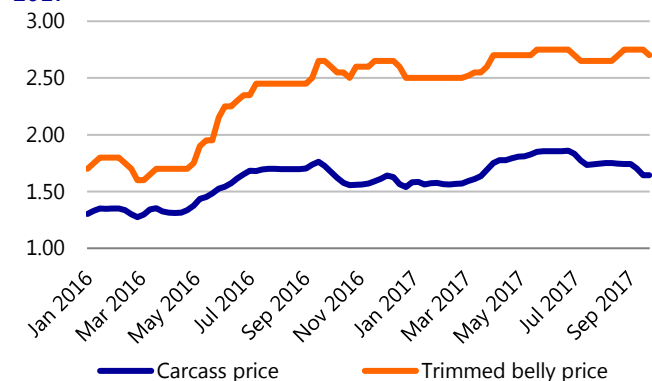
Rising demand for bellies in Korea, Japan, and Mexico has also contributed to the price rise seen in the EU and the US. Pork belly exports to Korea have been particularly strong over the past year, while in Mexico, growing demand for bellies may have been caused by the processing of US primal cuts for re-export.

The outlook

Bacon has become a year-round product for many consumers, especially in the US. Bacon has moved well beyond its traditional demand domain, the breakfast table. Along with pork bellies, bacon is enjoying strong demand from food service. In the US especially, bacon is being added to many prepared foods and ready-to-(h)eat offerings, and bellies are being used in cafe and restaurant meals. In part this reflects the food trend back towards flavour, and consumers (partially) re-embracing saturated fats. In the US market, it appears demand for bacon (and more broadly, pork bellies) has increased by about 10% to 15% over the past few years. Despite growing pork production, supply has not been able to keep up with demand. In general, demand for bacon and pork bellies is also up in the EU and other markets.

Given these growth drivers, we hold the view that although pork belly prices are currently on a softening trend, as expected this time of the year, they will settle at a higher level.

Figure 4: Belly prices in Europe have also risen, Jan 2016-Sep 2017



Source: AMI, European Commission, Rabobank 2017

Dashboard

Legend and units

Production	Exports	Imports	Hog price	Piglet/feeder price	Feed price
1,000 tonnes carcass weight equivalent (CWE)			kg CWE	kg	kg

Δ = year-on-year change

All prices in local currencies

EU: prices retreat from 1H high

Production	Exports	Hog price	Piglet price	Feed price
To decline	To decline	Rising	Rising	Rising
Jul: 1,800 Δ -0.5%	Jul: 290 Δ -12.1%	Aug: 1.70 Δ +4.1%	Aug: 48.66 Δ +12.2%	Sep: 0.23 Δ +0.6%
YTD: 13,392 Δ -2%	YTD: 2,157 Δ -11.2%	YTD: 1.65 Δ +18%	YTD: 54.26 Δ +33%	YTD: 0.24 Δ +1.6%

China: herd inventory volatile due to environmental policy

Herd (Sep)	Imports	Hog price	Piglet price	Corn price
Slowing down	To decline	To decline	To decline	To decline
Hogs: 355 Δ -6%	Aug: 84 Δ -57%	Aug: 14 Δ -23%	Aug: 35 Δ -26%	Aug: 1.96 Δ -5.3%
Sows: 35 Δ -5%	YTD: 833 Δ -27%	YTD: 16 Δ -17%	YTD: 40 Δ -10%	YTD: 1.88 Δ -7%

US: supply growth continues

Production	Exports	Hog price	Sow price	Feed price
Rising	Rising	Softening	Strong	Softening
Aug: 1,002 Δ +3%	Aug: 190 Δ +0.7%	Aug: 1.88 Δ +0.2%	Aug: 1.48 Δ +41%	Aug: 0.80 Δ +2.5%
YTD: 7,539 Δ +3%	YTD: 1,663 Δ +9%	YTD: 1.78 Δ +3%	YTD: 0.97 Δ +11%	YTD: 0.86 Δ -2.3%

