

THE SCOTTISH RED MEAT INDUSTRY PROFILE



QMS

2020
Edition



Introduction

This report draws together a wide range of the latest information on the Scottish red meat sector, encompassing the whole production chain from producer to final consumer.

The data has been collated from many sources and, unless otherwise stated, covers the 2019 calendar year. The report's objective is to provide users with a single source of key information on the shape and scale of Scotland's red meat industry. This is the fifteenth edition of this publication, and it highlights the continued importance of the red meat sector to Scotland's economy.

Market uncertainty due to political uncertainty was a consistent feature of 2019 as the Brexit process continued to develop. Businesses had to make contingency plans for a UK exit from the EU that would have removed frictionless market access. This resulted in stockpiling ahead of deadlines at the end of March and October, and unwinding of inventory when trading conditions were maintained. The uncertainty also disrupted longer-term supply arrangements. However, the continuing weakness of sterling against the euro did help underpin export demand at shorter delivery horizons.

In the cattle sector, 2019 saw prices fall sharply below historic averages, with the most significant reductions in the second half of the year. Store cattle prices held up better, indicating that cattle finishers had a particularly challenging year. Farmgate prices for prime lambs spent most of 2019 closely in line with their five-year average, and the lamb crop recovered after a sharp fall in the previous year. Meanwhile, the store lamb trade was buoyant despite significant uncertainty surrounding the market conditions into which these lambs would eventually be sold. For pig producers, 2019 saw a considerable market upturn in the second half of the year. This was driven by strong export demand from China, due to its shortage of meat following a severe outbreak of African Swine Fever (ASF).

In terms of animal numbers, the beef herd continued to contract. This led to worries for the processing sector, which operates on thin margins. However, calf registrations did make a slight recovery, having fallen significantly in 2018. Within the beef herd, there was a further shift away from continental sires towards native breeds, while the trend towards greater use of beef genetics in the dairy sector continued. In the sheep sector, favourable spring weather helped the lambing rate to bounce back from a difficult 2018. The growth in lamb production at Scottish abattoirs in the autumn of 2018 was carried into 2019, supported by reduced cross-border movement for slaughter. In the pig sector, census results suggest further growth in the breeding herd and increased sales of piglets for finishing

on English farms. However, Scottish abattoir production still rose strongly for a second year, with pig slaughter reaching its highest level since the closure of Broxburn abattoir in 2012.

Red meat processing sector sales are estimated to have fallen by around 5% in 2019 as the result of significant market headwinds for beef, hides and sheepskins, but these declines were partially offset by firm markets for lamb, pork and offal, and export demand held up better than the home market. Despite lower sales, employment is estimated to have been relatively stable, leading to higher spending on wages and salaries, while access to skilled labour from the EU remained vital for many processors.

New supplies of beef, sheepmeat and pigmeat available for consumption in the UK are all estimated to have fallen in 2019. This was despite an expansion of domestic production, as exports grew while imports declined. The particularly sharp reduction in beef supply of over 5% is likely to reflect a significant overhang of product from 2018, when demand underperformed expectations. Retail sales of red meat weakened as environment and health-conscious shoppers reduced their meat intake. Within beef and lamb categories, there was also a shift in sales towards mince, placing downward pressure on carcase value.

After significant beef import growth in recent years, weak demand and rising domestic production resulted in lower requirements in 2019. Similar pressures led to lower pigmeat imports. Reduced lamb imports were the continuation of a longer-term trend, with New Zealand shifting focus away from Europe towards China. Domestic production growth, sluggish home demand and a weak sterling continued to support the profitability of the export trade in 2019, with pork exports benefitting from a meat shortage in China.



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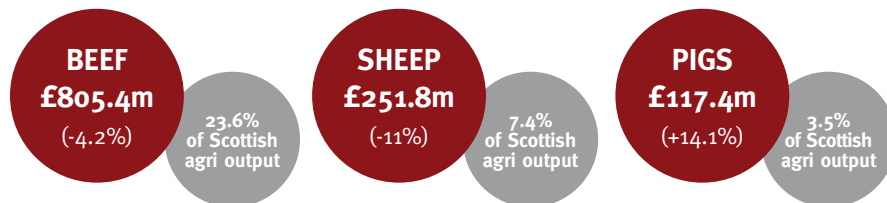
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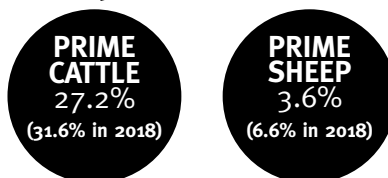
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THE SCOTTISH RED MEAT INDUSTRY: A SNAPSHOT

Farm output



Farm assured premium at Scottish auctions



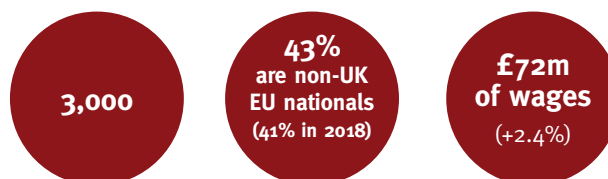
Abattoir output



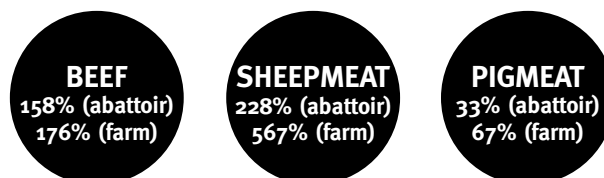
Red meat processing sales



Abattoir sector employment



Self-sufficiency



Per capita consumption (carcase weight equivalent)



Prices

Producer Prices

Cattle

After two years of increases, the annual average steer price at Scottish abattoirs fell 7.6% in 2019, leaving it at an eight-year low of 348.7p/kg. This was 3.9% below its average level from 2015-19 and 13.5% lower than the 2013 peak.

Until falling sharply in June, farmgate prices had generally followed a traditional seasonal pattern. The market was relatively stable for much of the second half of the year, but prices did lift slightly around the time of peak festive season procurement. September, a time when the market often peaks, saw some of the lowest prices of the year.

A significant proportion of prime cattle carcasses continued to exceed the carcase weight specifications of the multiple retailers and faced price penalties. This can be seen in the average prices paid for -U grade steers, which were generally lower than for R grade steers. The opposite was true for heifers.

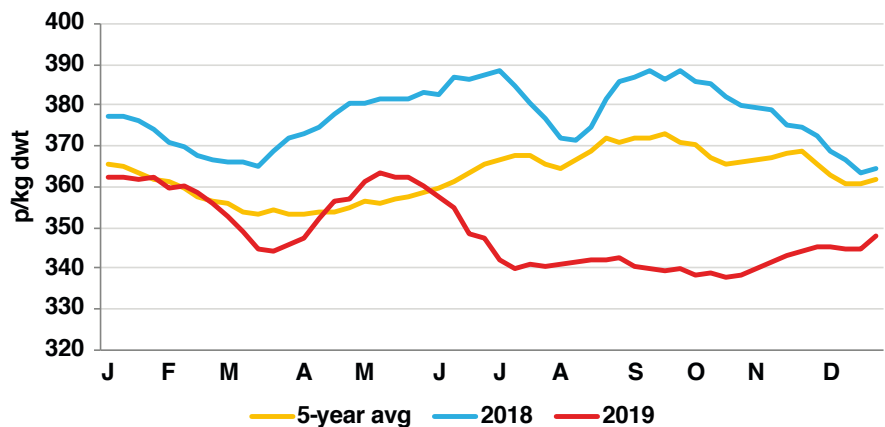
Steer prices averaged 5.4% higher at Scottish abattoirs than in England & Wales in 2019, down slightly from a 5.6% difference in 2018. For R4L steers, the gap was around 3%.

Cull cow prices averaged 8.7% less at Scottish abattoirs in 2019 than in 2018, slipping to 242.9p/kg. For a second year, this was 13.7% above the average for England & Wales.

Scottish abattoirs paid an average of £1,343 for a steer carcase in 2019. Slightly higher carcase weights limited the year-on-year decline to 7%. Heavier weights also limited the decline for cow carcasses, down 5.5% to £864.

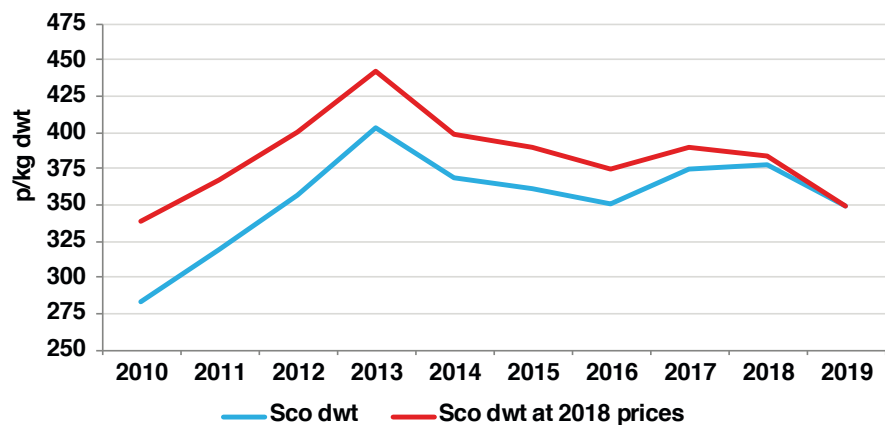
With general consumer prices in the UK rising by 1.8% in 2019, the fall in prime steer prices extended to 9.1% in real terms, sending real prices close to the level seen at the start of the decade¹.

Scottish deadweight steer price



Source: AHDB; QMS calculations

Scottish deadweight steer price



Source: AHDB; ONS (a); QMS calculations



¹Real prices: Where inflation is greater than zero, the price that the producer receives is lower in real terms than the market (nominal) price. This is because the sales proceeds have less purchasing power in the wider economy due to the rise in the general level of prices. For example, a sales price of 350p/kg in period 2 would be equivalent to a price of 343p/kg in period 1 if the rate of inflation was 2%; with inflation at 4%, a price of 350p/kg in period 2 would be equivalent to just 336.5p/kg in period 1. The inflation rate used is the CPIH – a measure of retail price inflation published by the ONS.

Sheep

In the year as a whole, prime sheep prices averaged 186.8p/kg at Scottish auctions. This was a reduction of 5.5% from 2018, which had its annual average boosted by the exceptional prices seen during the spring. Prices still exceeded their 2015-19 average by 3.2%.

At price reporting abattoirs in Great Britain, lamb prices averaged 5.9% below their 2018 level, at 415.6p/kg deadweight.

After adjusting for inflation, auction prices fell by 7.2% and deadweight prices by 7.4%.

Scottish auction prices for prime sheep averaged 2.5% lower than the figure for auctions in England & Wales in 2019. This was a rise from less than 1% in 2018, but still only half the difference seen in 2017.

For cull ewes, auction prices averaged £58.74 per head in 2019, up by 4% on 2018 and by 2.1% on their 2015-19 average. It was 4.8% below the average at auctions in England & Wales – smaller than the gap of 6.6% in 2018.

Prime lamb prices at Scottish auctions followed a traditional seasonal pattern in 2019 and held close to their 2015-19 average, though they showed a stronger end to the year.

Producers selling hoggs around Easter saw prices average around 210p/kg.

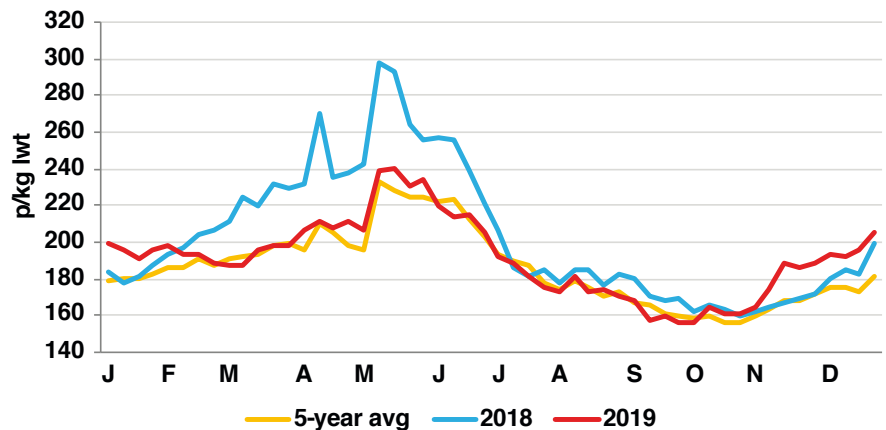
New season lamb prices peaked at around 240p/kg in the first half of May and held up at around 215p/kg for much of June before falling sharply.

Peak procurement for Eid al-Adha came in early August. This saw prices bounce by around 5% for a week before falling 5% a week later.

Prices slumped to their annual low point of around 155p/kg in September. In 2018, the low point had been in October.

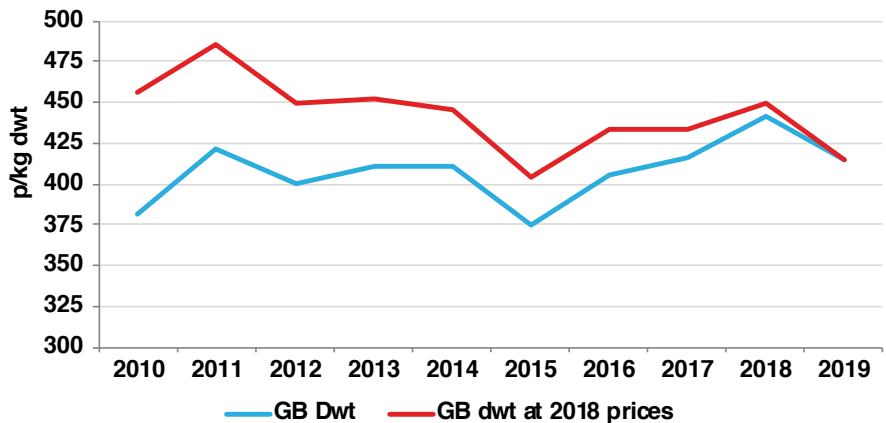
After the UK's withdrawal from the EU was extended until January, removing the risk of EU tariffs and new customs administration on UK exports, prices climbed significantly in the first half of November, reaching 190p/kg. They surpassed the £2/kg mark in the week before Christmas.

Scottish prime lamb auction price



Source: AHDB; QMS calculations

GB deadweight lamb price



Source: AHDB; ONS (a); QMS calculations

Pigs

In 2019, the annual average price at GB price reporting abattoirs for standard pigs edged up by 1.1% on 2018 to reach 148.4p/kg deadweight².

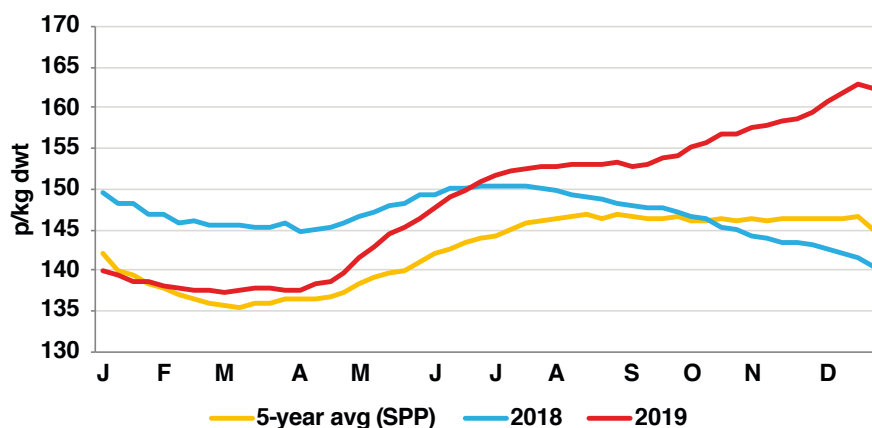
With the annual average carcase weight rising 0.7% at reporting abattoirs, the annual average carcase price increased by 1.8% to £124.92.

Pig prices began the year in their traditional seasonal pattern, easing back in the first quarter before rising between spring and summer as slaughter and carcase weights fell back.

However, this upswing was more pronounced than usual. After a brief pause in August, the upward momentum returned in mid-September, bucking historic trends, and continued to the year-end. While domestic consumption struggled in 2019, the market was underpinned by very strong export demand from China.

