



Rabobank

Pork Quarterly Q2 2017

Favourable Global Pork Market to Continue into Q3

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Food & Agribusiness
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The global pork market is relatively stable, with rising supply from the Americas easily absorbed in the main import markets in Asia, resulting in a steady development of the Rabobank Five-Nation Hog Price Index. Continuing strong Asian imports are supporting pork prices across the globe, with the supply volume in each region determining the actual level. This demand market will continue throughout Q2, supporting margins along the supply chain.

China: production relocation continues

The steady, regulatory driven relocation of pork production will support good price levels and stabilise imports in the coming months. Local supply will start to recover in Q3, with investments of recent years coming on-stream and reaching their potential.

US: export to determine price level

The forecast 4% increase in pork production in 2017 is the driving force in the US pork industry. With consumption moving to record levels, exports will determine the final price level. Current low prices are supportive and also challenge supply from the main export competitor, the EU.

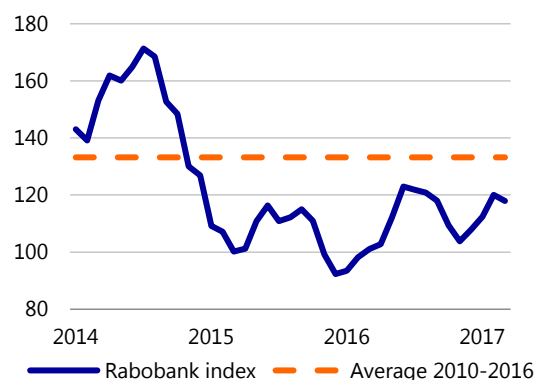
EU: elevated prices due to pressured supply

The European pig market is booming, with rapidly rising prices due to pressured supply. This situation will continue towards summer, with record piglet prices during Q1. Exports remain the wild card for the market's price top, with high prices limiting the competitive position and resulting returns.

Brazil: limited impact of scandal on exports

Brazil is steadily growing its position in pork export markets, with rising volumes flowing into all main destinations, especially China. The recent meat scandal has had little, if any, impact on export volumes and related prices.

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 April 2018

	19 Apr	3M	6M	12M
USD/EUR	0.93	0.93	0.92	0.91
USD/JPY	108.6	109.00	109.00	110.00
USD/CAD	1.34	1.34	1.35	1.36
USD/BRL	3.11	3.10	3.05	3.15
USD/MXN	18.60	20.00	21.00	20.00
USD/CNY	6.88	7.00	7.25	7.75

Source: Rabobank 2017

Feature

Since about 1960, the global pork industry has developed from a locally oriented supply chain into a supply-driven, global commodity supply chain. Over the last decade, production systems have diversified in many countries, with the commodity focus making way for more specialised production. In this feature, we analyse the development of pork concepts and their implications for the supply chain going forward.

Volume and price drivers are changing

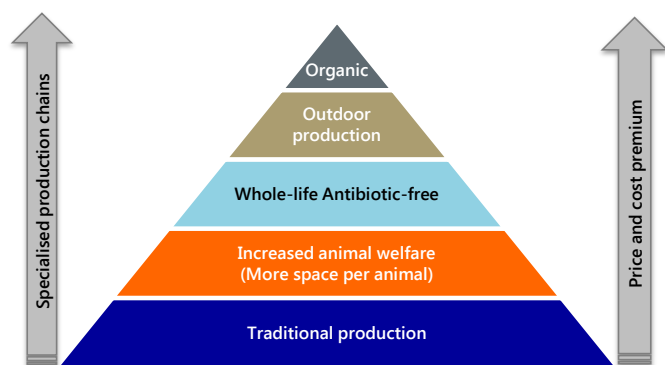
The global pork industry was relatively straightforward for many years, i.e. produce as much pork as possible and sell it to the highest bidder globally. Productivity, volume, and price of an increasingly 'lean' product were the key variables. This resulted in an interchangeable commodity product and growing competition.