Feed price: 83% corn, 17% soymeal

Canada: Exports continue strong growth

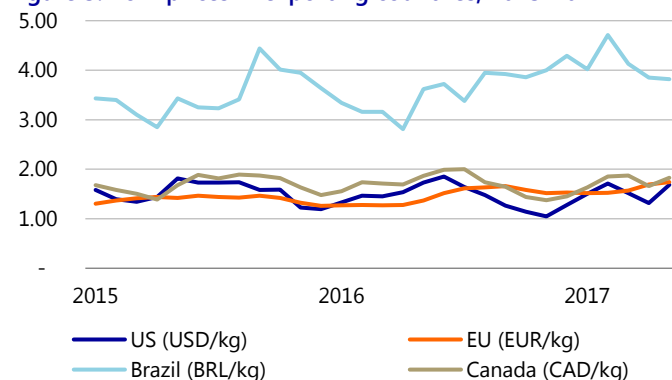
Production	Exports	Hog price	Feeder hog price	Feed price
Rising	Rising	Rising	Rising	Softening
Aug: 39 Δ +0.9%	Jul: 98 Δ +2%	Aug: 2.3 Δ +20%	Aug: 0.85 Δ +44%	Aug: 0.88 Δ -7%
YTD: 1367 Δ +3%	YTD: 754 Δ +23%	YTD: 2.1 Δ +5%	YTD: 0.53 Δ -19%	YTD: 0.93 Δ -8%

Feed price: 83% corn, 17% soymeal, Herd: million head

Brazil: feed prices sustaining positive results during 2017

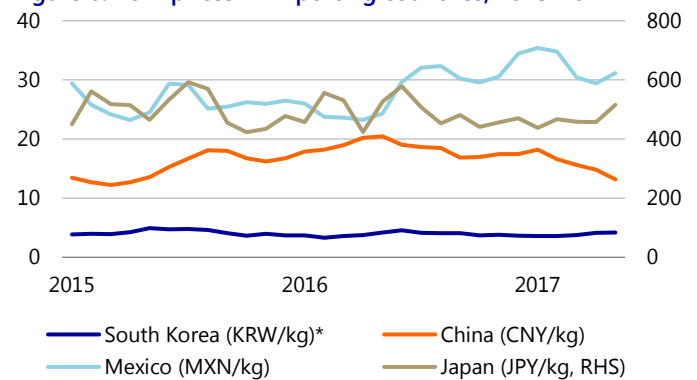
Production	Exports	Pork price	Hog price	Feed price
Slowing down	Rising	Stabilising	Stabilising	Stabilising
Jun: 328.4 Δ +2.4%	Sep: 60.0 Δ -16%	Sep: 6.19 Δ -0.3%	Sep: 4.00 Δ Flat	Sep: 0.67 Δ -19%
Jan-Jun: 1,851 Δ +1.5%	Jan-Sep: 518.5 Δ -3.8%	Jan-Sep: 6.48 Δ +13%	Jan-Sep: 4.12 Δ +14%	Jan-Sep: 0.64 Δ -31%

Figure 5: Pork prices in exporting countries, 2015-2017



Source: Bloomberg, European Commission, Agriculture and Agri-Food Canada, Rabobank 2017

Figure 6: Pork prices in importing countries, 2015-2017



* Note: For display purposes, the South Korean won has been divided by 1,000. Source: Agriculture & Livestock Industries Corporation, FND, Chinese Ministry of Agriculture, Korea Meat Trade Association, Rabobank 2017

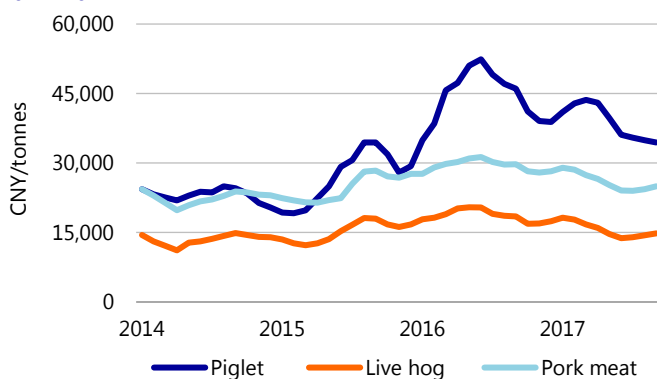
China

China's hog prices were stable in Q3, standing firmly above CNY 14/kg at live weight. While this is still 17% lower than the same period in 2016 (see Figure 7), the current prices can enable sow-to-hog integrated farmers to gain a margin of about CNY 200/head. In comparison, farmers specialised in fattening have struggled to break even because of high piglet prices in 1H 2017.