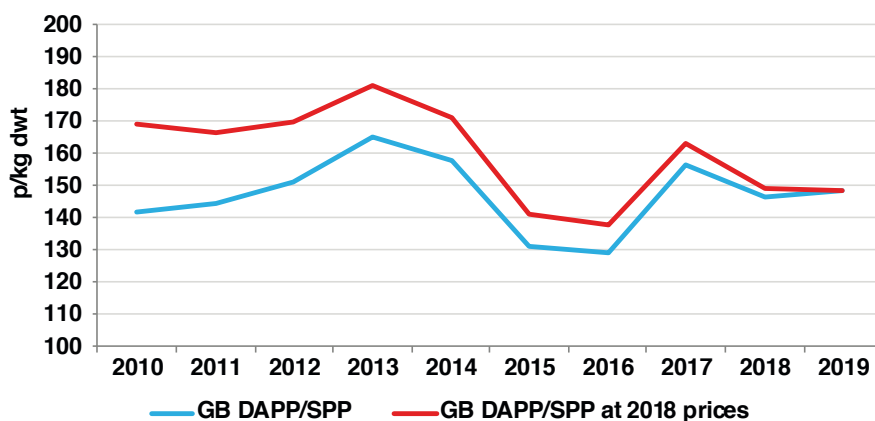
² The 'Standard Pig Price' (SPP) is the price paid by a sample of abattoirs across Great Britain for a 'standard pig'. A standard pig is one that does not receive a premium based on a specific characteristic, such as its breed or being farmed organically. Bonus payments for meeting specific contract targets are also excluded. The only premia included are, therefore, those based on weight and carcase grade.

GB producer price for pigs (SPP)



Source: AHDB; QMS calculations

GB producer price for pigs (SPP)



Source: AHDB; ONS (a); QMS calculations



Farm Assurance Premium at Scottish Auctions

As a general rule, prices paid at Scottish auctions for Scotch Farm Assured cattle and sheep will be higher than for non-Farm Assured stock, although individual sales may differ. The premium for cattle tends to

be larger than for sheep, working out at around 20-30%, with the premium for assured lambs closer to 5%.

In 2020, premium for cattle slipped back from 2019 but remained considerable, while the premium for sheep nearly halved.

Farm Assurance Premium for Prime Cattle at Scottish Auctions

	Farm Assured average price (p/kg lwt)	Non-Farm Assured average price (p/kg lwt)	FA premium (p/kg lwt)	FA premium (%)
2017	210.9	172.6	38.4p	22.2%
2018	212.6	161.6	51.1p	31.6%
2019	200.0	157.3	42.8	27.2%

Source: IAAS; QMS calculations

Farm Assurance Premium for Prime Sheep at Scottish Auctions

	Farm Assured average price (p/kg lwt)	Non-Farm Assured avg selling price p/kg lwt	FA premium (p/kg lwt)	FA premium (%)
2017	180.6	169.0	11.6	6.9%
2018	194.6	182.7	12.0	6.6%
2019	187.4	180.8	6.6	3.6%

Source: IAAS; QMS calculations



Store Prices

Store Cattle

In 2019, store cattle prices peaked in the main spring selling period. Autumn sales once again attracted lower prices, with values peaking earlier than in recent years for younger steers but later for steers in the 12-18-month category.

For significant portions of the year, store values were lower than in 2018. However, prices fell by less than those for finished cattle, suggesting a squeeze on margins for the average cattle finisher.

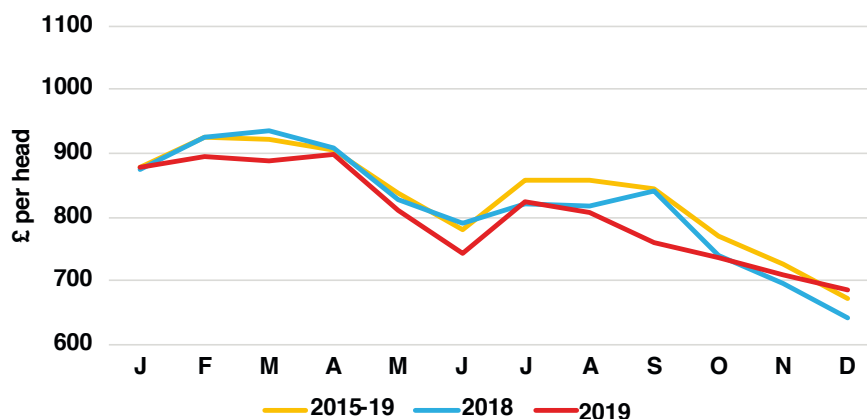
6-12-month steers were 2.1% cheaper than in 2018, at £835, while 12-18-month steers averaged 3% cheaper at £926. These were respectively 62.2% and 68.9% of the average finished steer carcass prices at Scottish abattoirs. These figures are both around three percentage points higher than in 2018, again highlighting the additional squeeze on cattle finishers in 2019. However, these percentages were only slightly above the five-year average.

Store Sheep

Store lamb sales recovered strongly in the autumn of 2019 following the tight supply situation of 2018, when census results pointed to a poor lambing among the large extensive upland flocks hit hardest by the cold wet spring.

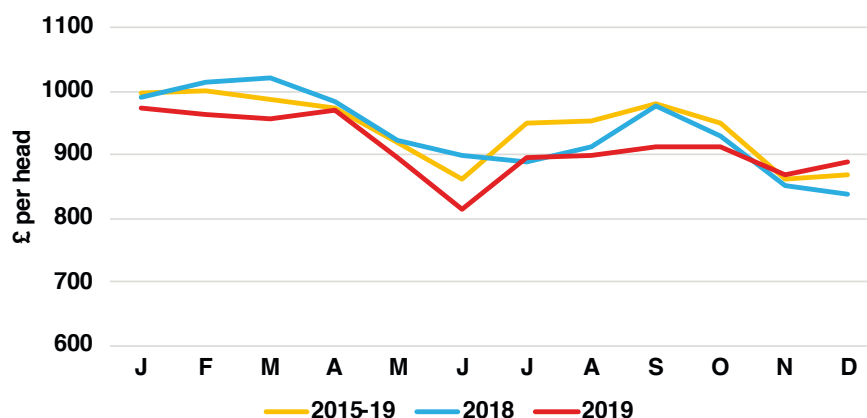
12% more store lambs were traded and the average price rose by 1.2% to £49.86. For Blackface lambs, the number sold surged by 44% and the average price was 8.5% higher, at £39.99. Suffolk lambs were priced at an almost unchanged £57.64, with 3% more sold.

6–12-month store steers



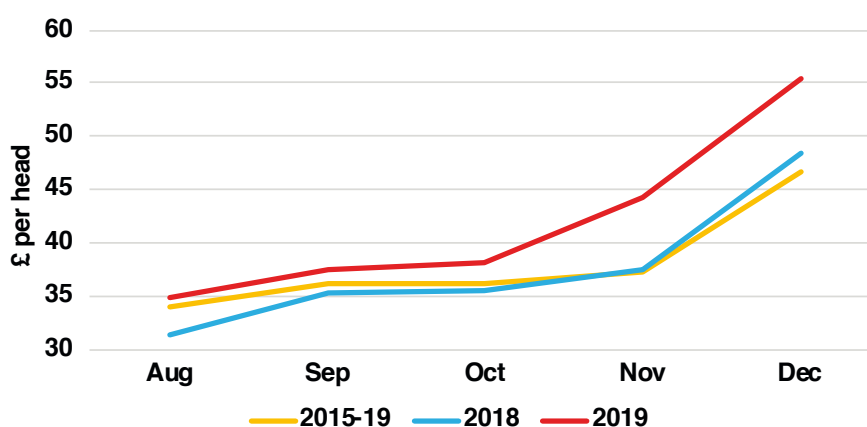
Source: IAAS/Scottish Government; QMS calculations

12–18-month store steers



Source: IAAS/Scottish Government; QMS calculations

Blackface store lamb prices



Source: IAAS/Scottish Government; QMS calculations

Exchange Rate Movements

Shifts in exchange rates affect the competitiveness of Scotland's red meat in the home market and abroad. These shifts have knock-on impacts on livestock prices and wholesale prices. Hedging, forward-buying and contract-pricing can slow the pace at which these changes pass through the supply chain.

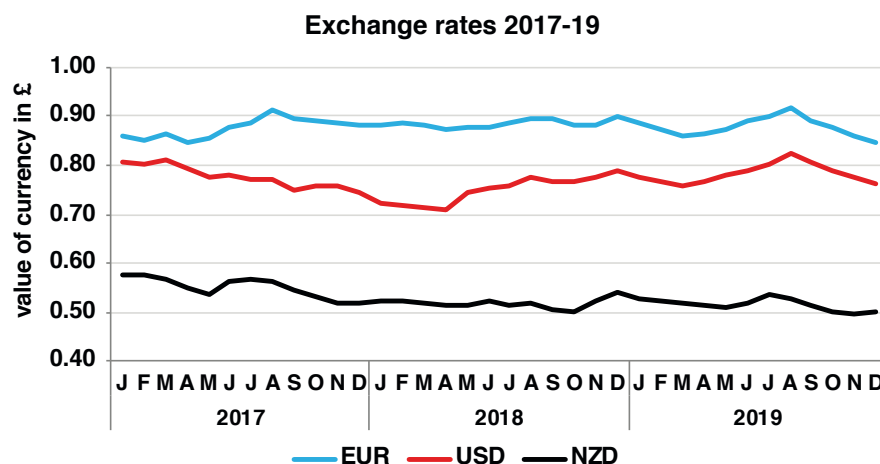
A weakening of sterling tends to benefit exporters because it allows, for example, an unchanged euro price to convert into a higher sterling revenue; a lowering of euro prices can potentially lead to gain in market share without having to accept a lower sterling price in return. On the import side, a weaker sterling is likely to raise the relative price of imports, underpinning demand for home-produced product in price-sensitive markets – most likely in food manufacturing and foodservice. However, it would tend to raise input costs.

Following a much more stable 2018, the sterling exchange rate against the euro proved more volatile in 2019. This was heavily linked to political developments and their potential implications for the UK's withdrawal from the EU, as well as perceptions of economic uncertainty.

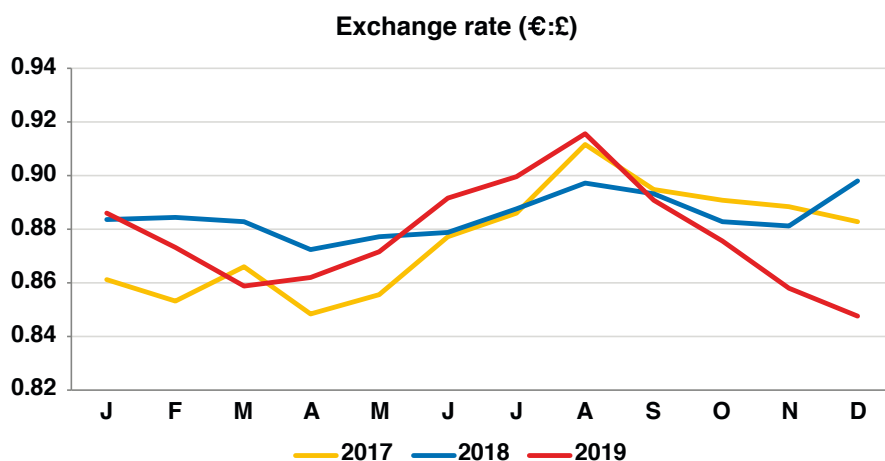
Despite volatility, the annual average value of sterling relative to the euro was little changed, coming in only 0.8% higher than the annual average for 2018, with a euro worth 87.8p.

The annual average of sterling relative to the New Zealand dollar (NZD) was also little changed, up 0.5%, with the NZD buying 51.6p in 2019.

Sterling did, however, fall significantly against the US dollar (USD) in 2019, averaging 4.5% weaker than in 2018, potentially adding pressure to the cost of imports valued in USD. A dollar was equivalent to 78.3p.



Source: Bank of England; European Central Bank



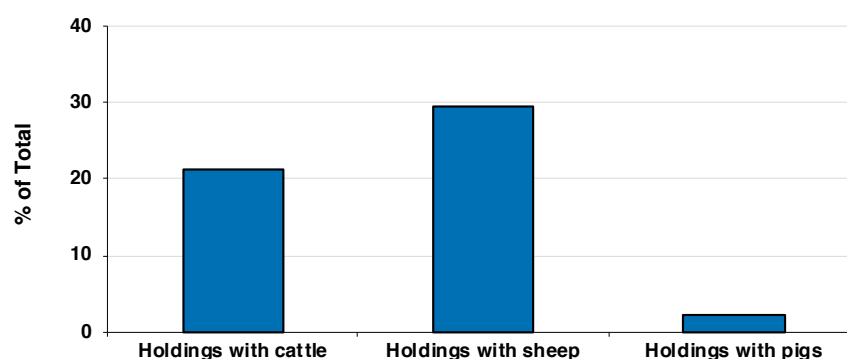
Source: European Central Bank

Livestock Production

In June 2019 there were 51,292 agricultural holdings in Scotland. This was a second consecutive increase, rising 135 (0.3%) on 2018, though numbers remained 1.1% below June 2016 levels. While the number of holdings with sheep rose for a fourth straight year (+0.8%) and there was a 3.5% lift in those with pigs, the number of holdings with cattle declined by around 2% for a third year (-2.4%).

Sheep production remained the most common form of livestock-keeping in Scotland in 2019, taking place on 29.6% of holdings. Cattle production took place on 21.4% of holdings, while there were pigs on just 2.3% of Scottish holdings.

Proportion of Scottish holdings with livestock enterprises



Source: Scottish Government (2019c)

Cattle Production

Scotland's beef herd continued the slow and steady decline of recent years, falling by another 1.6% to 400,150 head in the year to December 2019. This left numbers down by 5.4% from 2014 and by 11.4% on a decade earlier.

Meanwhile, following two years of growth, the dairy herd contracted by 1%, slipping to a 6-year low of 173,900 head. In contrast to beef cows, numbers were 2.4% higher than at the end of the last decade.

Beef cows accounted for 69.7% of the breeding herd in December 2019. This was a marginal fall from 2018, down 0.5 percentage points on the 2015-19 average, and three points lower than in 2009.

The total cattle population declined for a fourth year. At 1.63m, numbers were 5.7% lower than in 2014 and 9.8% lower than in 2009.

In June 2019 the regional spread of cattle across Scotland remained concentrated in the north east and south western corners.

Aberdeenshire, Moray, Ayrshire and Dumfries & Galloway accounted for a combined 54.1% of the national total and 44.3% of the beef herd.

With livestock production heavily influenced by land type, the cattle population is skewed towards producing beef cows in Argyll & Bute, Highland, Eilean Siar, Orkney and Shetland, and to a lesser extent in Tayside and the Borders.

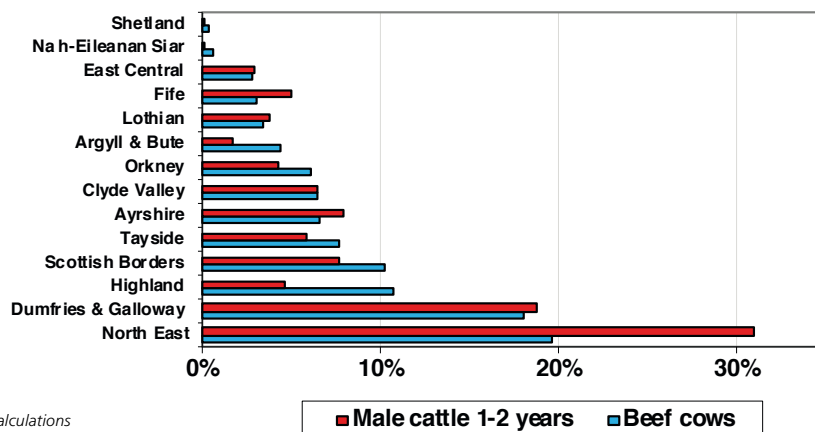
Meanwhile, dairy production and finishing operations are common in Ayrshire and Dumfries & Galloway, while Fife, Lothian and the North East are geared towards cattle finishing. In June 2019, 31% of Scotland's male cattle between 1 and 2 years of age were on farms in the North East, compared to a 19.7% share of the beef herd.

Scottish Cattle Population

	2017	2018	2019
	'000 head		
Beef breeding herd	415.5	406.7	400.1
Beef cow share of total cow herd	70.3%	69.8%	69.7%
Dairy breeding herd	175.2	175.6	173.9
Total cattle herd	1,694.4	1,662.5	1,632.5
Breeding herd comprises female cattle over two years of age with offspring			

Source: Scottish Government (2020 a); QMS calculations

Regional distribution of cattle



Source: Scottish Government; QMS calculations

Herd Size

Across Scotland in June 2019, the average number of beef cows on a holding was unchanged from the previous two years, at 48.1. Fife had the largest change, increasing to 61.6 from 59.4.