This traditional production approach is, however, changing. Articulate consumers and NGOs started questioning this system's impact on animal welfare, human health, and the environment. In addition, some farmers were not happy with the volume and price 'squeeze'. Furthermore, food safety scandals increased retail and foodservice demand for improved product tracking & tracing. This is not only observed in the developed world, but—due to social media—also increasingly in the cities in the developing world.

Pork concepts are emerging

These factors resulted in the development of new production systems, or concepts. Concepts differ from traditional production systems and each other, with specific requirements regarding animal health, human health/healthy eating, food safety, medicine use, etc., or are produced for a specific retailer/foodservice supplier (see *Figure 3*). Initiators are farmers looking for a steadier and (hopefully) a higher margin, slaughterhouses safeguarding sales channels, or retailers setting up dedicated supply chains to have 100% tracking & tracing or for specific niches.

Figure 3: The pork concepts pyramid



Source: Rabobank 2017

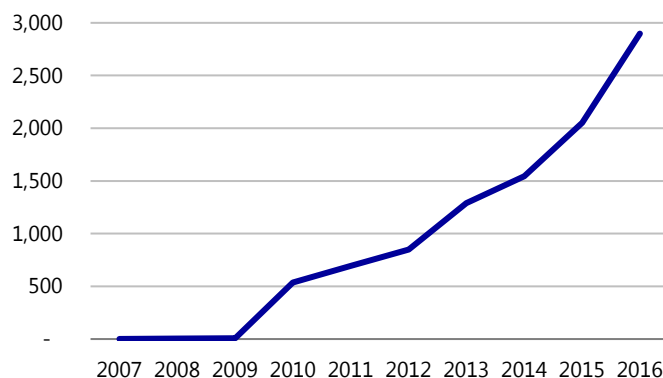
For example, in the UK, most retailers have pork from different production systems on the shelf: value-imported pork, mid-range locally produced pork in traditional systems (but mostly above EU standards), and premium outdoor-produced pork. Prices and packages differ clearly between the different ranges. In addition, consumers are encouraged to move to mid-range and premium pork by targeted promotions.

Another example is the Netherlands, where concepts such as 'Varken van Morgen' and 'Beter Leven' have become the standard in retail. Other concepts, such as 'Good Farming Star' (GFS) and 'Keten Duurzaam Varkensvlees' (KDV), are demand-driven supply chains. GFS is a dedicated supply chain of about 150 farmers, processor VION, and retailer Albert Heijn. KDS was set up by processor Westfort, with about 300 farmers supplying different retailers and butchers. Other smaller, more locally oriented concepts have been set up, with 100% organic production (De Groene Weg) topping the pyramid. Almost 3m pigs, 20% of the total number, fell under these concepts in the Netherlands in 2016 (see *Figure 4*).

The main challenges for concepts are carcass valuation and expansion. As not all parts of the carcass can be sold under retail-driven concepts, a part is sold on global markets, where the extra costs are not valued. In order to limit this price pressure, it's important that processed meats are also sold under the concepts—which means a certain scale is needed and must be promoted. Expansion of concepts can also be challenging, because demand is generally more local. This implies that only a limited number of farmers can join, because supply and demand must be balanced in order to be able to receive the higher price needed to cover the extra production costs.

Concepts are here to stay and, in Rabobank's view, will continue to grow, as they give consumers and the industry the opportunity to diversify. Consumers are able to consume pork which fits with their values. Farmers can gain a fixed sales channel, with the potential to support higher margins. For the industry, the closer link concepts create with suppliers and customers is positive. Therefore, concepts signal—despite being relatively small in volume—a positive development and change for the pork industry.