Due to ever-stricter environmental policies, the hog and sow herd has been declining in recent months. By the end of August, the sow and hog herd inventories were 4.7% and 5.6% lower than in the same period last year, according to China's Ministry of Agriculture. We expect to see further decline in both as environmental inspections will continue until the end of 2017. We maintain our forecast that pork production will increase by 2% YOY in 2017, assuming high slaughter numbers following the closure of many farms located in the farming-restricted areas. While the lower sow herd in 2017 could suggest a lower supply of piglets in Q1 2018, the market situation is expected to stabilise throughout 2018. Meanwhile, the expansion of larger farms continues albeit at a slower pace, with seven leading farming companies increasing hog production by 24% YOY in the first eight months of 2017. We expect that hog production will likely maintain marginal growth in 2018, due to an expected increase in productivity in the industry.

Pork meat imports to mainland China were 833,000 tonnes in the first eight months of 2017, down by 27% compared with the same period in 2016. August saw the largest decline, down by 56% YOY. Almost all the key suppliers have witnessed some decline in their shipments to China. Nonetheless, some smaller suppliers, including Mexico and Romania, have substantially increased their exports. In the first seven months, variety meat imports also dropped, but at the slower pace of 10%. For the rest of the year, import demand remains highly uncertain. The impact of policy on domestic pork production was greater than expected in August and September. At the same time, pork prices in the US and EU dropped from their previous highs. Combined, these factors may lead to a rebound in pork imports later this year.

Figure 7: Chinese prices of piglets, live hogs and pork, 2014-2017



Source: Chinese Ministry of Agriculture, Rabobank 2017

US

Pork prices have been on a rollercoaster this year, with the pork cut-out increasing to over USD 100/cwt in July and then falling sharply well into October. Across primal cuts, prices have been mixed, adding more volatility to the pork cut-out price. Much of the price volatility has been caused by changes in inventory levels and strong demand from both domestic and export markets.

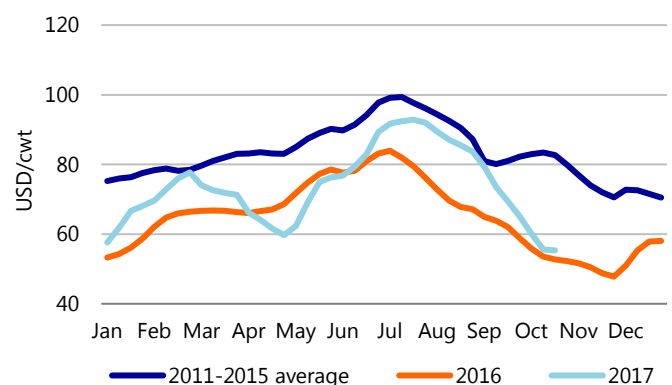
Over the summer, pork belly prices reached unprecedented levels. In September, despite moving away from peak demand months, we were still seeing belly prices 33% higher than last year, mainly driven by a level of pork belly cold storage so low that it has not been seen since 2000. The prices of pork trimmings and cold storage have followed a similar trend as bellies, with prices 16% higher than last September and cold storage levels below the five-year average. Meanwhile, ham and loin prices continue to be lower than the five-year average, making them attractive for export markets like Mexico and China.

Monthly slaughter has stayed high, with total slaughter up by 2.5m head, or 3% YOY, in the first eight months. Meanwhile, dressed weights in September increased from the low levels of recent months. Increased slaughter numbers and higher weights helped bring down domestic prices. With new plants coming online, domestic production is expected to increase throughout the remainder of the year.

Exports will remain key for the rest of 2017. Although prices are expected to hold, aided by low cold storage stocks, exports will be needed to avoid an oversupply situation. YTD exports are up almost 9%. Exports to China have declined by 29%, with Mexico importing most of the slack.

The remainder of the year presents an ongoing mixed picture, as prices of different primal cuts are moving in different directions, with overall production increasing. However, low cold-storage stocks and strong domestic and export demand will put pressure on prices. Futures markets are counting on oversupply, putting pressure on lean hog prices, which are reflected in the October and December contracts for this year (see Figure 8).