The prominence of crofting in the Highlands and Islands is apparent in the regional herd sizes. For example, the average holding in Na h-Eileanan Siar had just 7.2 cows in 2019 and Shetland was little higher at 12.2. Highland and Argyll & Bute also had below average levels of 29.2 and 34.9 head respectively. However, Orkney herds did exceed the national level (56.1). The largest average herd size, of 78.2 head, was in the Scottish Borders, followed by Lothian on 69.5 and Dumfries & Galloway on 65.5 head.

Scotland has a number of large cattle enterprises. The 13.8% of holdings which had at least 100 cows in June 2019 were home to half of the country's beef cows, averaging 173.9 each. However, holdings with 100-149 cows accounted for 56% of the reduction in Scotland's beef herd in the year to June 2019, with numbers falling by 4.8%. By contrast, the number of beef cows on holdings with at least 150 cows showed a slight expansion of 0.8%.

Meanwhile, of the holdings with cattle under a year old, 17.4% had at least 100 of them. These accounted for 56.3% of the national total.

Beef Cows Per Holding – Regional Average

Beef cows	North West	North East	South East	South West	Scotland
2018	30.1	56.5	66.8	49.6	48.1
2019	30.2	56.1	67.2	49.2	48.1

Source: Scottish Government; QMS calculations



Calf Registrations

Following a sharp fall of 2.6% in 2018, and marginal declines in 2016 and 2017, calf registrations edged 0.1% higher to 552,700 head in 2019. However, this still left them trailing their five-year average by 1.7%.

Beef sired registrations posted a 0.9% increase to 460,350 head, having declined by 2.9% in the previous year. This recovery pulled them back to within 0.5% of their five-year average. By contrast, dairy-sired registrations declined by another 3.6% to 92,400 head. This was their fourth consecutive decline and the sixth in seven years.

Beef-sired registrations accounted for 83.3% of total registrations. This share rose 0.7 percentage points from 2018 and reached its highest point since 2008. This recent trend has emerged despite a reduced share for beef cows, due to structural shift in the dairy herd: there has been greater use of sexed semen for female replacements, and of beef genetics to produce higher quality male calves.

A regional breakdown of registrations in 2019 shows a north-south split, with declines in the north more than offset by expansion in the south. Beef-sired registrations fell by 2.3% in the North East and by a fraction in the North West, but rose by 0.8% in the South East and by 2.4% in the South West. The South West accounted for 45.3% of beef-sired registrations in 2019, up from 43% in 2018, and edged up to 51.1% of all registrations.

Since most prime cattle are slaughtered between around 18 months and just over two years old, the sharp fall in calf registrations in 2018 suggested a tightening of supply from autumn 2019 – when spring-2018 born calves began to reach the market – followed by stabilisation over the winter of 2020/21. However, by August 2020, this effect was not yet visible at Scottish abattoirs.

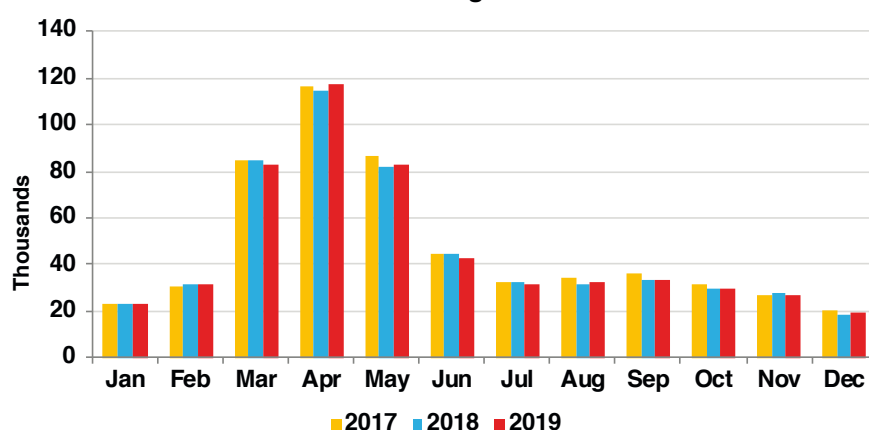
Limousin retained its position as the most common sire in Scotland in 2019. However, Aberdeen Angus continued to close the gap. Limousin registrations fell by 3.6% to 109,900 head, with their share sliding 0.7 percentage points to 19.9%.

By contrast, there was a 7.6% lift for Angus, taking them to 105,250 head and a 19% share, up from 17.7% in 2018.

Charolais, Black & White dairy and Simmental registrations all saw further declines in 2019. They fell by 2%, 4.5% and 4.9% respectively, lowering their shares to 13.5%, 14.8% and 12%.

Smaller breeds continued to grow their share, with a 5.5% increase taking them from 19.8% to 20.9% of the total. This included rises of 3% for Shorthorn, 5% for Hereford and 9% for British Blue and Salers. All of these were increases on their growth rates in 2018.

Scottish calf registrations



Source: BCMS

Beef-sired calf registrations in Scotland

	2015-19 average	2017	2018	2019	Change in 2019 (% year-on-year)
Number of calves registered	462,750	469,750	456,350	460,350	+0.9
Share of total registrations (%)	82.3	82.9	82.6	83.3	

Source: BCMS; QMS calculations

Calf registrations in Scotland

Breed	2017 (% of total)	2018 (% of total)	2019 (% of total)	Change in 2019 (% year-on-year)
Limousin	21.3%	20.6%	19.9%	-3.6%
Angus	16.8%	17.7%	19.0%	+7.6%
Black & White Dairy Breeds	15.4%	15.5%	14.8%	-4.5%
Charolais	14.7%	13.8%	13.5%	-2.0%
Simmental	13.0%	12.6%	12.0%	-4.9%
Other	18.8%	19.8%	20.9%	+5.5%
Total registrations (head)	566,900	552,100	552,700	+0.1%

Source: BCMS; QMS calculations

Sheep Production

Since 2015 the December Survey of Agriculture figures, published by the Scottish Government, have been sourced from the more comprehensive Sheep and Goat Inventory. This has resulted in greater volatility from year to year in estimates of 'other sheep' aged over 12 months and 'lambs not put to ram', so some caution is required when comparing against previous years.

Adding together the number of ewes kept for breeding to the number of lambs put to the tup indicates a partial recovery in the breeding flock in the autumn of 2019. Numbers edged up by 0.5% to 2.9m head, leaving them 1.1% below their 2015-19 average and down 1.8% on 2009.

Subtracting the female breeding flock from the total number of sheep estimated to have been on Scottish holdings in December 2019 points to a 2.8% increase in 'other sheep', suggesting that an increased number of hoggs were carried over into the New Year. Interestingly, this population was 4% above its 2015-19 average and up 10% on 2009. While this could point to a shift in marketing patterns and/or increased productivity in the breeding flock, it could also be a feature of the way the census is carried out.

Regional Variation in Sheep Production

Three regions accounted for 44.4% of Scotland's breeding ewe flock in June 2019. The Scottish Borders had the largest flock, with 16.2% of the total; this share increased by 0.5 percentage points from 2018 as numbers rebounded following the challenging spring of 2018. Dumfries & Galloway accounted for 14.8% of the national flock and Highland 13.3%.

Scotland has significant regional variation in lambing performance. The Borders has an above-average performance, resulting in a 17.6% share of the June lamb crop, while Dumfries & Galloway's above-average ratio gave it a 15.6% share. By contrast, weaker lambing

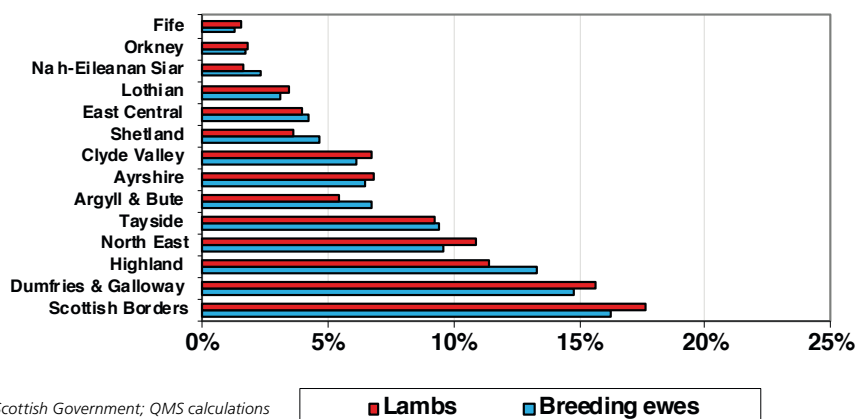
Scottish Sheep Population

	2017	2018	2019
	Million head		
Breeding sheep flock	2.94	2.88	2.90
Other sheep	1.966	2.074	2.133

Breeding flock defined as ewes kept for breeding and lambs put to ram

Source: Scottish Government (2020 a); QMS calculations

Regional distribution of sheep



Source: Scottish Government; QMS calculations

Regional Lambing Performance (lambs as % of ewes)

	North West	North East	South East	South West	Scotland
2018	104.4	145.2	132.7	120.8	122.9
2019	107.0	144.4	134.6	127.6	126.7

Source: Scottish Government; QMS calculations

performance in Highland, reflecting land capability, saw it take an 11.4% share. The North East was not far behind on 10.9%, compared to its 9.6% share of ewe numbers.

While 2018 had seen a sharp fall in lambing performance across much of Scotland, it was particularly notable in the south, reflecting the snowstorms of late February and March. The national percentage dropped back to 122.9% from 2017's 21st century high of 128.3%. In 2019 there was a partial recovery to 126.7%, taking it above the five-year average of 125.9%. As a result, overall lamb numbers rose by 3.7%, bringing them back almost in line with their five-year average.

In 2019, the most significant recoveries took place in Argyll & Bute, Ayrshire and Clyde Valley,

with performance up nearly nine percentage points, while in Lothian it jumped by seven. By contrast, lambing percentages edged only a fraction higher in Fife and the Scottish Borders and fell in the North East, the latter having been the least affected in 2018.

Fife continued to lead the country in performance, on 152.8%, followed by the North East with 144.4% and Lothian on 141.5%. The other above-average performers were Ayrshire, Dumfries & Galloway, Orkney and Clyde Valley, whereas East Central and Tayside were slightly below average. At the bottom end of the scale were the Western Isles and Shetland, on a respective 90.6% and 99.3%, while Argyll & Bute and Highland were in the 100-110% range.

Flock Size

Number of Breeding Ewes per Holding

	North West	North East	South East	South West	Scotland
2018	95.9	173.1	397.3	285.2	200.6
2019	94.7	175.3	403.5	284.7	201.4

Source: Scottish Government; QMS calculations

Flock Size

While the lamb crop did recover in 2019, growth in ewe numbers was limited. The average number of ewes per holding rose only slightly, having fallen by more than seven in 2018.

While the overall ewe flock edged higher, there was a stronger recovery on the largest holdings with at least 1,000 ewes, where the declines of 2018 had been concentrated (nearly three-quarters of the total decline). Nine more holdings had at least 1,000 ewes (487). Their ewe numbers expanded by 3.7%, though they still trailed 6.5% below the figure for June 2017. In that year 517 holdings had at least 1,000 ewes.

These largest holdings took a 28.7% share of the national flock, up from 27.8% in 2018 but below 2017's 29.7%. The average flock size on these holdings rose to 1,514 from 1,488 in 2018 but was below the 1,526 recorded in June 2017. 83.8% of these ewes were in southern Scotland, with the South East taking a 46.8% share and the South West a further 37%.

The Scottish Borders has Scotland's largest average flock size, at 523.2 head, and this recovered by 18.8 from 2018, returning it almost back in line with June 2017 (524.1). By contrast, Tayside saw its average dip to 372 from 375 in 2018. In East Central, it rose by 7.1 to 350.6.

At the other end of the scale, the Western Isles had an average flock size of only 30.7 ewes in June 2019, a further fall from 2018's 32.7. Flock sizes were also well below the national average in Orkney, Shetland and Highland. In Fife and the North East, where lambing percentages are the highest in Scotland, flock sizes remained below average, at a respective 169.4 and 175.3.



Pig Production

Scotland's pig breeding herd numbers tend to be volatile from year to year, in both the June and December census. Over the past decade the average rate of year-on-year change in either direction has been 11% for December and 8% in June. Over this period the average variation for both surveys has been 8.6%.

In 2019 the total number of breeding sows and pregnant gilts rose by 19% on a year earlier in June, before contracting by 4.6% on a year earlier in December. Averaging the survey results revealed an expansion of 6.2% to 35,300 head in 2019, on the back of a 4.9% lift in 2018. Numbers were 4.6% above their 2015-19 average and up 8% on 2010-14.

There is also volatility in the reported number of gilts over 50kg to be used for future breeding. In 2019, numbers were down by 11.4% at an average of 4,700 head.

Year-to-year changes are a little less volatile in the prime pig numbers reported, though still significant. For a third consecutive year there were declines in both June and December 2019. The average across the two surveys of 273,500 head was a 3.9% reduction from 2018, a similar decline to those seen in 2017 and 2018. This left numbers 5.4% below their 2015-19 average and 12.4% below 2010-14 levels, reflecting the cross-border movement of young pigs for finishing in England due to limited slaughtering capacity in Scotland.

There were 7.7 prime pigs for each sow in 2019, compared to a 2015-19 average of 8.6 and a 2010-14 average of 9.5.

Regional Spread of Pig Production in Scotland

Pig production continued to be concentrated in the eastern Scotland. The North East accounted for 61.3% of the sow herd, and the South East, which includes Angus, Lothian and the Scottish Borders, a further 28.4% of the total. The only other areas with more than 1,000 sows were Highland and Dumfries & Galloway.

Scottish Pig Population

	2017	2018	2019
	'000 head		
Breeding pig herd	31,700	33,200	35,300
Prime pigs	297,500	284,600	273,500

Breeding herd defined as breeding sows and pregnant gilts

Prime pigs excludes barren sows, boars and gilts over 50kg to be used for future breeding

Source: Scottish Government 2019, 2020 (a); QMS calculations

Meanwhile, 61.8% of the fattening pigs were on holdings in the North East and 28.8% in the South East.

Pig production is also concentrated into a relatively small number of herds: the 58 holdings with at least 100 sows are home to 95% of the total. Within these 58, the 47 holdings with at least 250 sows accounted for 89.5% of the national total. These large holdings kept an average of 689 sows, compared to a national average of only 82.

North East Scotland was home to 31 of the 47 holdings with at least 250 sows, while there were a further 11 in the South East. Holdings in the North East averaged 682 sows apiece, while those large South East holdings had an average of 789 each.

In June 2019 there were 105 Scottish holdings with at least 100 fattening pigs: these accounted for 98% of the national total. 57 of these holdings were in the North East and they averaged 2,057 each, while there were 36 in the South East, averaging 1,498 each.

Number of Breeding Sows per Holding

	North West	North East	South East	South West	Scotland
2018	10.0	205.7	74.7	19.6	69.7
2019	9.4	238.5	95.9	22.6	82.2

Source: Scottish Government; QMS calculations



Farming Output

The Scottish Government estimates that total agricultural output rose by 1% to £3.39bn in 2019. This was 8.6% above its 2015-19 average.

At £805m, the beef sector accounted for 23.8% of this. Sheep contributed a further £252m, giving it a 7.4% share, while pig farming output of £117m delivered 3.5%.

Around 75-80% of cattle and sheep output came from sales of finished livestock, with 5-7% from cross-border sales of store cattle and sheep and 15-20% from the asset value of additions of replacement breeding stock to herds and flocks. Wool sales contributed only 1% of sheep output.

During 2019, the overall fall in cattle output of 4.2% was driven by a 6% reduction in sales of finished cattle, while revenue from sales of store cattle to England & Wales fell 3%. The scale of the decline saw cattle's share of Scottish agricultural output dip to an 11-year low.

Sales of finished sheep are estimated to have generated 10.4% less revenue than in 2018. With cross-border sales of store sheep falling more significantly, the sector's share of agricultural output dropped to a six-year low. By contrast, a 14.4% increase in the sales value of finished pigs pushed up the share taken by the pig sector to its highest level since 2005.

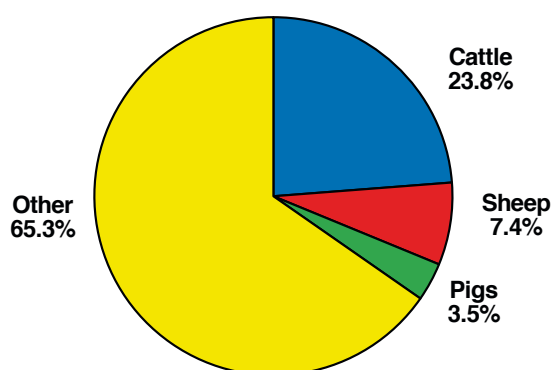
Livestock continues to be of greater significance to Scottish agriculture than to the UK as a whole or, on average, to the EU.