Figure 4: 'Beter Leven Keurmerk' pigs in the Netherlands, 2007-2016



Source: Dierenbescherming, Rabobank 2017

Dashboard

Legend and units

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

Δ = year-on-year change All prices in local currencies

EU: positive prospects remain due to declining supply, but elevated prices to impact export

Production ↘	Exports ↘	Hog price ↗	Piglet price ↗	Feed price ⇄
<i>To decline</i>	<i>Slight decline expected</i>	<i>Rising due to low supply</i>	<i>Strong seasonal increase</i>	<i>To stabilise</i>
Jan: 1,963 Δ -0.12%	Jan: 325 Δ +9%	Mar: 1.57 Δ +23.0%	Mar: 50.11 Δ +26%	Mar: 0.24 Δ +1.9%
2016: 23,216 Δ +1.3%	2016: 4,141 Δ +24%	YTD: 1.54 Δ +20.4%	YTD: 47.17 Δ +21%	YTD: 0.25 Δ +0.1%

China: slow replenishment

Herd (Feb)	Imports	Hog price	Piglet price	Corn price
<i>Making replenishment</i>	<i>Growth to slow down</i>	<i>Down</i>	<i>Rising</i>	<i>Decline due to policy reform</i>
Hogs: 361 Δ -1.6%	Feb: 110 Δ +48%	Mar: 17 Δ -11%	Mar: 44 Δ +8%	Mar: 1.83 Δ -10%
Sows: 37 Δ -1.6%	YTD: 222 Δ +30%	2017: 17.6 Δ -4%	2017: 42.5 Δ +19%	2017: 1.86 Δ -10%

US: supply growth slowing into summer

Production ↗	Exports ↗	Hog price ↗	Piglet price ⇄	Feed price ⇄
<i>Climbing</i>	<i>Strong start to the year</i>	<i>Plateauing through summer</i>	<i>Lifting</i>	<i>A modest tailwind</i>
Feb: 1,987 Δ -1%	Feb: 201 Δ +16%	Mar: 1.57 Δ +6%	Mar: 0.59 Δ +4%	Mar: 1.05 Δ -3%
YTD 17: 14,142 Δ +1.4%	YTD 17:412 Δ +18%	Q1 17: 1.54 Δ +9%		Q1 17: 1.02 Δ -3.5%

Feed price: 83% corn, 17% soymeal

Canada: 2016 will be a year marked by trade growth

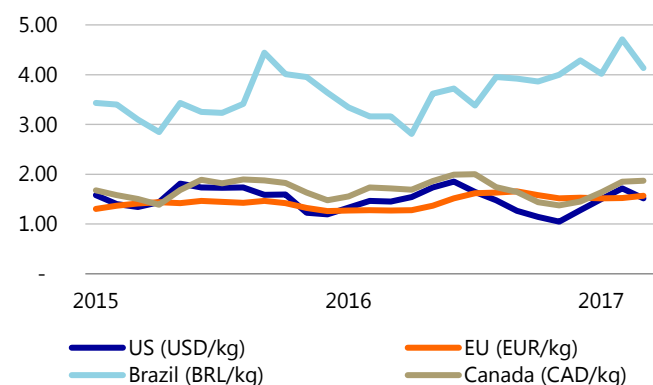
Production ↗	Exports ↗	Hog price ↗	Piglet price ⇄	Feed price ⇄
<i>Strong Start</i>	<i>Slow Start</i>	<i>Climbing</i>	<i>Prices are starting to rise</i>	<i>Bottoming</i>
Mar: 162 Δ +2.5%	Feb: 105 Δ -0.6%	Mar: 1.54 Δ +9%	Dec: 0.55 Δ -5%	Mar: 1.07 Δ +0.6%
Q1 16: 554 Δ +1.7%	Jan-Feb 17: 201 Δ -3.5%	Q1 17: 1.50 Δ +9%		Q1 17: 0.94 Δ -7%