Figure 8: US lean hog futures, 2015-2017



Source: Bloomberg, Rabobank 2017

EU

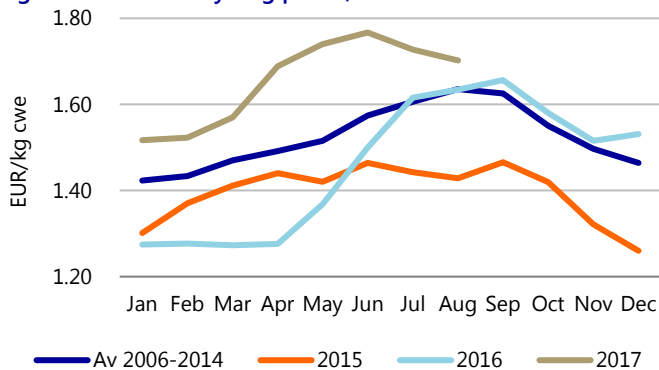
Pork production has declined in Europe in 2017. Production has been down in most major producing countries, such as the UK, France, Italy, the Netherlands, Germany, and Poland. The picture is more mixed in Denmark, and Spain has managed to buck the overall trend with a slight increase in production of just over 0.5% YOY for the year to date. In 1H 2017, total production was down by about 2%. Even though the rate of decline will likely slow during 2H 2017, rising seasonal availability and high prices in 1H 2017 are likely to see production end 2017 around 1% to 1.5% lower than 2016.

Prices have retreated from their 1H 2017 highs, as expected, but the decline started in July, sooner than many had anticipated (see Figure 9). While seasonal demand kept prices firm over the summer, they have been falling more sharply over the past month. Average prices are currently more than 10% below their July peak and have now moved beneath the five-year average level for the first time in 2017. We expect prices to continue softening through the rest of 2017, based on increased availability.

Total exports from the EU have declined over the first seven months of 2017, the main reason being a decline in trade with China. Exports to China have declined by over 30% YOY, as the country has decreased its overall imports, and high prices in the EU have put this trade flow at a disadvantage. At the same time, exports to other major destinations—Japan, Korea, the Philippines, and the US—have all risen. This looks particularly promising given the expected finalisation of the EU-Japan trade agreement that will lead to lower tariffs for European exports to Japan.

Local consumption has been falling in line with declining production, although it is fair to expect that improving economic conditions in the EU could lift demand marginally. The trend towards improving demand, set against declining production, means that the trade outcomes will dictate how the EU pork supply chain finishes 2017. If trade with China increases, we expect prices to rise again, given the tightening supply. On the other hand, any further decline in trade could trigger further price softening.

Figure 9: EU monthly hog prices, 2006-2017



Source: European Commission, Rabobank 2017

Brazil

After having achieved record levels last year, Brazilian pork exports decreased by 4% YOY during the first nine months of 2017, with a total export volume of 518,500 tonnes. Despite a decline in volume, Brazilian pork exports increased around 18% by value, compared to the same period last year.

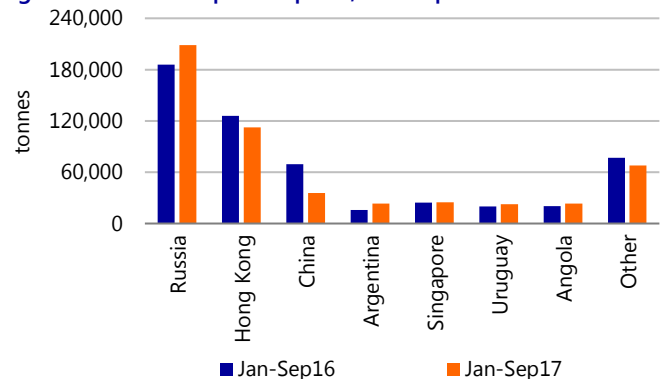
In volume terms, China was the key factor behind the dip in Brazilian pork exports, as Chinese pork imports from Brazil fell almost 50% YOY during the first nine months of 2017. Meanwhile, imports from Hong Kong also declined by 10% during the same period, while Russia, the largest destination of Brazilian pork exports, increased its imports by 12% (see Figure 10).