Contribution to Scottish agricultural output

	2017		2018		2019	
	£m	%	£m	%	£m	%
Cattle	840.6	25.9	840.5	25.1	805.4	23.8
Sheep	267.9	8.2	282.9	8.4	251.8	7.4
Pigs	109.3	3.4	102.9	3.1	117.4	3.5

Source: Scottish Government; QMS calculations

Livestock contribution to agricultural output in Scotland - 2019



Source: Scottish Government (2020 b)

Contribution to agricultural output in 2019³

	Scotland	UK	Ireland	EU27
Cattle	23.8	13.7	25.2	6.6
Sheep	7.4	5.8	2.6	0.9
Pigs	3.5	5.0	6.3	10.1

Source: Eurostat; Scottish Government (2020 b); QMS calculations



³ UK, Ireland and EU sourced from Eurostat – real output in euro, production value at producer price

Producer Input Costs

In 2019, UK agricultural input prices, as reported by Defra, increased for a third consecutive year, edging above previous highs in 2012 and 2013.

However, input costs trended slowly downwards as the year progressed. The annual comparison reflected the lift through 2018, which meant a lower base to compare against in the early part of the year. Indeed, having opened the year up 6.6%, input prices in August fell behind those a year earlier. They ended the year averaging 3.1% lower than twelve months previously.

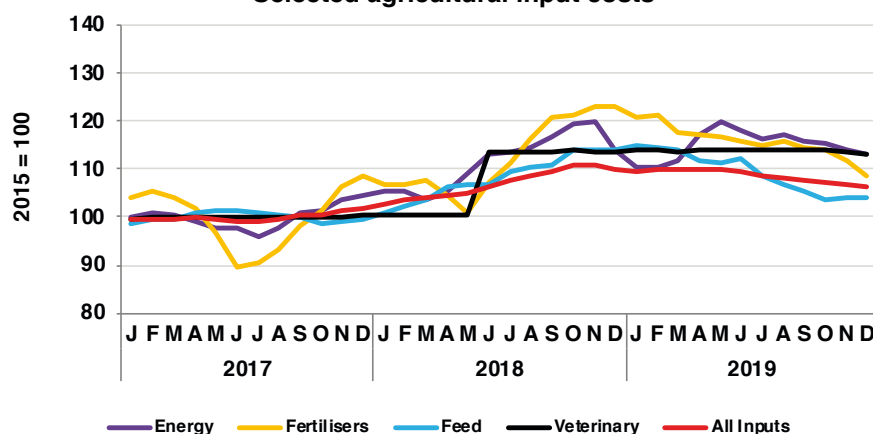
Having risen in late 2018, energy costs rose further in the early part of 2019, peaking in April and May before trending downwards. This pattern closely matched movements in the global oil market. In the year as a whole, electricity was 7.3% dearer than in 2018, while heating fuel costs rose by 3.8% and motor fuel by 1.7%; however, only electricity ended the year more expensive than 12 months before.

Fertiliser prices at a global level mirrored the oil market for most of 2019, though they did drop off more significantly in the autumn. While averaging higher than they had in 2018, this meant that prices ended the year down 10-15% on late 2018.

Feed prices also trended downwards in 2019, but still averaged slightly higher than in the previous year. Cereals ended the year around 20% cheaper than a year earlier, reflecting a strong global harvest. This was significant enough to bring the annual average price below 2018 levels, but a slower downward trend in compound feed meant that annual averages remained slightly higher – by 1% for pigs and 3-4% for cattle and sheep compounds.

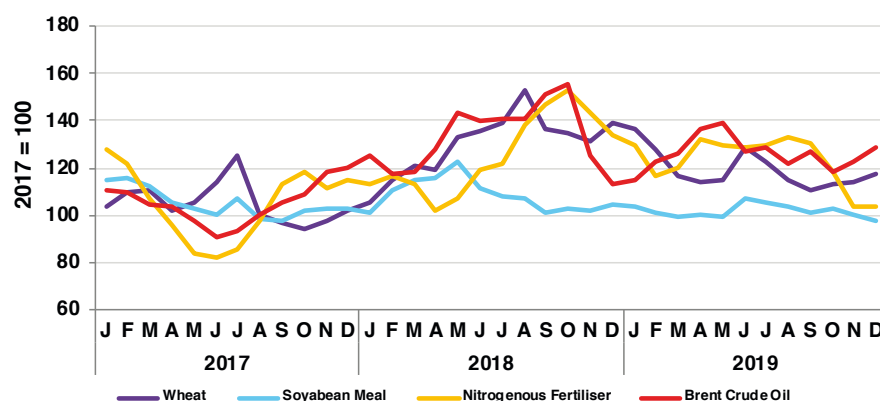
Having fallen from a peak in the spring of 2018, soyameal prices continued to trend lower into 2019 and reached a low in April. After bouncing in the summer, as US harvest prospects looked weaker, prices then drifted lower in the second half of the year, in part down to a strengthening sterling. Prices ended the year down by around 7% on late 2018; the annual average was 9% lower.

Selected agricultural input costs



Source: Defra (a)

Global commodity prices in sterling terms



Source: FRED; IMF; QMS calculations

Index of Producer Input Costs				
	2017	2018	2019	Annual change 2018:2019
	2015=100			%
Energy	106.8	119.2	122.8	+3.0
Fertilisers	89.6	100.8	103.7	+2.9
Feedstuffs	104.6	113.2	114.3	+1.0
Veterinary	101.0	109.2	115.1	+5.4
Total Inputs	102.6	109.7	111.5	+1.7

Source: Defra (a); QMS calculations

Retail Prices

Consumer Prices Index (CPIH⁴)

General prices in the UK economy continued to trend higher in 2019. However, the pace of increases slowed for a second year, with prices rising by 2% between January and December, down from 2.5% in 2018 and 3.1% in 2017. Price increases effectively ground to a halt in the second half of 2019, with the index edging only 0.2% higher between August and December. In the year as a whole, prices averaged 1.7% above 2018 levels, slower than the 2.1% annual average inflation rate over past decade.

The slowdown in inflation in 2019 was driven by the cost of goods, which rose by 1.1% compared to 2.5% in the previous year. By contrast, services prices rose at a marginally faster rate of 2.2%. This reflected a stronger link to labour costs and the general economic environment than for goods prices, which have a greater link to inherently volatile commodity price movements.

Most categories of food prices contributed to the slowdown in inflation in 2019. Meat prices fell back slightly, while dairy inflation slowed to a marginal pace.

After lifting through the final quarter of 2018 and into January 2019, beef and veal prices fell by 2.6% between January and April. A relatively stable summer followed, but prices then fell 2.6% in September. They recovered in November and December, ending the year 2.4% below where they had opened it and down 1.4% on late 2018. As well as averaging nearly 2% cheaper than in 2018, beef was 4.9% cheaper than in 2015.

Following two years of significant annual price inflation and monthly price volatility, lamb and goat prices proved more stable in 2019. Prices peaked 1.1% above the annual average in September, with their December low point being 1.5%

Annual inflation rate – CPIH (%)			
	2017	2018	2019
All Prices	+2.6	+2.3	+1.7
Food	+2.5	+1.8	+1.1
Meat	+1.8	+1.0	-0.2
Beef and veal	+0.3	-0.7	-1.8
Lamb and goat	+4.4	+8.7	+1.1
Pork	+1.5	-0.3	-0.8
Poultry	-1.2	-0.4	-2.0
Edible offal	+1.1	+0.7	-1.5
Dried, salted or smoked meat	+3.0	+0.4	+0.6
Fish	+8.9	+3.8	+1.7
Milk, cheese and eggs	+2.0	+2.4	+0.2
Ready-made meals	+3.7	+1.6	+1.4
Restaurants and cafes	+2.9	+2.8	+2.7
Fast food and take away food	+3.1	+3.5	+3.6

Source: ONS (b)

below the annual average. However, due to the previous year's volatility, year-on-year inflation rates varied, peaking above 6% in January and 4% in October while dropping to nearly -3.5% in July. Lamb and goat meat ended 2019 11.1% dearer than its 2015 average price.

For pork, 2017 and 2018 had seen considerable month-to-month volatility in retail prices, but with no real upward or downward trend despite significant farmgate price movements. This pattern was largely repeated in 2019, but with smaller monthly changes. Indeed, in nine of the first ten months, prices were within 1% of their annual average: April was the exception, with a fall of 1.6% below it. However, prices did rise significantly in November, hitting 1.7% above the annual average, before edging higher again in December, an effect of the strong uplift in farmgate prices. Retail prices ended the year 2.2% above the level a year earlier, compared to a 14.1% lift in the farmgate price.

Retail prices for edible offal were close to their annual average throughout most of 2019. However, prices did fall by more than 5% in April before recovering though May and June. After five months of stability, prices then ended the year by lifting 2.4% in December.

Having trended downwards through 2018, retail prices for dried, salted or smoked meat reversed course in 2019. Although prices continued to edge lower between January and April, falling 0.6%, they increased in seven of the remaining eight months, rising 5.4% over this period. They ended the year at their highest level since April 2015.

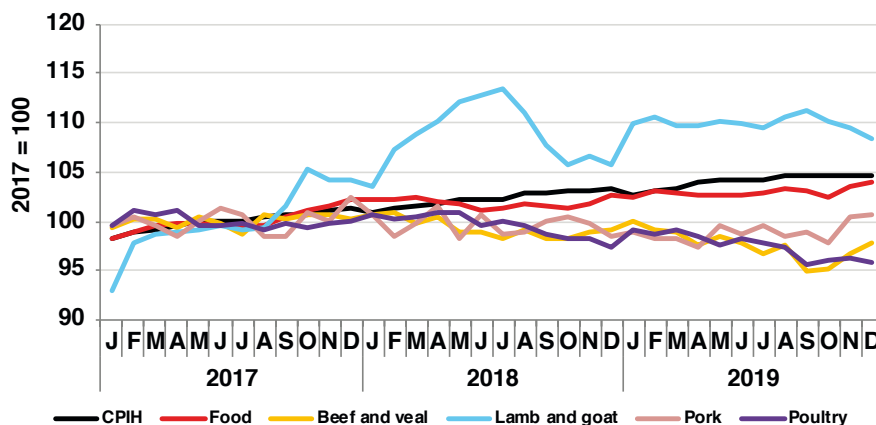
Looking at competitor proteins, the decline in poultry retail prices continued in 2019, gathering pace despite a fall in overall UK supply. This left prices 11% below their 2015 average by the year-end. By contrast, fish prices continued to trend higher in 2019, having risen consistently since mid-2016, in a

⁴ CPIH is a measure of consumer price inflation which includes owner occupiers' housing costs

resumption of a long-term trend between 2005 and 2014. Meanwhile, dairy prices rose in line with the average cost of food, lifting by 2.5% over the year. However, retail prices remained below the highs of 2013 and 2014, when global milk prices had peaked.

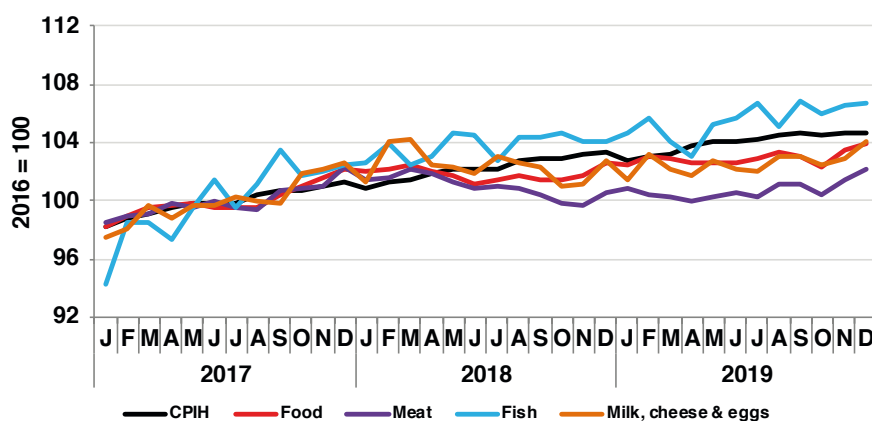
Having risen slightly in 2017 and fallen back over the course of 2018, the cost of ready meals was more stable in 2019, edging up towards a summer peak before drifting marginally lower again. Foodservice sector prices are more reflective of general economic forces than raw material costs: they continued to rise at a pace of around 3% per year.

Meat Price Inflation (CPIH)



Source: ONS (b)

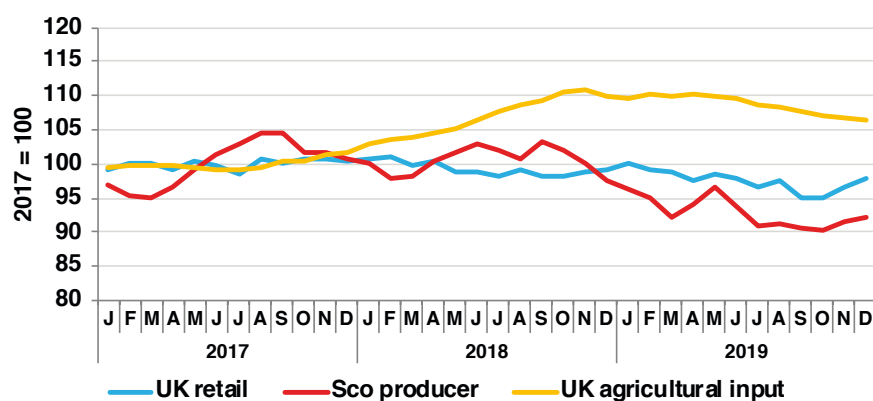
Protein Price Inflation (CPIH)



Source: ONS (b)

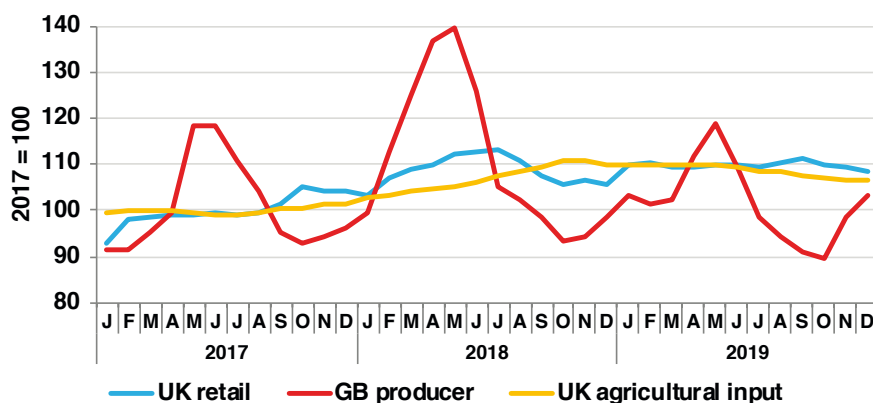


Index of input costs and producer and retail prices for beef



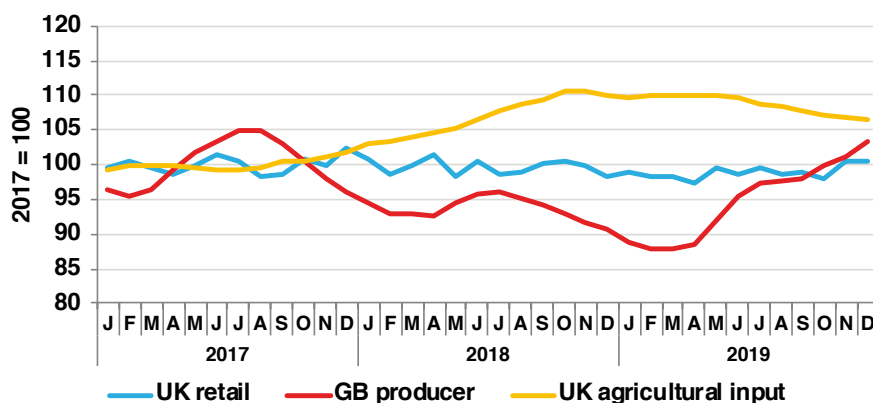
Source: AHDB; Defra; ONS (b); QMS calculations

Index of input costs and producer and retail prices for lamb



Source: AHDB; Defra; ONS (b); QMS calculations

Index of input costs and producer and retail prices for pork



Source: AHDB; Defra; ONS (b); QMS calculations

Primary Processing

Supply of Livestock to the Processing Sector

Cattle

Prime cattle slaughter at Scottish abattoirs was relatively stable for a third year in 2019. Numbers fell by 0.4% to 389,300 head, leaving them marginally above their 2017 low point but 12.8% below their 2009 total. Compared to 2010-14 and 2005-9 averages, slaughter was down by a respective 9.8% and 19.4%.