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

Brazil: Brazilian pork exports to maintain record levels in 2017

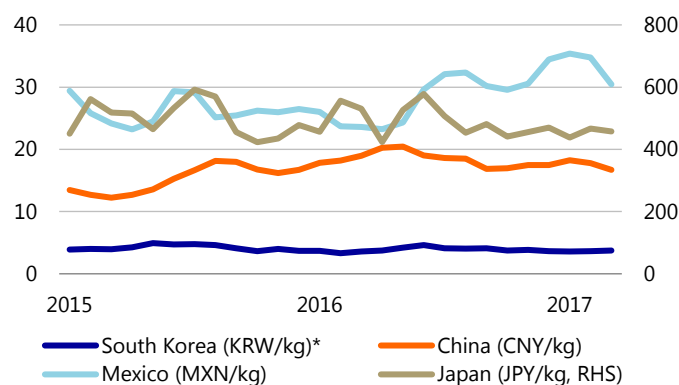
Production →	Exports	Pork price →	Hog price →	Feed price
<i>Expected to slow in 2017</i>	<i>Forecast to rise</i>	<i>Smooth development in Q2</i>	<i>Expected to smooth in Q2</i>	<i>Under pressure</i>
Dec '16: 323 Δ +8.5%	Mar '17: 61.5 Δ -4.7%	Mar: 6.95 Δ +32%	Mar: 4.47 Δ +33%	Mar: 0.66 Δ -22%
2016: 3,711 Δ +8.2%	Jan-Mar: 174.8 Δ +8.3%	Jan-Mar: 7.07 Δ +28%	YTD: 4.56 Δ +31%	YTD: 0.71 Δ -20%

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

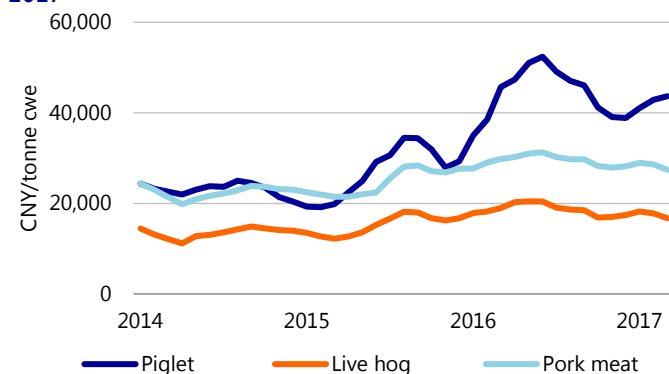
China's hog price has been weak after February 2017, down from CNY 18/kg in January to CNY 16/kg in March. This is due to seasonal movement post-Chinese New Year and temporary higher slaughter numbers following the closure of farms, driven by environmental measures. Prices are expected to stabilise at around CNY 16/kg, suggesting continuing tight supply. This is supported by the lower year-on-year sow and hog inventory at the end of March, which supports piglet and sow prices (see *Figure 7*). Piglet and sow prices increased by 19% and 13% YOY, respectively, in Q1. This signals that replenishment is being undertaken, reflecting producers' positive views that short supply can support prices for the rest of the year.

However, our view is different. We expect the closure of hog farms to more than offset the expansion of new farms in 2H 2017, and as a result, pork production will increase by 1% to 2% in 2017. Meanwhile, the slow recovery of pork production will support hog and pork prices above average 2013-2015 levels for the rest of 2017. At current hog prices, farmers' margins are CNY 200/head to CNY 400/head and are expected to remain above CNY 200/head throughout 2017.

Environmental policies will continue to play a key role in reshaping the geographic distribution of production, pushing industrialisation and modernisation. In many provinces, governments have a timetable and deadline to close down farms in restricted areas. Therefore, more hog farms are expected to close this year. On the other hand, there have been large investments in hog farming in the past two years: for 2016, about CNY 40bn was invested in new hog farms. Investments will likely rise in the next few years, according to the expansion plans of leading companies.

Imports increased by 30% YOY in the first two months of 2017. European countries continue to dominate the imports, with Brazil, Romania, Canada, the Netherlands, and Spain increasing quickly. We expect imports to slow down in the coming months, and we hold the view that pork imports in 2017 will likely remain at similar levels as recorded in 2016.