Going forward, Brazil is expected to increase its presence in Asian markets. For the first time, Brazilian pork plants gained approval to export to South Korea. Three plants have been approved so far, as was announced in early October. However, some sanitary protocols still need to be met before Brazil starts exporting pork to South Korea, which is expected to happen in the coming months.

Regarding supply, after an 8% increase in 2016, Brazilian pork production increased only 1.5% YOY during 1H 2017, on the back of lower local feed prices. From January to September 2017, while domestic pork prices were, on average, more than 10% higher than the same period in 2016, feed prices were more than 30% lower, delivering higher margins along the pork supply chain.

Given that feed prices are expected to remain attractive from the meat industry's perspective during the coming months, the pork sector is likely to continue to deliver improved results during Q4 2017.

Figure 10: Brazilian pork exports, Jan-Sep 2016 vs. 2017



Source: Associação Brasileira de Proteína Animal, Rabobank 2017

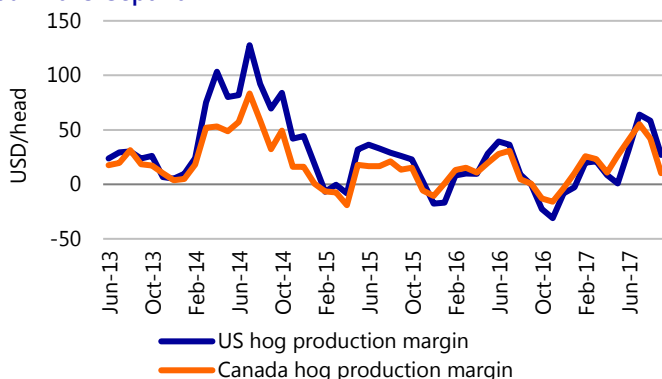
Canada

Pork production in Canada continues to increase, supported by favourable exports, especially to China and Japan. Compared to other countries, exports to China were up almost 3% during January to July; while this may not appear to represent much gain, it is significant in the context of China's notable reduction of imports in 1H 2017. At the same time, exports to Hong Kong have decreased significantly by 56%. Exports to Japan are up 14% YOY, which is another promising indicator of their product's competitiveness for Canadian exporters. Nonetheless, the new trade agreement between the EU and Japan could cause Canada to potentially lose some market share in the Japanese market in the coming years.

Live hog exports to the US began to decline entering 2H 2017. Hogs exported to the US started the year with higher levels than last year, but the pace began to slow around June. Feeder hog exports were down by 2.5% in the first nine months compared to the same period last year. Canadian margins have remained in line with US margins during 2017, which supports fattening in Canada (see Figure 11).

Federal and provincial slaughter is up by 1.5%, while pork meat output is 2.7% higher than last year. Although Canadian pork meat production will continue to increase, growth will come from more heads for slaughtering rather than added tonnes, because carcass weights, averaging at around 101kg, have remained relatively stable compared with last year. Going forward, pork meat production is expected to end at 1.9m tonnes this year.

Figure 11: Canadian and US hog production margins, Jun 2013-Sept 2017



Source: Statistics Canada, Rabobank 2017

Mexico

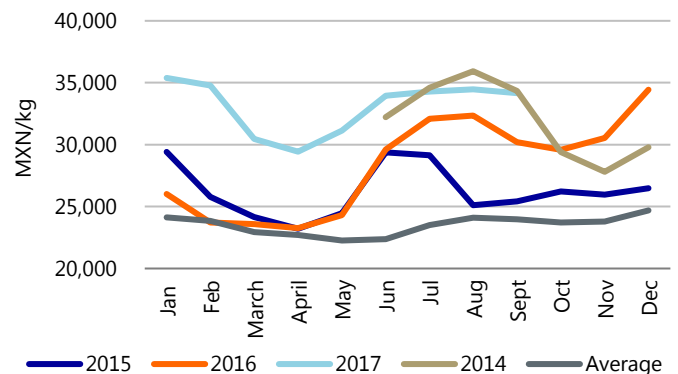
Mexican pork imports continue to achieve record levels in 2017. This is despite the peso's depreciation to levels of 20 MXN per USD. Historically, Mexican imports of pork tend to accelerate in the second half of the year, so it is reasonable to expect that imports will continue rising. Compared to last year, imports have increased by almost 21% for the January-to-August period, reaching a total of 530,000 tonnes. Full-year imports are expected to reach a total of 1.1m tonnes.