Having fallen 6.7% in 2018, the decline in mature cattle slaughter accelerated in 2019, with the annual total down by another 12.5% to 60,000 head. This five-year low left numbers trailing their 2015-19 average by 10.4% and 2010-14 by 2.1%.

Total cattle slaughter at Scottish abattoirs dropped by 2.2% to 449,350 head in 2019. This continued the downward trend since 2011, which has seen seven declines in eight years and a 14% reduction. Numbers were 2.4% below their 2015-19 average, 8.9% below 2010-14 and 11.8% below 2005-9.

However, BCMS data points to an overall increase in the number of Scottish-born animals being slaughtered at GB abattoirs in 2019 – rising 1.6% to 495,700 head, with the female share of the total unchanged at 49.1%. There were increases of 1.1% for cattle aged less than 30 months and of 2.9% in cattle over 30 months.

Prime cattle carcase weights showed a second consecutive annual increase in 2019, up 3.3kg (0.9%) at 369.7kg. This is marginally below their recent peak in 2015 (370.8kg). Many carcasses, primarily of steers, continued to exceed the target weight range to meet product specifications for prime cuts of beef sold by UK supermarkets, leading to pricing penalties. Steer carcase weights rose by less than those of heifers and young bulls in 2019, averaging 6.5kg below their 2015 peak.

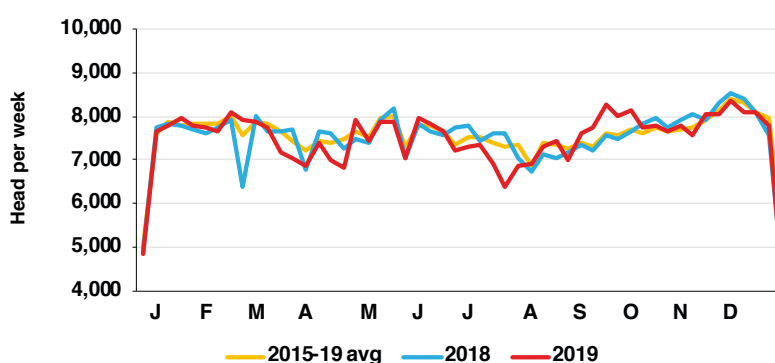
Cow carcase weights rose considerably in 2019, up 12.1kg (3.5%) at 355.8kg. This saw them move 1.7% above their previous peak in 2014.

Rising carcase weights converted a small decline in prime cattle slaughter into an increased production volume of 0.5% to 143,900t in 2019.

By contrast, the rise in cow carcase weights was not large enough to offset the fall in cow slaughter, resulting in a 9.6% reduction in cow beef production.

Total beef output fell by 0.9% to 165,500t, hitting its lowest level since 2003. It was 1.6% below its 2015-19 average, 5.2% below 2010-14 and 7.5% below 2005-9 levels.

Seasonal supply of prime cattle to Scottish abattoirs



Source: Scottish Government; QMS calculations

Average Carcase Weights

	Scotland			UK
	2017	2018	2019	2019
	kg per head			
Steers	382	383	385	373
Heifers	344	344	348	334
Young bulls	361	364	371	351
All prime cattle	366	366	370	356
Cull cows	338	344	356	314

Source: Defra (c); Scottish Government; QMS calculations
Note UK carcase weights adjusted to same specification as Scottish weights

Seasonality of Production

Despite a relatively stable annual total for prime cattle slaughter, there was a significant difference in the seasonal pattern in 2019. Slaughter was notably weak in late March and early April, possibly due to some earlier stock-building ahead of the original Brexit date. There was also an early seasonal low in July, linked to weak demand, and an unusual spike in late September and early October, with the latter limiting the pre-Christmas annual peak.

Steers and heifers accounted for four out of every five cattle processed at Scottish abattoirs in 2019. Their combined share peaked at 84% in December and bottomed out at 73% in July, when young bull supply was at its annual peak. Young bulls accounted for 6.6% of the annual kill but were above 9% between May and August, peaking at 15% in July. Cows had a more stable share of the kill than usual in 2019: unusually they peaked in March rather than the autumn, at 15%, and ran at 12-14% for the rest of the year.

During the year there was a marginal rebalancing within prime slaughter away from steers towards heifers and young bulls. A 1.2% fall in steers was partially offset by a marginal increase in heifers to a four-year high and a 2.9% lift in young bulls.

Carcase weights followed a traditional seasonal pattern for most of 2019. They were at their highest in the spring, slid from August towards their annual low in October, and then partially recovered in the peak procurement period for the festive season. Lower weights in the autumn reflect the dominance of spring calving in Scotland's beef herd, with cattle around 18 months of age reaching abattoirs in increased numbers in the autumn.

Carcase Quality

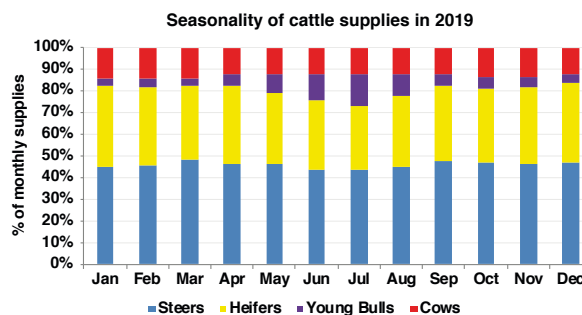
To be labelled as Scotch Beef, beef from eligible animals must also meet product specifications. Carcasses must be classified as either 2, 3, 4L, 4H or 5L for fat cover and E, U, R or O+ for conformation.

In 2019, 95.3% of steer carcasses and 97.9% of heifer carcasses were graded in this range, up slightly from 2018, which in turn had shown slight improvements from 2017. In general, an increased share of steer and heifer carcasses were classed as 4H and O+ in 2019.

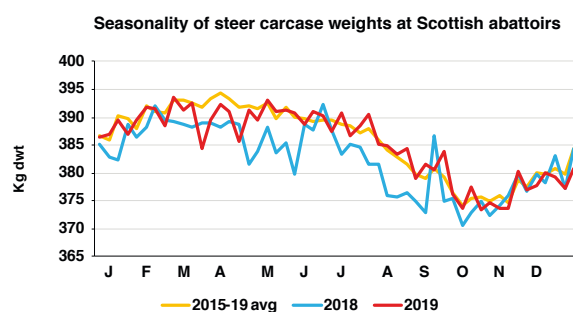
R4L continued to be the most common grade for steers and heifers, accounting for 27.4% of steers and 30.4% of heifers in 2019. For young bulls, -U3 was most common at 20.9%. Cows had a more even distribution, with shares of 6.5-8.5% for R3, 4L and 4H; O+3, 4L and 4H; and -O3.

Steer carcasses by grade at Scottish abattoirs in 2019

	Scotland		
	3	4L	4H
-U	9.8%	13.1%	2.5%
R	14.9%	27.4%	7.4%
O+	4.8%	7.4%	1.3%
Others:	11.4%	Source: AHDB; QMS calculations	



Source: Scottish Government; QMS calculations



Age of Cattle at Slaughter

The 2.9% lift in young bull slaughter in 2019 was reflected in an increased proportion of males being processed at 12-15 months of age, rising to 14.9% from 13.8% in 2018.

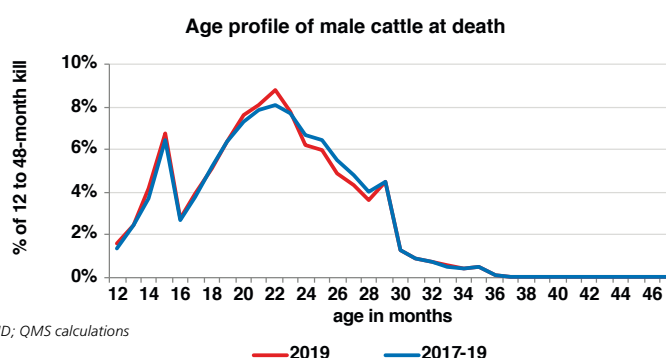
Meanwhile, in the steer age profile, there was a notable shift towards slaughter at 20-23 months of age from 24-28 months.

For heifers, too, there were shifts to a younger age profile. There were moves from 17-18 months to 15-16 months, and from 25-28 months to 22-24 months. The reduction in cow kill at Scottish abattoirs appears

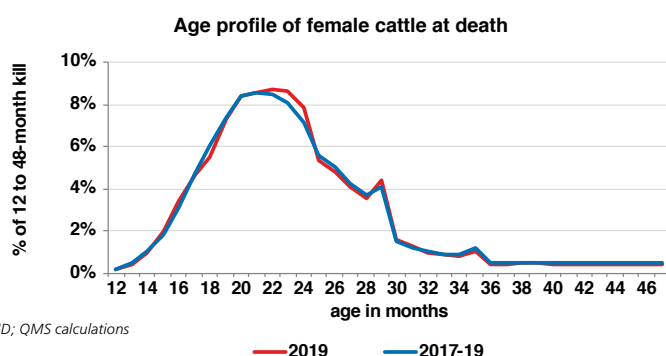
to have had a small impact on the female kill at 30-47 months.

Despite a younger slaughter profile, the median age at slaughter for males in 2019 matched its 2017-19 average of 22 months, while the most common age of slaughter remained at 22 months. Half of the males were slaughtered at 18-24 months.

The median age at slaughter for females in the 12-47 months category in 2019 matched the 2017-19 average of 23 months, while the most common age of slaughter moved from 21 to 22 months. 55% of the females were slaughtered at 18-24 months.



Source: ScotEID; QMS calculations



Source: ScotEID; QMS calculations

Sheep

Prime sheep slaughter at Scottish abattoirs rebounded to a four-year high in 2019, rising 13.4% to 1.245m head. This saw it climb 4.5% above its 2015-19 average but remain 10.4% below the 2010-14 average.

While overall slaughter rose significantly, there was considerable seasonal variation in the rate of change. The strongest period of growth came through April and May, with average weekly slaughter running more than 40% higher than in 2018. Some of this reflected higher mortality and slow arrival of lambs onto the market in 2018 due to the cold wet spring, but also an earlier Easter in 2018. The peak period of production in the autumn also saw strong year-on-year growth, with weekly average slaughter up 17% between September and November.

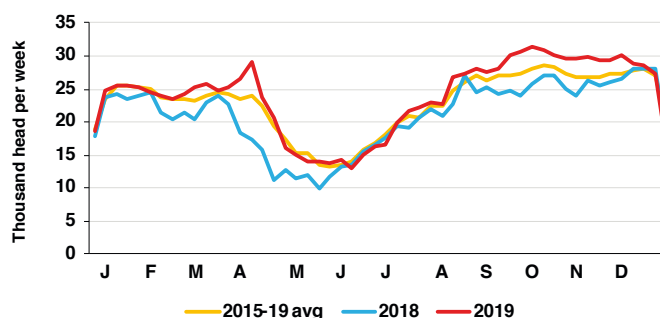
For most of the remainder of the year, slaughter numbers generally exceeded 2018 levels. Exceptions were mid-June to early July, reflecting the later arrival of new season lambs in 2018, and the second half of December.

Between June and December, lamb slaughter exceeded 2019 levels by 10%. Given similar year-on-year increases in lamb numbers reported on Scottish holdings (3.7% in June and 4.6% in December), the rise in kill indicates that, on net, Scottish abattoirs handled a greater share of Scottish-born lambs.

Slaughter peaked at 31,500 head in the week ending October 5. This was 31.5% higher than the annual weekly average. In the peak processing week before Eid al-Adha (week ending August 3), slaughter was 4% below the annual weekly average. By contrast, in 2018, the peak week for Eid al Adha had been in late August and had exceeded the annual average by 28%, so the earlier timing may have limited availability in 2019.

After two years of significant increases, the number of ewes and rams processed by Scottish abattoirs in 2019 fell by 8.2% in 2019 to 20,100 head. While still 8.6% above the

Seasonal supply of prime sheep to Scottish abattoirs



Source: Scottish Government, QMS calculations

Average Carcase Weights

	Scotland			UK
	2017	2018	2019	2019
	kg per head			
Lambs	20.3	20.3	20.4	19.9
Cull sheep	30.8	30.8	33.5	26.8

Source: Defra (c); Scottish Government

five-year average, it was down by more than a quarter from the 2010-14 average. This indicates that roughly 95% of the mature sheep being sent to slaughter from Scottish farms will have been processed elsewhere in GB.

Prime sheep carcase weights at Scottish abattoirs averaged just over 20.4kg in 2019, which was a 0.8% rise on 2018's figure of slightly under 20.3kg. This was the highest since 2007, coming in a fraction above the decade's previous peak in 2015.

Between January and April, carcase weights averaged 20.8kg and exceeded levels a year earlier by 0.5kg (2.6%), suggesting hogg weights benefited from better weather. From May to September weights then averaged just under 20.2kg, before edging above 20.3kg

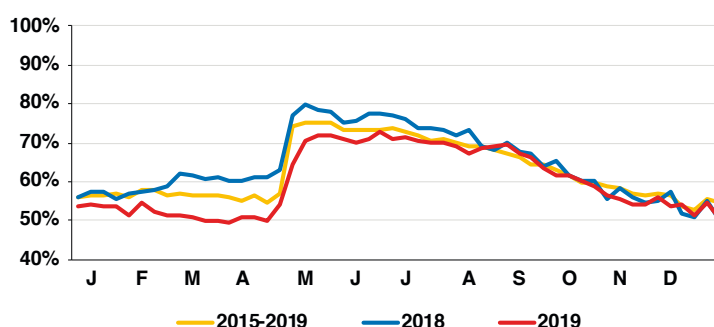
in the final quarter. Weights were around 4% higher through May and June before trailing 2018 by around 1% in the second half of the year.

The combination of higher slaughter and carcase weights pushed up prime sheepmeat production at Scottish abattoirs by 14.3% in 2019 to 25,400t. With mutton production stable, as considerably higher weights offset the decline in kill, total sheepmeat production grew by 13.9% to a four-year high of 26,100t. This was 5.3% above the 2015-19 average.

Carcase quality

During 2019, carcase quality fell back at GB price reporting abattoirs, with 60.1% of SQQ⁵ carcasses grading at R3L or better, compared to 63% in 2018 and a 2015-19 average of 62.1%.

Proportion of GB sheep carcasses achieving R3L grade or better



Source: AHDB, QMS calculations

⁵SQQ stands for Standard Quality Quotation. In deadweight price reporting, this encompasses carcasses weighing between 12 and 21.5kg, while in auction market price reporting, it encompasses live lambs sold at weights of 25.5-45.5kg.

Unlike the previous year, hogg carcass quality had followed a more traditional seasonal pattern. It trended lower through the first third of the year, from around 54% in January to 50% in March and April. This drop left it six percentage points below the five-year average. New season lamb quality opened the 2020 season around four percentage points below the five-year average. However, this gap had almost closed by the beginning of July. Quality followed the historical downward trend for the remainder of the year.

A further proxy of lamb quality is the proportion of prime sheep sold at auction markets that qualify as SQQ due to their live weight at sale. During 2019, the weekly average was 67.7%, down from 71.8% in 2018 and a 2015-19 weekly average of 72.4%. The largest gap with 2018 was during the first five months of the year, averaging nine percentage points, as better spring weather boosted weights. The difference between August and October may have been a lagged impact of better grazing conditions during the summer.

Pigs

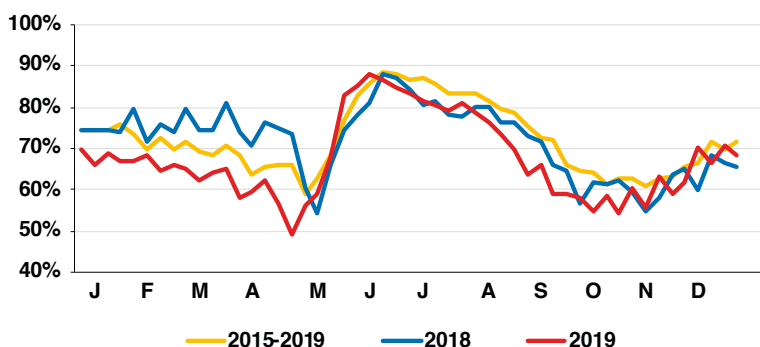
Prime pig slaughter reached a seven-year high at Scottish abattoirs in 2019, rising 2.7% to 342,300 head. This was up nearly 15% on the average from the first four years after the closure of Broxburn abattoir in late 2012. On a weekly basis, slaughter averaged nearly 6,600 head per week in 2019, compared to just over 6,400 head in 2018 and a 2013-16 average of 5,750. Processing was much less volatile from week to week than in recent years.