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



Source: Chinese Ministry of Agriculture, Rabobank 2017

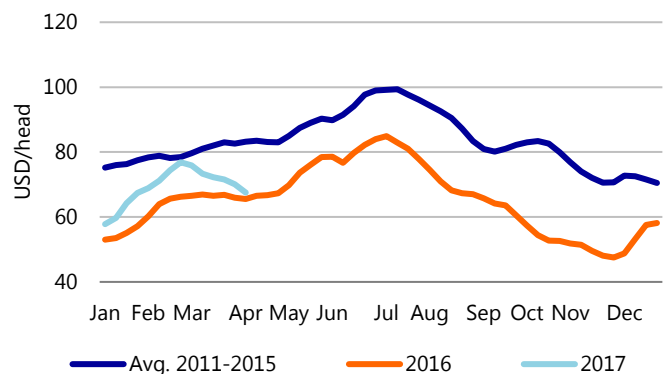
US

The US pork sector had a great start to 2017, driven by strong exports and moderate growth in hog numbers. Hog futures started the year at ~USD 55/cwt and climbed steadily through January, peaking in late-February at USD 77/cwt (see *Figure 8*). During this period, hog slaughter was running just 2.5% above 2016 levels, but hog numbers started to climb in March and have averaged 6% above March 2016, eroding a good deal of the lift in prices. Q1 ended with prices in the mid-USD 60s/cwt, which is still profitable for producers, but a disappointing decline from the previous trajectory.

Exports were a bright spot, with January and February up 18% vs. the same period of 2016. Mexico continues to be the biggest customer for US pork, and volumes to that market were up 30% in the first two months of the year, with Mexico continuing to account for one-third of total US exports. The trade talk out of the Trump White House continues to raise the risk of a disruption with this trade flow, if not a decline, at the very least. PEDv continues to impact Mexican hog producers, keeping prices favourable for strong trade with the US. Japan and South Korea were up 10% and 31%, respectively—both markets in which the US competes with the European Union—a good sign for strong trade volumes through the remainder of the year, likely with China. Speaking of China, US exports to this market were down 3%, including shipments to Hong Kong—a good sign, given the large shipments at the start of 2016. Expectations for ongoing pork exports to China are positive for the US industry.

US pork supply remains a moving target, with new plant capacity coming online and hog numbers never quite in line with indications from the USDA hog report. This has added a good deal of volatility to hog prices, which we expect to continue as two sizable pork plants come online at the end of Q3. The Q1 USDA report indicated continued increases in hog supplies, which, so far this year, are being offset by flat to slightly lower hog weights—a trend for a few years, since hog weights spiked during the PEDv outbreak. We expect US pork supply to increase by 3% to 4% in 2017, which will require exports to keep the upward trend started in Q1 in order for producers to enjoy another profitable year.

Figure 8: US lean hog futures, 2009-2017



Source: Bloomberg, Rabobank 2017

EU

Prospects for the EU pork market remain positive, with continuing pressured supply and seasonally growing demand supporting hog prices into summer. The main wild card for the market's top, in the coming months, is the development of exports outside the EU and to the UK, the leading importer in the EU. Outside the EU, rising competition from the Americas and high prices will impact position and returns. In the UK, the further decline of the British pound will result in lower export prices.

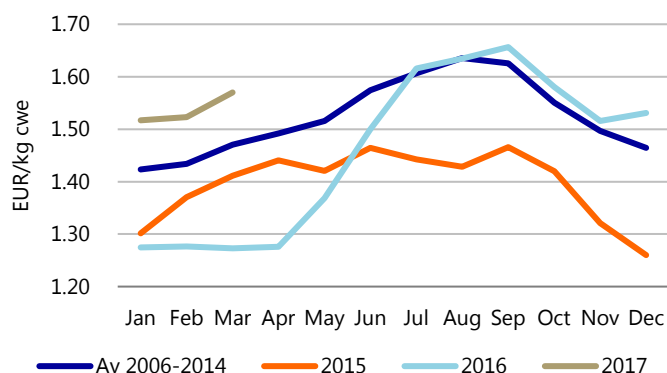
The indicator of rising hog prices is the development of piglet prices since late 2016. These increased—supported by the declining sow herd—steadily in Q1, to their current record levels. Piglet prices will come under pressure from late April onwards, due to the seasonally pressured demand and slowly recovering supply.

In contrast, hog prices started to increase during March, when demand started to rise seasonally in the EU (see *Figure 9*). In the first months of 2017, slow demand and lower supply resulted in a stable price level.