Mexico continues to push to increase the sow herd as producers are continuing to expand. Sow herd growth will not only come from big producers, but also from new farms coming into production and in need of new sow herds. New hog farms are more industrialised, which should contribute to increasing efficiency at the farm level. For next year, the sow herd is expected to increase by 3%, where 2% will come from the organic growth of big producers and 1% from expansion of new farms. We expect Mexico to add a total of 30,000 sows in 2018.

Pork production in 2017 is within the range of meeting the expected 1.43m tonnes. In the first eight months of 2017, pork meat production is 4.3% higher than last year, reaching 932,000 metric tonnes (CWE). Despite production drawbacks due to some diseases, production has been able to increase as producers adapt more to these external shocks.

Consumption is believed to have been strong, as the volume and pace of imports have been higher than ever, despite higher prices (see Figure 12). With the end of the year just around the corner, domestic consumption will increase during the holidays and reach its highest point for the year. Prices are likely to slow down, except in November and December, when demand typically increases. However, imports are expected to increase in the last quarter, which should help put some downward pressure on domestic prices.

Figure 12: Mexican hog prices, 2015-2017



Source: FND, Rabobank 2017

Japan

Japan's pork production has declined slightly in the first seven months of 2017, down by 0.6% YOY. Domestic consumption has still shown strong growth though. This has pushed up pork prices, particularly in Q3, when pork carcass wholesale prices increased by 15% YOY in September (see *Figure 13*). Retail market level prices, on the other hand, have been flat, with prices for major cuts in line with the same period of last year.

Pork imports increased by 7.8% YOY in the first seven months of 2017. Canada, the EU, and Mexico have all increased their shipments to Japan, while the US, the largest supplier to Japan, has seen only marginal growth of 2.8%. In terms of EU trade, Spain has seen shipments double compared with last year. Once implemented, the expected EU-Japan Economic Partnership Agreement and the agreed tariff reductions will provide a stronger advantage to EU exporters.

To date in 2017, pork import volumes have already exceeded domestic production, accounting for over half of the total supply. We expect Japanese pork production to be steady in 2018, which will allow strong imports to continue.

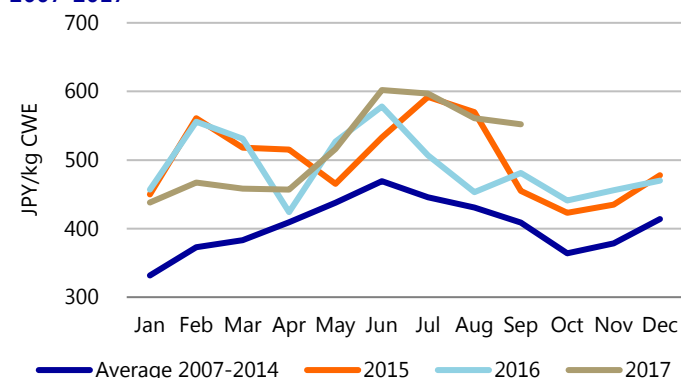
South Korea

South Korea's pork slaughter numbers increased by 1% in the first eight months of 2017, to 10.79m head. Prices have performed strongly, with farmgate prices and wholesale prices rising by 13% and 6% YOY in July 2017, respectively. In retail markets, the prices of pork cuts have increased at different paces, with only loin and tenderloin prices trending downwards. For example, chilled belly prices increased by 14% in August 2017 compared with the same period in 2016, and chilled rib prices have increased by 27%.

Disease outbreaks in other meat sectors have likely contributed to the strong price of pork meat. The latest avian influenza outbreak in June 2017 has resulted in further culling of chickens. According to a USDA forecast, South Korea's chicken production is expected to decrease by 5.5% in 2017, from 900,000 tonnes in 2016. As pork is a major substitute for poultry, tight supply in the poultry market strongly supports pork prices.