Nevertheless, on net, more than 60% of Scottish-born pigs continue to be processed in English abattoirs, either through direct movements to slaughter, or having been finished on a farm in Northern England.

There was a third year of sharp growth in sow slaughter at Scottish abattoirs in 2019. Numbers increased by another 30% to exceed 15,100 head, suggesting that Scottish abattoirs now have capacity to process all sows sent for slaughter from Scottish farms.

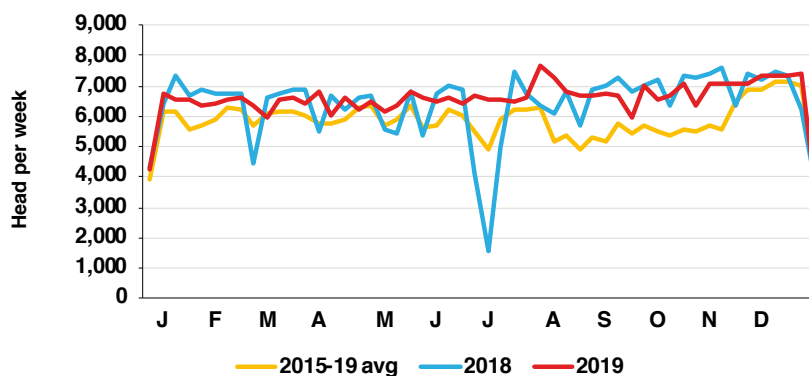
Prime pig carcass weights are estimated to have risen for a fourth straight year at Scottish abattoirs, increasing by another 1.9% in 2019

Proportion of prime sheep classed SQQ at Scottish auctions



Source: IAAS; QMS calculations

Seasonal supply of prime pigs to Scottish abattoirs



Source: Scottish Government; QMS calculations

Average Carcase Weights

	Scotland			UK
	2017	2018	2019	2019
	kg per head			
Clean pigs	81.8	82.7	84.3	84.9

Source: Defra (c); Scottish Government; QMS estimates

to reach 84.3kg. Continuing investment in herd health and feeding systems is likely to have led to a further boost in growth rates.

At UK level, carcass weights averaged 84.9kg in 2019, which was a 1.7% increase from the previous year. They showed a traditional seasonal pattern, peaking in February and March before sliding to an annual low in July, and then climbing back to a peak in October and November. The annual low was around 2% below the peak.

The combination of higher throughput and heavier carcasses boosted annual

prime pigmeat production at Scottish abattoirs by 4.7% in 2019 to reach 28,800t. With sow meat production rising nearly 40%, total pigmeat production rose by 6.6% to 31,100t, placing it 28.5% above the average between 2013 and 2016.

Scottish Abattoir Output

Twenty-one red meat abattoirs operated in Scotland in 2019 and submitted levy returns to QMS. This was two fewer than in 2018, due to closures in the first half of that year.

Cattle slaughter took place on 17 sites, with sheep slaughter on 15, while 11 handled pigs. Scottish Government slaughter reports show that 2.07m cattle, sheep and pigs were handled

by these abattoirs, producing an output of 222,700t. This production volume was the highest since 2012 and was 1.7% above the average for 2015-19.

Scottish Abattoir Output

	Number of animals		Volume of meat (t)		Estimated value (£m)	
	2018	2019	2018	2019	2018	2019
Cattle	459,440	449,350	167,020	165,510	642.5	598.5
Sheep	1,119,805	1,265,325	22,930	26,115	102	111
Pigs	344,850	357,410	29,185	31,105	47	51
Skins & hides	n/a	n/a	n/a	n/a	34	23

Source: QMS Processor Survey; QMS calculations and estimates; Scottish Government

It is estimated that the total turnover of the primary red meat processing sector in Scotland was £783.5m in 2019. This was 5.2% lower than an estimated £826.5m in 2018.

Employment is believed to have remained relatively stable, around the 3,000 mark. However, processors are thought to have paid out more in wages, due to a 2.4% lift in average earnings in the UK manufacturing sector to reach £72m⁶. An estimated 43% of the workforce was estimated to be non-UK EU or EEA nationals, up slightly from 2018, highlighting that the sector is sensitive to changes in UK immigration policy.

In cattle processing, an estimated 8% decline in turnover reflects lower wholesale prices and throughput, with the slaughter of mature cattle notably lower. However, significant offal price rises are estimated to have pushed up fifth quarter returns by 9%. Hide revenues are estimated to have fallen by more than a third, due to the combination of lower throughput and a slowdown in global trade, reducing demand from footwear, garment and automotive sectors. Excluding hides, revenue fell by an estimated 7%.

In sheep processing, revenue is estimated to have risen by 8%. This reflected increased throughput as more

Scottish-born lambs were processed in Scotland, while increased revenue from offal and declining revenue from sheepskin sales largely cancelled each other out. Excluding sheepskin sales, revenue increased by closer to 9%.

An estimated 8.5% lift in pig processing turnover reflects rising throughput, carcase weights, wholesale prices and offal value.

The cattle processing sector is more evenly spread in terms of capacity than the sheep or pig sectors. There are a number of medium-sized plants working with cattle, whereas sheep and pig processors tend to be either very small or very large.

Scottish Abattoir Sector Scale

	Cattle	Sheep	Pigs
Abattoirs killing stock	17	15	11
Proportion of kill in 5 largest abattoirs (%)	73.5	92.9	97.8
Proportion of kill in 5 smallest abattoirs (%)	0.5	0.5	1.1

Source: QMS red meat levy returns

For a second consecutive year, the share of cattle slaughter in the five largest abattoir sites increased by 1.5 percentage points in 2019. The five largest sheep and pig slaughter sites also saw further increase of their already high share – sheep by 0.5

percentage points and pigs by 0.1. The closure of two abattoirs in 2018 saw the share of slaughter in the five smallest sites increase across the board in 2019.

⁶Estimates based on average wages and salaries reported by processing companies in accounts filed with Companies House, plus ONS figures for earnings growth.

Sales Distribution of Primary Red Meat Processors by Destination in 2019

	Scotland		Rest of UK		Exports	
	Value (£m)	% by value	Value (£m)	% by value	Value (£m)	% by value
Beef	146	27	356	65	45	8
Sheepmeat	18.5	17.5	55.5	53	31	29.5
Pigmeat	9.5	20.5	37	79.5	<1	<1
Total red meat	174	25	448	64	76	11
Fifth quarter	17	27	31	51	13	21
Skins & hides	11	50	8	36	3	15

Note: Distribution based on first point of delivery

Source: QMS Processor survey; QMS calculations and estimates

Sales Distribution of Primary Red Meat Processors by Outlet in 2019

	Beef	Sheepmeat	Pigmeat	Fifth-quarter
	% by value			
Multiple retailers	50.5	54.5	65	10
Independent retailers	11	9.5	11.5	10
Wholesalers	13	34.5	9.5	27
Food manufacturers	19	0.5	2	29
Foodservice & catering suppliers	7	1	12	11
Other	0	0	0	12

Note: Distribution based on first point of delivery

Source: QMS Processor survey; QMS calculations and estimates

Distribution of Sales

England and Wales remained the most common first point of sale for Scottish processors in 2019, and it is estimated that around two-thirds of all revenues were generated there. In some instances, beef, lamb and pork is delivered to processing and packing sites in England, Wales and Northern Ireland before returning to Scotland in shelf-ready retail packs or will be exported from there.

The Scottish processing sector continued to direct less of its produce overseas than the UK as a whole. Higher beef producer prices and a lower scale of production in Scotland than in the rest of the UK make it harder for Scottish processors to compete in price-sensitive export markets, leading to a focus on lower volume but higher value markets. However, as noted above, some products will be exported after secondary processing at sites elsewhere in the UK. For example, Scotland's largest pig abattoir was approved for export to China in September 2019 but direct exporting

of pigmeat from Scotland is believed to have remained negligible.

Helped by a favourable exchange rate, beef exports are estimated to have grown further in 2019, while increased lamb processing led to some recovery in export volumes after a dip in 2018.

Fifth quarter products continued to play an important role in helping cattle and sheep processors achieve carcase balance. These products are much more likely to be sold to wholesalers and food manufacturers than into the multiple retailers. They also make up a significant proportion of cattle processing exports.

Multiple retailers remained the dominant market outlet for Scotland's red meat processors in 2019 but wholesalers were an important outlet for exporters. While foodservice and catering account for a relatively small share of overall sales, the near-shutdown of the sector in March 2020 will have had a major impact on a number of processors.

Scotland's red meat exports outside the UK in 2018/19

In the year to August 2019, Scotland's red meat export processors are estimated to have sold £82m worth of red meat and fifth quarter products to customers outside the UK, with a shipped volume of around 16,400t. Export revenues are estimated to have grown by over 9% from the previous year.

Beef exporters are estimated to have sold nearly £50m worth of beef and fifth quarter products, a lift of more than 13% on the previous year. Within this total, beef generated a fifth more than in the previous year, at £46.4m, while fifth quarter revenues are estimated to have contracted by nearly a third, to £3.6m.

On the sheep side, export revenues were estimated at around £32m.

In all export categories, EU customers accounted for 97-98% of export revenues, with the share slightly higher for sheep processors than for cattle processors. Overall, EU markets bought just under £80m of products,

taking a 97.4% share of the total. In volume terms, this EU share was an even higher 98%. These results highlight the current relative ease of doing business with EU countries due to minimal trade frictions and geographical proximity.

Within the roughly £2m exported to non-EU markets, 68% of sales were generated in the non-EU European countries of Switzerland, Norway and Iceland. The remainder was generated from South East Asia, with Hong Kong an important destination.

Three markets accounted for an estimated 64% of beef export revenues in 2018/19. France & Monaco was top, with just under £11m and a 23.6% share, followed by Italy on just over £10m and a 21.9% share. At £8.7m, the Netherlands was the

third largest, generating 18.7% of revenue. Austria & Germany; Belgium & Luxembourg; Denmark, Sweden & Finland; and Spain & Portugal all generated beef export sales in the £1.5m to £2.7m range (3-6%).

While Italy was in second place overall for beef revenue, it was top for sales of Scotch Beef PGI, at £9.3m. This was just under 27% of total Scotch Beef PGI sales of £35m. Sales of Scottish beef were estimated at £11.4m, with France & Monaco and The Netherlands buying around £3.6m each. Meanwhile, France was the top destination for fifth quarter product, at £1.1m, giving it share of just under one-third.

The highest value market per tonne sold was Switzerland, Norway and Iceland, working out at over £20/kg for

Scotch Beef PGI. Austria & Germany was second, on over £13.50/kg, and then Belgium & Luxembourg averaged nearly £12/kg. In the three largest markets, average prices for Scotch Beef PGI were in the region of £6-7/kg, indicating trade in a wider range of products. The overall average value for Scotch Beef PGI was £6.10/kg, compared to an estimated £4.75/kg for Scottish beef and £2.50/kg for fifth quarter.

On the sheep side, France & Monaco remained by far the largest market, with Belgium & Luxembourg far behind in second place. Italy; Austria & Germany; Switzerland, Norway & Iceland; and the Netherlands were other important destinations.



Red Meat Supply and Consumption

Product Available for Consumption⁷

Beef

In 2019, Defra estimates that the total volume of beef available for consumption and further processing fell 5.2% to a five-year low of 1.07m tonnes. This followed five consecutive annual increases. It reflects weak consumer demand, plus the carry-over of high levels of stocks into 2019 – in turn suggesting that requirements had underperformed expectations in 2018.

A 1.8% rise in domestic beef production was more than offset by a significant rebalancing of international trade. Indeed, beef imports are estimated to have contracted by 13% in carcase weight equivalent terms (cwe) to 317,200t, while exports climbed by nearly a fifth to 167,100t cwe. As a result, the gap between imports and exports narrowed by a third, to 150,000t. Imports accounted

for 29.7% of new supply during the year, down from 32.4% in 2018 and a 2014-18 average of 30.9%. Meanwhile, exports rose to the equivalent of 18.2% of UK production, from 15.5% in 2018.

Sheepmeat

New supplies of sheepmeat available in the UK in 2019 are estimated by Defra to have reduced by 3% to 290,400t. This was the fourth straight year of decline and was the second lowest volume recorded in the series (which dates back to 1985), being slightly above the 2011 low.

While domestic production rose 6.3% and reached an 11-year high of 317,700t, this was more than offset by changing trade flows. Imports fell by close to a fifth. For the third successive year they posted a new low, slipping to 79,500t cwe. By contrast, export volumes recovered to a five-year high of 96,600t cwe, up 11.3%, while live exports also increased. As a result,

net exports of 27,300t cwe were recorded after two years of relatively balanced trade. Imports fell to a quarter of new supply in 2019, down from 32.5% in 2018, while exports continued to trend higher as a share of domestic production, reaching 33.6%.

Pigmeat

New supplies of pigmeat added to the UK market in 2019 declined by 1.9% compared to 2018, slipping to a four-year low of 1.4m tonnes.

Once again, the fall in supply reflected changes in international trade as domestic production climbed 3.5%, reaching its highest level of the 21st century. Imports contracted by 4.4% to 757,500t cwe, while exports rose 8.8% to a 21-year high of 275,800t cwe. Imports accounted for 54% of supply, down from 55.4% in 2018. Exports continued to trend higher as a share of production, reaching 29.9%.

Poultry

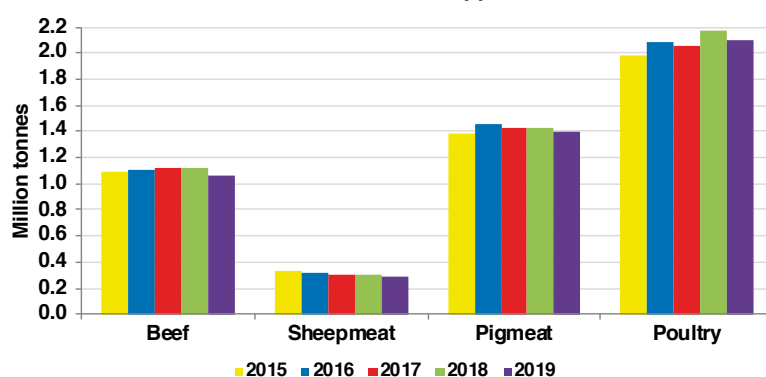
Although new supply of poultry fell by 3.2% in 2019, it was still the UK's second highest recorded total and exceeded the 2015-19 average by 1.1%. Highlighting structural change in consumption over the past decade, poultry supplies were 29% higher than in 2009, compared to increases of 3% for pigmeat and 4.4% for beef, and a reduction of 17.1% for sheepmeat.

Retail Sales

Beef

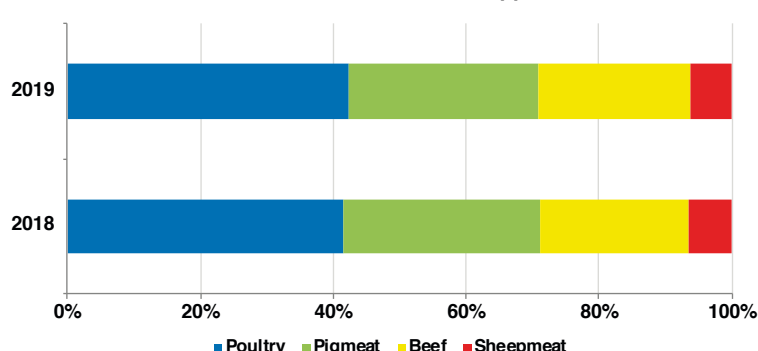
Kantar Worldpanel estimates that GB households spent 2.2% less on beef in 2019. While a slightly smaller proportion of households bought beef (85.7%), those that did bought it marginally more often than in 2018. In Scotland, a higher 88.4% of

Annual UK meat supplies



Source: Defra (b)

Annual share of UK meat supplies



Source: Defra (b); QMS calculations

⁷New supplies made available during the calendar year. This excludes any change in inventories during the year, which would be needed to make a better estimate of annual consumption. Import and export volumes include processed products and live animals and are converted from product weight into carcase weight equivalent.

households bought beef, but spending is estimated to have declined at a slightly faster rate of -3.6%.