Current prices will support farmers' margins, with specialised piglet producers experiencing high returns while hog farmers' margins are impacted by high-priced piglets. For the slaughter and processing industry, prospects are challenged by low capacity utilisation and export returns.

Longer-term, the challenge remains to arrest the decline in pork demand in the EU, especially in north-western Europe. With export competition rising and supply slowly recovering, this will be very important for prices and margins into 2018.

Figure 9: EU monthly hog prices, 2006-2017



Source: European Commission, Rabobank 2017

Brazil

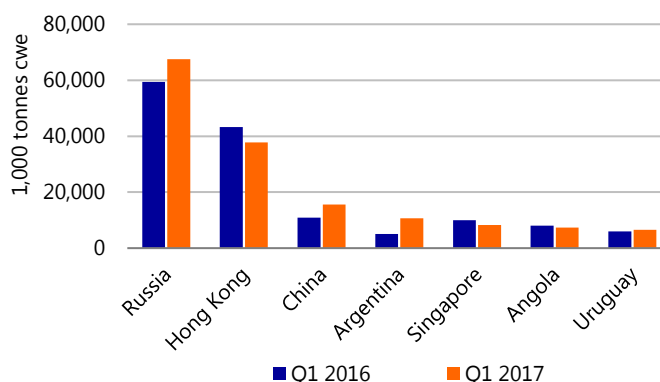
Brazilian pork exports increased by 8% in Q1 2017, compared to Q1 2016, totalling around 175,000 tonnes (see *Figure 10*). Russia—the main destination for Brazilian pork exports—increased by 14%, exceeding 67,000 tonnes during this period. Additionally—after having already increased by around 33% in volume in 2016—Chinese pork imports from Brazil increased by around 40% in Q1 2017, totalling more than 15,000 tonnes (see *Figure 10*). By value, total Brazilian pork exports increased around 47%, compared to Q1 2016.

This strong growth occurred despite pressure on Brazilian meat exports during March 2017, due to the release of a public report by the Brazilian federal police into irregularities in meat inspections. A number of importing regions, including China and Hong Kong, placed temporary restrictions on imports of Brazilian meat in response to the public report's release. However, following detailed information provided by the Brazilian authorities, all main importers subsequently limited import restrictions to the specific processing plants under investigation (21 of a total of 4,837 units in Brazil).

Looking ahead, Brazilian pork exports are expected to continue to increase, following clarification that food safety—the first concern of any importer—is not the focus of the investigations. Nevertheless, mid-term impacts related to consumers' perception in the local and international markets are still unclear.

After increasing by 8% in 2016, Brazilian pork production is expected to increase by around 3% in 2017, particularly due to lower costs: indicative feed prices in March 2017 were 22% below March 2016. Although pork prices declined by almost 10% in March 2017, compared to February 2017, they are still 32% above March 2016. All in all, after a challenging 2016, the Brazilian pork industry appears on course to deliver improved results during 2017.

Figure 10: Brazilian pork exports by destination, 2016 vs. 2017



Source: Associação Brasileira de Proteína Animal, Rabobank 2017

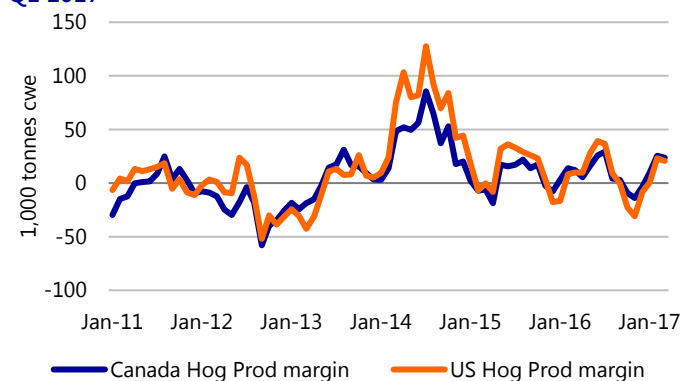
Canada

The Canadian pork sector continues to perform well, driven by competitive pork prices in global markets, a favourable currency, and an export-oriented industry. Pork production through the first two months of 2017 is up 1.7% over the same period last year, which is a strong start, especially given that exports during that same period were down slightly, by 3.5%. With two out of every three pounds of pork produced in Canada destined for international markets, exports will need to improve if Canada is going to continue this pace of supply growth.