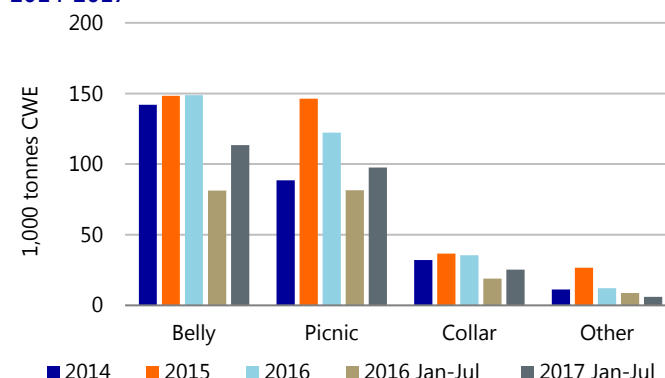
Imports have increased by 27% in the first seven months of 2017, with belly and collar seeing the fastest growth (see *Figure 14*). The US, the largest pork supplier to South Korea, has increased shipments by 29% YOY. The EU also has substantially increased exports to the country, despite the strong pork prices in the EU market.

Figure 13: Japanese pork prices wholesale market Tokyo, 2007-2017



Source: ALIC 2017

Figure 14: South Korean pork imports by cut, 2014-2017



Source: Korean Meat Trade Association 2017

Vietnam

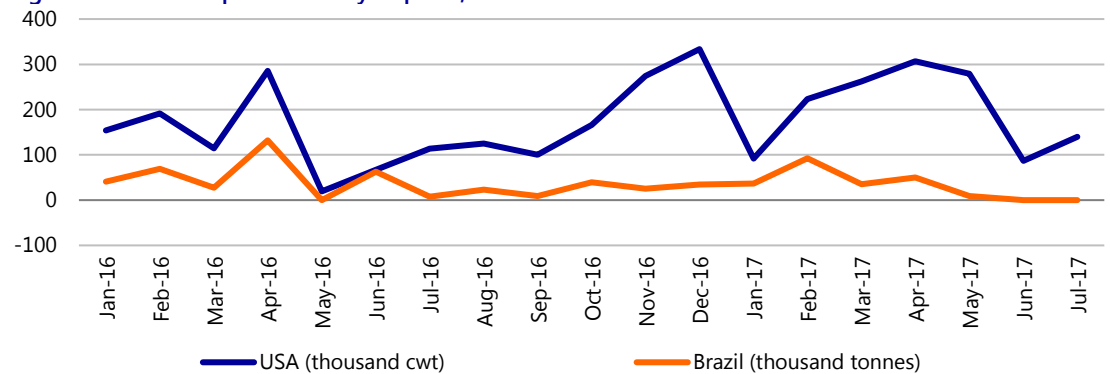
Oversupply issues continue in Vietnam. Average live hog prices briefly recovered to VND 41,500/kg lwt in late-July from VND 29,500/kg lwt in mid-July, but eased back to VND 33,000/kg lwt in the North and VND 30,000/kg lwt in the South by mid-August, which are still below breakeven costs of about VND 35,000/kg lwt.

We understand small breeders have culled some sows (Vietnam was estimated to have 4.2m sows at the beginning of 2017) and have sold piglets for slaughter. Many small hog farms have also reportedly closed down, as sustained losses have prevented them from taking on new piglets for fattening. It remains uncertain how long bigger farms can sustain the losses and whether prices will reach breakeven point this year.

In August, the Ministry of Agriculture and Rural Development (MARD) issued a new circular that tightened the standards on hog farms and at slaughterhouses, the implementation of which has caused expansion delays. The HCMC People's Committee approved plans for a slaughterhouse system for 2016 to 2020, with the goal of establishing six industrial slaughterhouses with capacity for 10,000 to 15,000 pigs/day by the end of 2017 (in addition to closing all outdated slaughterhouses). However, the project is likely to be delayed as the government also stopped issuing new feed mill licences in April 2017 (i.e. a moratorium applies to new locations).

Although pork imports continue, quantities have dropped. In the first seven months of 2017, imports from the US fell by 33% YOY, while imports from Brazil dropped 87% YOY (see Figure 15). We expect live hog prices to remain below or at breakeven for the remainder of the year given the long gestation period for breeding and the slow pace of sow population reduction.

Figure 15: Vietnam pork monthly imports, 2016-2017



Source: USDA 2017

Imprint

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