Across GB there was also a rebalancing of spending within the beef offer. Mince showed the smallest decline, 0.5%, while there was a 3.5% lower spend on steaks, which are the highest value category. While less money was spent buying mince, the volume sold increased by 2% as prices were reduced.

Lamb

Kantar Worldpanel estimates that GB households spent slightly more on lamb in 2019 than 2018. However, with retail prices increasing, the 0.5% lift in spend secured a 1.3% lower volume. A smaller share of households bought lamb than in 2018 (52.1%), but those that did bought it more frequently. In Scotland, spending and volume are estimated to have fallen slightly despite increased penetration and frequency. Despite this rise in penetration, the proportion of Scottish households buying lamb continued to lag well below the GB average, at 38.6%.

As with beef, sales of lamb mince rose strongly across GB in 2019. Meanwhile, spending on higher value chops and roasts proved more stable and volumes fell due to higher retail prices.

Pork

GB households are estimated to have spent 2.7% less on pork in 2019, according to Kantar. A slight decline in average retail price meant that the volume sold fell by 2%. The share of households buying pork dropped to 69.5% and it was bought less often. In Scotland, the value of sales is estimated to have reduced by 3%, as a rise in the proportion of households buying it (to 67.6%) was more than offset by a decline in frequency of purchase.

More than 80% of GB households bought bacon rashers and sausages, and they bought them more often than pork.

Retail and Foodservice Use

In the year to June 2019, AHDB research estimated 79% of the beef sold across GB went through the retail sector, including product sold as part of ready meals, ready-to-

Estimated Split of GB Sales Volumes by Outlet Category in the year to June 2019

	Retail sales (fresh, frozen and processed products)	Foodservice (e.g. Fast food, takeaway, restaurants, contract catering)	Rise in retail sales needed to offset 50% reduction in Foodservice
Beef	79%	21%	13.1%
Lamb	85%	15%	8.9%
Pigmeat	86%	14%	8.2%

Source: AHDB (2019); QMS calculations

Per Capita Supplies (Kg per person)

	Beef	Sheepmeat	Pigmeat	Poultry	Total meat
2018 UK	16.9	4.5	21.5	32.7	75.6
2019 UK	16.0	4.3	21.0	31.4	72.8
2018 Scotland	20.7	2.2	17.8	28.6	69.2
2019 Scotland	19.2	2.1	17.2	27.5	66.0

Note: excludes adjustment for opening and closing inventory
Source: Defra (b) (c) (d), Kantar, ONS (c); Scottish Government; QMS calculations and estimates

cook items, burgers and tinned food. The remaining 21% was sold via the foodservice sector, with these estimates based on the number of servings and estimated portion sizes.

Of the beef sold in foodservice, an estimated 54% was sold through Quick Service Restaurants (QSR), including fast food chains, coffee shops, sandwich shops and supermarket 'food-to-go'. A further 40% went through sit-down restaurants and pubs, with the remainder sold in the leisure sector and contract catering.

For lamb and pork, the foodservice proportions were estimated to be lower, at 15% and 14% respectively. While lamb had a higher sensitivity to full-service restaurants and pubs, at 60% of foodservice sales, pork was much lower, at 30%, with servings of bacon at breakfast and lunch in the QSR sector a much more significant sales outlet.

Given the sharp reductions in foodservice sector activity since public health measures were introduced to minimise the spread of Covid-19, the figures from this AHDB report can be used to make estimates of the retail sales boost needed to offset different levels of reductions.

Based on the foodservice volumes quoted in the report, QMS calculates that to offset a 50% reduction would

require retail volume increases of 13.2% for beef, 8.9% for lamb and 8.2% for pigmeat. Meanwhile, a 75% reduction in foodservice would require respective retail increases of 19.8%, 13.4% and 12.3%.

It should be noted that this analysis does not take into account the different value of products sold to retailers and foodservice providers, or the origin of products being used.

Per Capita Supplies

With the ONS estimating UK population growth of 0.5% in the year to mid-2019, an increased supply of meat would have been required to maintain per capita supply at 2018 levels. This growth exacerbated the effect of reduced supplies, and total meat supply per capita declined by an estimated 3.8% to 72.8kg.

The overall decline in per capita supply was driven by beef, down 5.7%, while poultry fell in line with the overall average, and there were smaller reductions of 3.5% for sheepmeat and 2.4% for pigmeat. This was the fourth straight year of decline for sheepmeat, highlighting a longer-term trend.

Scottish figures can be estimated from population statistics, differences in sales levels reported by Kantar between Scotland and GB as a whole, and from Defra's Family Food datasets for the nations and regions of the UK

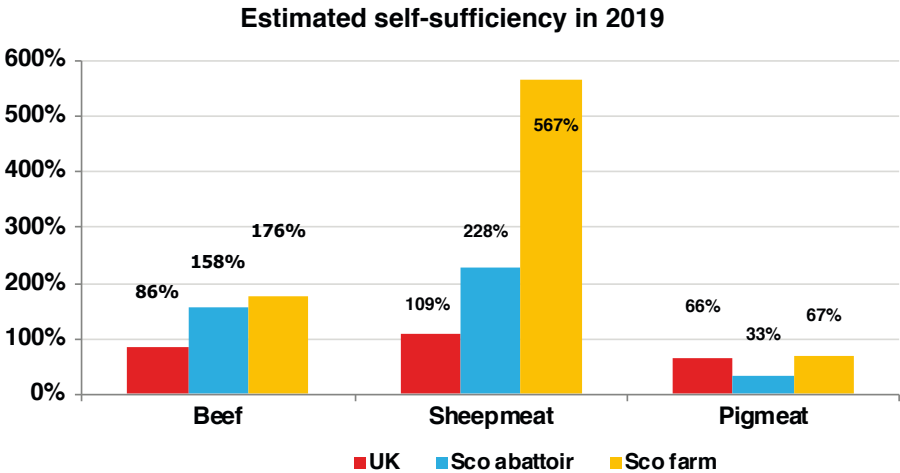
(though the latest Defra estimates are for 2017/18). These estimates are based mainly on consumption at home and have limited coverage of processed products, which can be hard to separate between different meats. The evidence continues to indicate above-average beef consumption in Scotland, but below-average pigmeat consumption and much lower levels of sheepmeat consumption.

Self-Sufficiency

Scotland's abattoir production of beef and sheepmeat far outstrips estimated total consumption levels, with self-sufficiency estimated at a respective 158% and 228% in 2019, but pigmeat production is not high enough to cover

total demand (33%). However, self-sufficiency based on farm production levels would be even higher for beef and sheepmeat, at 176% and 567%, and would double to 67% for pigmeat, reflecting the significant volume of cross-border movement of live animals for finishing and for slaughter. A measure of self-sufficiency for on-farm pig production would, however, reach just over 100% if it was based on rearing capacity.

Basic estimates of self-sufficiency do not take into consideration the demand for and supply of different cuts of meat or processed meat products, or the location of further processing and packing sites.



Source: BCMS; Defra (b) (c) (d); ONS (c); ScotEID; Scottish Government; QMS calculations and estimates



International Trade

Regional trade statistics published by HMRC estimate the level of exports from each of the devolved nations and English regions⁹. These trade figures are reported by Standard International Trade Classification (SITC) Division, with meat and meat preparations the most detailed level analysed.

Scottish exports of meat and meat preparations were estimated at £107.9m in 2019, down 5.1% on the previous year but still well above the 2017 estimate and 0.9% above the 2017-19 average. EU destinations accounted for 81% of Scottish exports in the category in 2019, and an 84% share between 2017 and 2019. The US was the main non-EU destination: given the lack of market access for fresh beef, lamb and offal, this may reflect sales of processed products, or may be a feature of the way exports are allocated regionally within companies operating in more than one region or nation of the UK.

Scotland accounted for an estimated 5.6% of UK meat and meat preparations exports in the 2017-19 period, coming in at 5.2% in 2019.

Meanwhile, meat and meat preparations were an estimated 6.1% of Scottish food and live animal exports in 2019, with the division total coming in at £1.77bn; over the 2017-19 period, this proportion was 6.4%. Fish and seafood led the way, taking a 57% share over three years.

UK International Trade

At UK level, detailed trade statistics estimates are published by HMRC, providing a view of the trade environment in which Scottish producers and processors operate.

Beef

Imports

Imports of fresh and frozen beef, including skirt, to the UK fell by 11.3% in 2019 to 241,700t. Reflecting previous growth, volumes were down by less from their 2015-19 average (-4.6%).

When converted into carcase weight equivalent, volumes were 10.9% lower in 2019, totalling 314,400t¹⁰. Compared to their five-year average for 2015-19, imports were 3.5% lower.

Before 2018 a rising trend in beef imports had been driven by a shift towards frozen beef. However, in 2019, the fall in imports was steeper for frozen product, at nearly 16%, compared to a reduction of 9.4% in fresh beef. Nevertheless, frozen beef shipments were still 2.3% higher than their five-year average, whereas fresh beef imports were 7.4% lower.

EU countries supplied 95.4% of total imports in 2019, up from 93.9% in 2018 and a five-year average of 93%. This reflected a decline of around 10% in imports from EU countries compared to a fall of 34% in shipments from non-EU routes. After converting to carcase weight equivalent, fresh boneless beef from the EU accounted for over 53.5% of all imports.

The Irish Republic remained the principal supplier of fresh and frozen beef to the UK in 2019, accounting for 77.2% of the total. At 186,700t in product weight, imports were down 7.7% on 2019 but still 2% above their 2015-19 average. Ireland's share of the total rose by three percentage points.

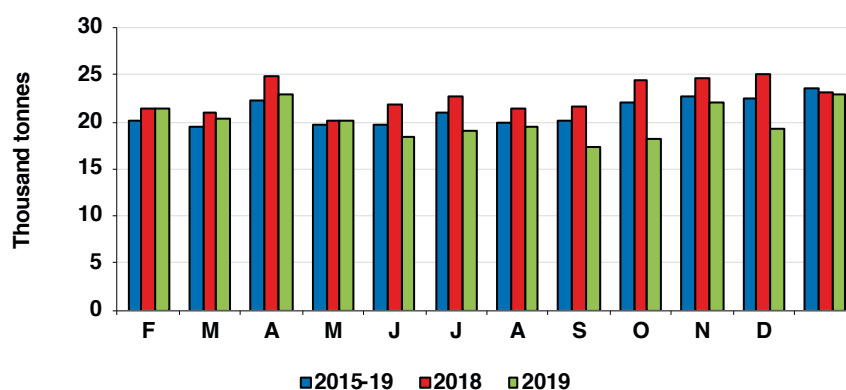
Imports from Ireland were mostly fresh boneless cuts (56%) and frozen boneless cuts (28%), averaging around £4,500/t and £2,900/t respectively.

Imports from the Netherlands and Poland fell slightly more slowly. Their share of imports rose towards 6% from closer to 5.5% in 2018, with the structure and value of shipments similar to those from Ireland.

The decline in imports from non-EU countries was the continuation of a longer-term trend since 2013. Often the beef imported from non-EU sources is higher-value boneless cuts, for use in the hospitality sector. In 2019, imports from Argentina, Australia, Namibia and Uruguay were valued at £6-7,500/t, though imports from Brazil were valued at less than 4,000/t.

Imports of processed beef to the UK contracted heavily in 2019, down 26.8% at 52,400t. Converting this into carcase weight equivalent would give imports of 93,700t. EU sources accounted for 61.8% of the total, down three percentage points from 2018, with Ireland the main supplier, and this mostly consisting of prepared or preserved beef. Over 99.5% of the non-EU volume came from Brazil, 96% of it corned beef.

UK beef imports



Source: HMRC; QMS calculations

⁹Where a company is based in more than one region, its exports are allocated regionally by the number of employees based there.

¹⁰Boneless cuts converted from product weight to carcase weight using a factor of 1.36; salted, dried or smoked beef converted at 1.74; and corned beef converted at 1.79

Exports

UK fresh and frozen beef export volumes grew for a second year in 2019, with volumes 23% higher at 138,300t. Compared to their 2015-19 average, volumes were 17.4% higher. In carcase weight equivalent, volumes rose 20.4% from 2018 to reach 170,600t, with this slower growth rate reflecting below-average growth in boneless beef sales (+10.2%).

Within exports there was a move towards frozen product: its growth rate of 35% was well in excess of the 20% rate for fresh beef. However, the main export category continued to be fresh boneless cuts to the EU, accounting for 45% of all exports after converting to carcase weight equivalent.

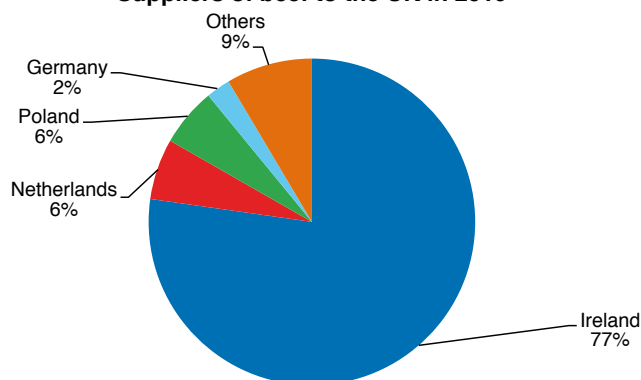
While sales to EU destinations climbed by 14.6%, there was a lift of more than 80% in trade with non-EU markets. As a result, EU exports dropped to an 81.7% share of the total, down from 87.7% in 2018 and a five-year average 84.5%.

The Irish Republic remained the principal export destination, with shipments up 11.2% at 40,400t. However, this was a fall in export volume share of around three percentage points from 2018. In addition, export revenues generated fell by 1% as the average value per tonne fell significantly. Two-thirds of exports to Ireland were fresh boneless cuts, with another fifth being frozen boneless cuts. By contrast, nearly half of exports to the Netherlands were fresh chilled carcasses, with average values suggesting that these were cows.

The volume exported to the Netherlands rose at an above-average pace, with a 28% lift enough to see its share of the total rise by a percentage point. However, as with Ireland, average values fell considerably, so export revenues rose more slowly, by 10%. It was a similar case with exports to France: a lift of a quarter in export volume saw its share of the total stabilise, while revenue increased by a weaker 9%.

Hong Kong and the Philippines were the main non-EU destinations by volume in 2019. The volume shipped to Hong Kong rose by more than

Suppliers of beef to the UK in 2019



Source: HMRC; QMS calculations

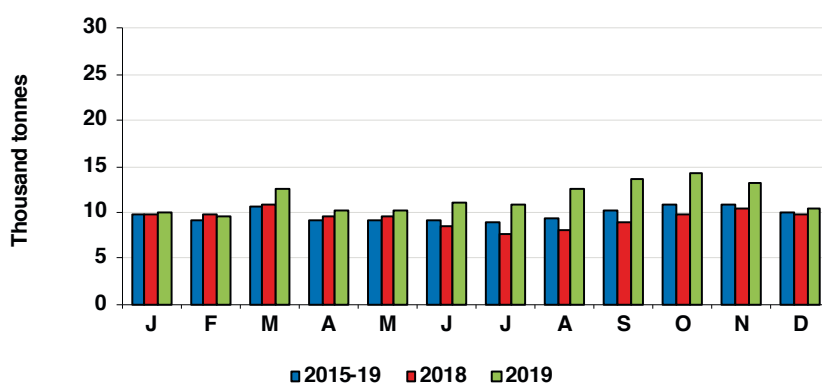
50% from 2018, reaching 11,100t, driven by growth in lower value fresh bone-in cuts. Meanwhile, sales to the Philippines, an outlet for very low value cuts, more than trebled.

Switzerland was an important high-value market, accounting for 12% of non-EU sales by value from only 2% of the volume.

Following the opening of the Japanese market in early 2019, exports of beef were slow to start: beef offal made up nearly all the trade.

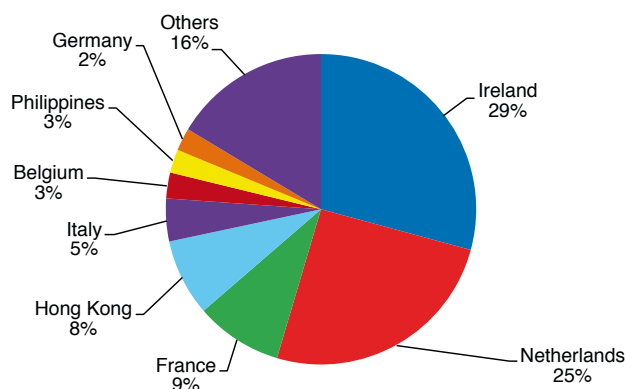
Processed beef exports totalled around 9,000t in 2019, converting to around 16,000t in carcase weight terms. Ireland bought 5,000t (57%), most of which was prepared or preserved beef.