We expect this slow start to Canada's pork exports to improve as 2017 goes on, driven by strong demand in China, Japan, and South Korea. This will largely reflect Canada's improved competitiveness with the EU, which is going through a period of high prices, despite supply rationalisation, which Rabobank expects to lead to lower EU pork supply and higher prices.

Profitability for Canadian hog producers has been quite strong to start 2017, with margins averaging USD 20/head vs. USD 10/head in the same period of 2016 (see *Figure 11*). This is a clear signal to increase supply in 2017, but with the sluggish start to the year on the export front, the industry should be cautious of supply running too far ahead of what the domestic market can handle.

Figure 11: Canadian and US hog production margins, 2011-Q1 2017



Source: Statistics Canada, Rabobank 2017

Mexico

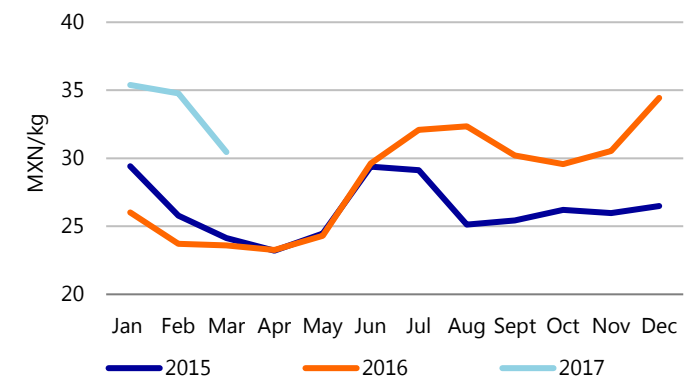
Mexican hog producers have seen a second round of PEDv in February 2017 (the first occurring in December 2016), mostly hitting the central and western regions of the country. However, the impact this year seems to be lower than in 2016. Partly, this is due to hog producers being able to adjust operations to control the spread of the virus. There is optimism in the industry that 2017 will be a better year, with improved operations and an expanding sow herd. A better outlook is ahead for 2H 2017, to help offset the supply gap that we expect to see in the summer of this year.

Pork consumption is expected to resume after spring and increase by 2.8% for all of 2017. However, this will be aided by imports, which are estimated at 1m tonnes cwe, up 50,000 tonnes cwe compared to 2016. Despite the high US dollar, imports are at record levels, already reaching 112,000 tonnes (cwe) by February. This is an increase of 30% compared to the same time last year. We expect pork prices to increase as consumption resumes for the rest of the year. Pork prices remain more attractive than other proteins, as other protein prices are on the rise (see *Figure 12*).

While the peso has gained ground against the US dollar, it remains depreciated by 10% compared to last year. This will continue to make exports attractive and competitive. This year, we see exports growing to a total of 155,000 tonnes cwe, a 7% increase from last year.

Trade between Mexico and the US continues to be uncertain, and there is not yet a clear path to the outcome of the negotiations. The speed in trade seen lately could be due to fears of a negative outcome, with exporters taking advantage of free trade before any changes take place. Although we have recently seen a change in tone from the US administration and seemingly more willingness to cooperate, we will continue to follow this issue very closely.

Figure 12: Mexican hog prices, 2015-2017



Source: FND, Rabobank 2017

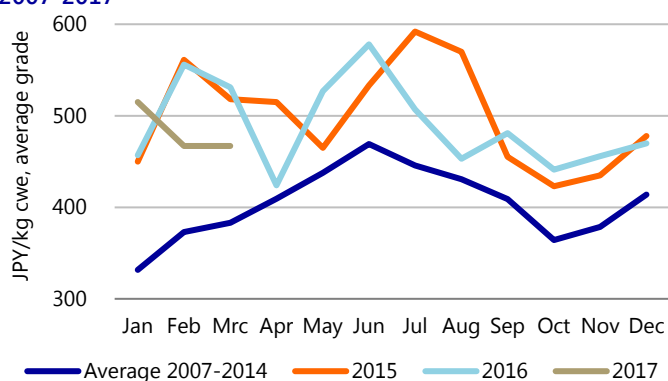
Japan

The Japanese pork market continues to perform relatively well (see *Figure 13*). Supported by steadily growing consumption, which is up 12,000 tonnes (+4.4%) January-February YOY, prices appear to have stabilised at elevated levels. Consumption is increasing for the third year in a row, reflecting the positive impact of targeted promotions.

The rising consumption is good news for countries exporting to Japan, given domestic production further declining by 0.5% YOY, to 149,000 tonnes cwe, in the first two months of 2017. Imports increased by 5.3%, to 144,000 tonnes January-February YOY, after a rise of 70,000 tonnes cwe (+8.9%) in 2016.

Exporters from the Americas increased their volumes, with the US, Canada, and Mexico increasing their exports by 8%, 11%, and 13%, respectively. Exporters from the EU showed generally stable export volumes. This trend is a result of the rising hog prices in the EU and pressured prices in the Americas.

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



Source: Agriculture & Livestock Industries Corporation, Rabobank 2017

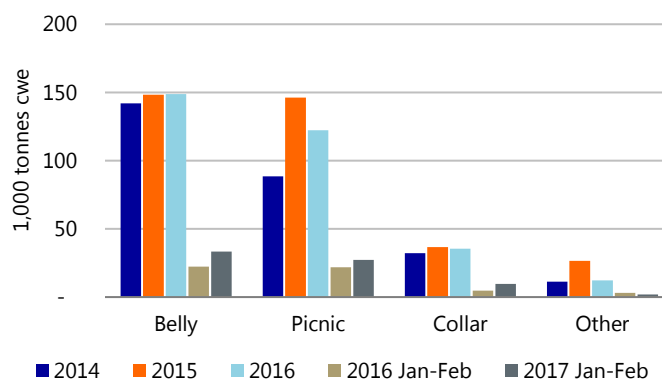
South Korea

The pork market in South Korea remains booming, with prices for farmers, wholesalers, and consumers stabilising at the elevated levels of the last years. This is despite continuing growth in domestic production and imports. Hog slaughter numbers increased by a further 2.0% YOY, after the 4.0% increase in 2016, while imports increased by 20,000 tonnes cwe (+38%) YOY in the first months of 2017 (see *Figure 14*).

The developments in South Korea clearly show the impact that targeted promotions from both the industry and government can have on consumption. They have focused on the quality and taste of cuts other than bellies, which have an important place in the traditional diet of South Korean consumers.

For the coming months, prospects remain positive, with seasonally rising demand and prices into summer. This will continue to support imports, with the main supplier, the US, in the driving seat due to its rising supply—in contrast with trade competitors from the EU, where lower supply has pushed up prices.

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



Source: Korea Meat Trade Association, Rabobank 2017

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RaboResearch Food & Agribusiness Animal Protein Global Sector Team Analysts

Justin Sherrard	Global Strategist	justin.sherrard@rabobank.com
William Sawyer	US	william.sawyer@rabobank.com
Don Close	US	don.close@rabobank.com
Adolfo Fontes	Brazil	adolfo.fontes@rabobank.com
Chenjun Pan	China	chenjun.pan@rabobank.com
Angus Gidley-Baird	Australia	angus.gidley-baird@rabobank.com
Blake Holgate	New Zealand	blake.holgate@rabobank.com
Albert Vernooij	EU & Russia	albert.vernooij@rabobank.com
Gorjan Nikolik	EU	gorjan.nikolik@rabobank.com
Nan-Dirk Mulder	EU & Russia	nan-dirk.mulder@rabobank.com
Beyhan de Jong	EU	beyhan.de.jong@rabobank.com
Andrick de la Payen Diaz Vega	Mexico	andrick.payen@rabobank.com

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