UK beef exports



Source: HMRC; QMS calculations

UK beef exports 2019



Source: HMRC; QMS calculations

Sheepmeat¹¹

Imports

Five years of consecutive annual declines had already left UK sheepmeat imports at their lowest level of the century, before a further fall took place in 2019. Volumes declined by another 18.2% to 60,500t in product weight.

In 2019, imports of leg roasts totalled 26,700t, which was a 19% reduction from 2018. This saw their share of total imports fall marginally to a still considerable 44.1%. Fresh or chilled legs made up nearly 60% of the volume of leg imports, up from closer to 50% in 2018.

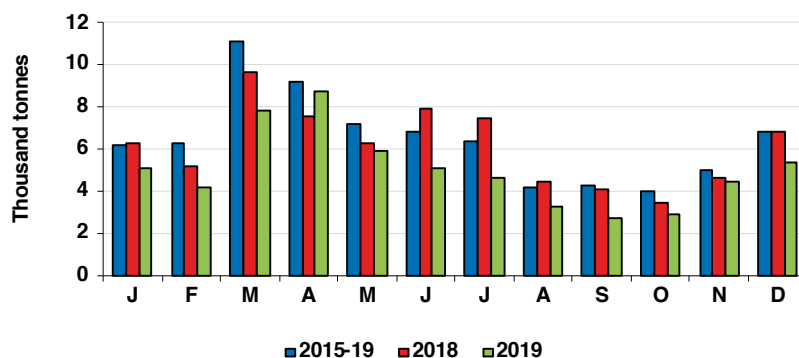
Lamb imports tend to be a complementary trade, particularly in the spring when domestic production is at below average levels and consumers like to buy leg roasts. Leg roasts are also popular at Christmas. In 2019, imports to the UK peaked in April, reflecting a later Easter than in the previous year.

According to Kantar, in the four weeks to April 21 2019, 5,800t of legs were retailed across GB. Sales in the final four weeks of the year came in at just under 4,000t. Across the remainder of the year, less than 1,400t of legs were bought per 4-week period. If a leg roast averaged 2kg, then GB retail demand would have risen from a normal level of 343,000 lambs to just under a million at Christmas and 1.45m at Easter.

Without imports, local production would have to expand if consumers were to continue buying leg roasts at the same level – and if domestic production was to expand to fill the gap for legs, a problem with carcass balance could quickly develop.

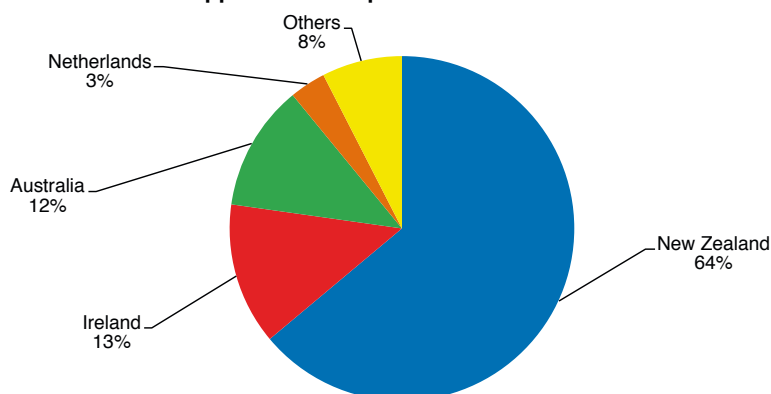
New Zealand continued to supply a significantly smaller volume of sheepmeat to the UK than its proposed future quota level of 114,138t. Volumes declined by another 23.9% to 38,700t, falling short of their five-year average by 30%. As a result, NZ's market share declined by nearly five percentage points on the previous year and by seven points on its 2014-19 average.

UK sheepmeat imports



Source: HMRC; QMS calculations

Suppliers of sheepmeat to the UK in 2019



Source: HMRC; QMS calculations

At 7,200t, imports from Australia also fell sharply in 2019 (-23.7%) and were less than half of their future UK quota of 15,349t. Back in 2014 and 2015, imports from Australia had reached around 14,000t.

Ireland remained the main EU supplier of lamb to the UK, accounting for 64% of EU deliveries. With imports from Ireland rising a fifth to nearly 8,100t, it became the second largest supplier of sheepmeat to the UK, increasing its share of overall imports by four percentage points.

Exports

UK sheepmeat export volumes grew by 14.5% to reach a five-year high of 94,700t product weight in 2019. While exceeding their five-year average by 11.9%, volumes remained below their 2011-14 peak, when annual volumes had ranged from 94,900-104,000t.

Exports to EU countries rose by 13.3% in 2019 and were 11% above their five-year average. Meanwhile,

sales to non-EU destinations recovered from a sharp fall in 2018, up more than a third. At 89,100t, exports to the EU accounted for a slightly reduced 94.1% of exports.

However, sales to the EU were made at a lower average price than in 2018, down 5.7% at £4,235/t. This was 0.5% below the five-year average. In euro, the average price was 4.9% below 2018 levels and 5.7% below the average for 2015-19, reflecting an improvement in competitiveness since the fall in sterling linked to the UK's decision to leave the EU.

Over two-thirds of the volume exported to the EU was in the fresh or chilled carcasses and half-carcasses category, with 52% being lamb carcasses and half-carcasses.

France remained the UK's largest export market in 2019, taking delivery of 37,500t. However, below-average volume growth saw its share of the total slip below 40%, from 43.9% in 2018 and a five-year average of 46.4%.

¹¹HS code 0204. This includes goat meat, of which trade is minimal.

Germany continued to grow in importance, with its share rising two percentage points on 2018 and by four points on the 2015-19 average.

Outside the EU, 1,800t were delivered to Hong Kong, and this remained a good outlet for lower-value frozen bone-in cuts, while Jordan was primarily a higher-value market for fresh carcasses and bone-in cuts, taking delivery of 1,300t. Switzerland was an important high-value market, accounting for 16.5% of non-EU sales revenue from under 4% of the volume.

Pigmeat

Imports¹²

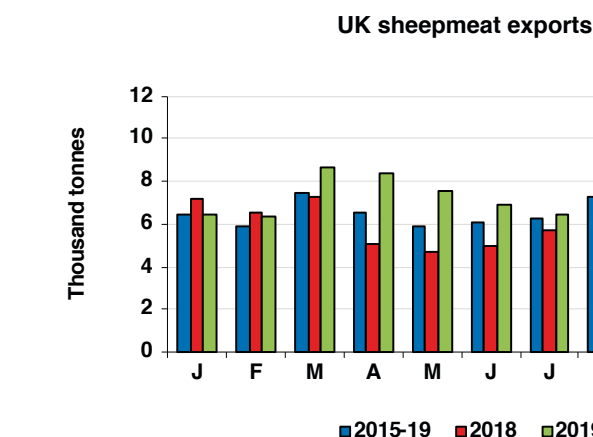
After rising in the first quarter, UK pigmeat imports fell behind levels of a year earlier and ended up 8.9% lower than in 2018, slipping to 722,900t. This left them 5.3% below their five-year average. In carcase weight terms, imports were 8.8% lower at 888,900t.

Deliveries of fresh and frozen pork fell by 3.1% to 420,000t, but remained slightly ahead of their five-year average. As a result, they accounted for 58% of the total pigmeat import volume in product weight, up 3.5 percentage points on the year.

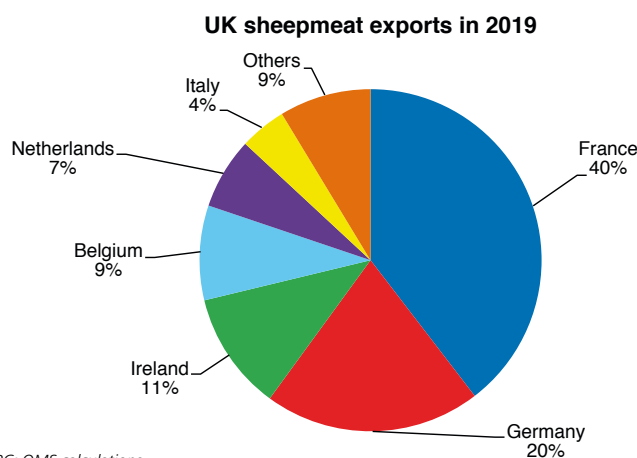
Imports of bacon and ham contracted by 9.8% to 186,300t, dropping their share of the total marginally to 25.8%, while imports of prepared and preserved pigmeat were nearly a quarter lower at 116,600t, lowering their share by 3.3 percentage points to 16.1%. At these levels, imports were a respective 13.4% and 17.1% below their 2015-19 averages.

Breaking down imports into product categories shows that the largest import in 2019 was fresh or chilled boneless cuts, at 28.2% of the total in carcase weight terms. In second, on 21.5% of imports, was salted, dried or smoked pork, excluding hams and bellies. Frozen boneless pork and bone-in hams and shoulders were both around the 14% mark, and prepared or preserved hams at just over 10%.

Very little pigmeat is imported to the UK from non-EU sources each year, averaging only 936t between 2015 and 2019.



Source: HMRC; QMS calculations



Source: HMRC; QMS calculations

Denmark remained the principal supplier of fresh pork to the UK in 2019, but deliveries fell by 13.4% on 2018, slipping to a four-year low of 131,100t. This saw its market share drop by nearly four percentage points. After two years of significant growth, imports from Germany rose another 2.3% to 95,300t, and its share of the total rose by just over a percentage point.

The two main suppliers of bacon and ham to the UK increased their market share in 2019, due to below-average rates of decline. Imports from the Netherlands were down 8.8% at 89,800t while Denmark supplied 53,000t, which was 4% less than in 2018. Ireland, Spain and Italy were notable for their relatively high average values per tonne, of two to three times the £2,900/t overall average.

The Irish Republic remained the main supplier of prepared and preserved pigmeat to the UK in 2019, but volumes fell at an above average 27.6% to 38,700t, reducing its market

share by 1.6 percentage points to 33.2%. Polish exporters captured 2.5 percentage points of market share due to a below-average reduction of 16.2% to 30,200t, taking their share to 26%. Meanwhile, imports from Denmark contracted by 40% to 14,200t and deliveries from Germany were just over a fifth lower at 17,600t.

Exports

UK pigmeat exports continued to trend higher in 2019, totalling 273,700t. This was a year-on-year lift of 10.6%, placing them 13.1% above their 2015-19 average. When converted into carcase weight, exports rose by 10.5% to 337,450t.

In product weight, pork made up 88.8% of exports, with volumes 12.5% higher at 243,100t. While sales of prepared and preserved pigmeat also rose strongly, up 14.5% at 12,450t, there was a reduction of 11.6% in exports of cured pigmeat to 18,200t.

¹²Fresh and frozen pork (HS 0203), bacon & ham (HS 0210), and prepared & preserved pigmeat (HS 1602)

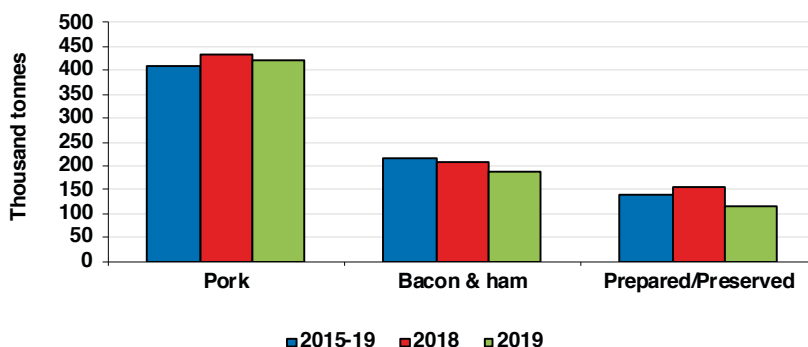
After three years at 36-37% of pork shipments, non-EU destinations took a collective 47.7% share of pork exports in 2019, largely due to strong demand from China. China/Hong Kong accounted for 35.8% of all pork exports and 75.1% of the volume shipped to non-EU markets, up from a respective 22.5% and 60.4% in the previous year.

With local pork production contracting heavily in China due to an outbreak of African Swine Fever, the UK was well placed to increase shipments there, and volumes grew by 79%. Frozen cuts, excluding hams and shoulders, remained the largest area of trade, but they did fall from over 90% of shipments in 2018 to just under 80% in 2019. With pork prices surging in China due to the shortage, the average value of exports there soared by more than 30% in 2019, and average prices were up nearly 40% in the main export category. After an initial spike in the spring, exports to China peaked in the autumn months when its meat shortage became most acute.

Pork exports to the EU declined by 6.2% to 127,100t, 3.3% below the five-year average. This was despite growth in the volume sold the two largest EU markets, with sales to Germany and the Irish Republic both up slightly to just under 34,000t. Their shares of total exports declined by around 1.5 percentage points to just under 14%. Meanwhile the third and fourth largest EU markets swapped position, with exports to Denmark falling by half to 12,400t whereas trade with the Netherlands surged 57% to 27,300t.

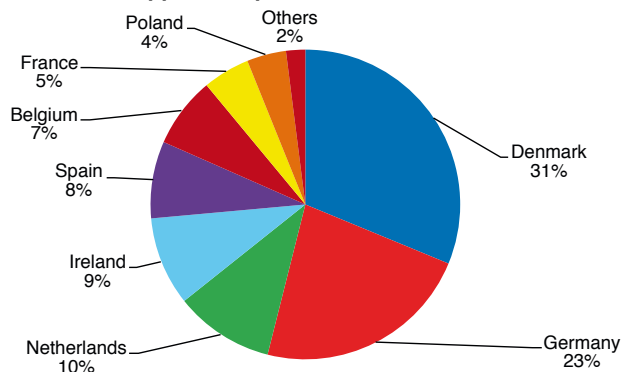
The vast majority of the exported bacon and ham and preserved or prepared pigmeat was sold to the Irish Republic in 2019; at 71% for the former, and 81.5% for the latter.

UK pigmeat imports



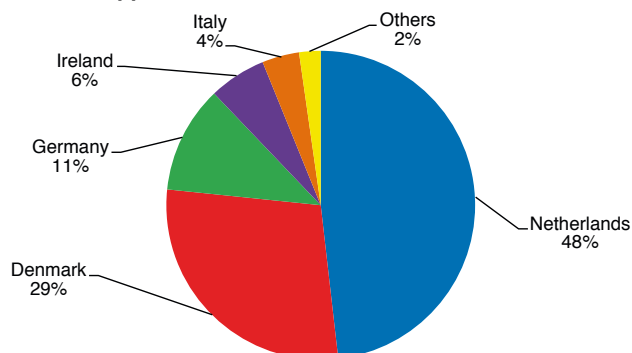
Source: HMRC; QMS calculations

Suppliers of pork to the UK in 2019



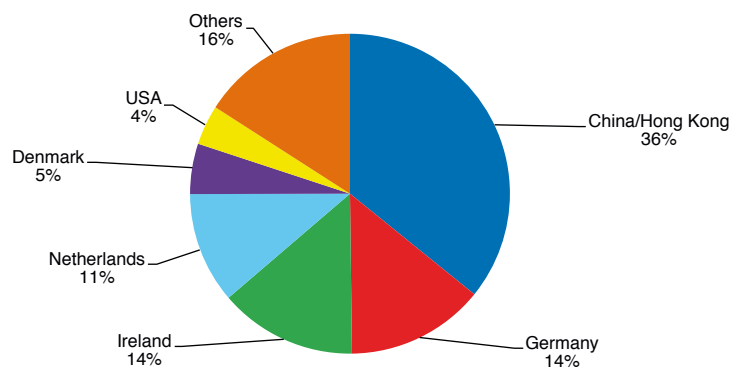
Source: HMRC; QMS calculations

Suppliers of bacon & ham to the UK in 2019

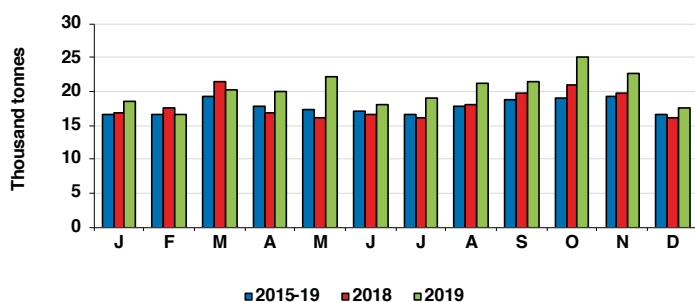


Source: HMRC; QMS calculations

UK pork exports in 2019



UK pork exports



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