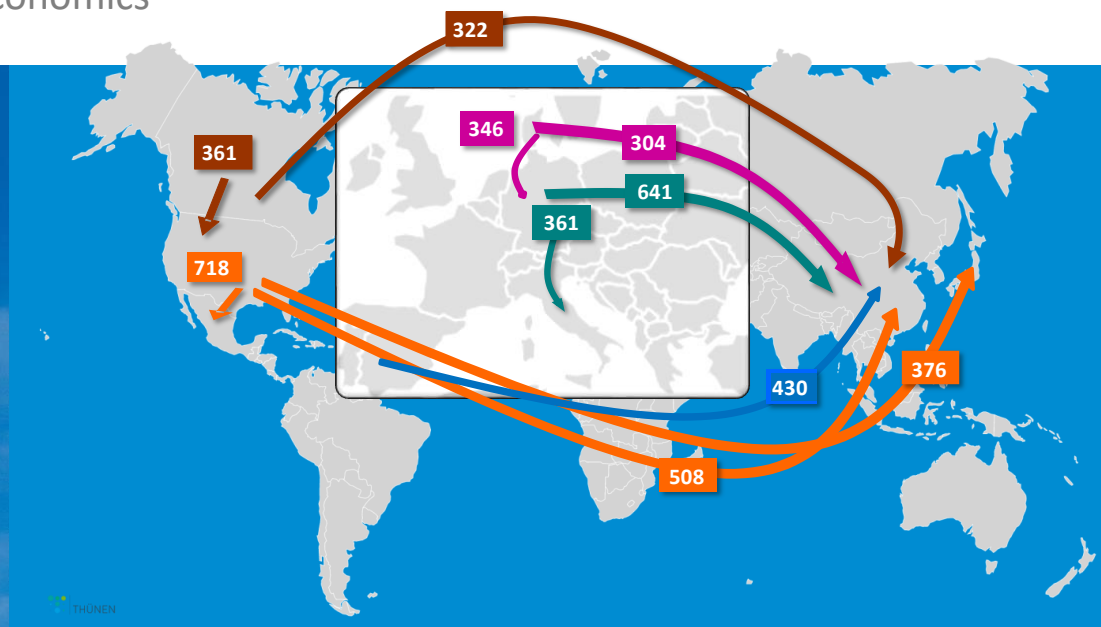


Competitiveness of Danish pig production in a global context

Svinekongres 2019

Dr. Claus Deblitz, Thünen Institute of Farm Economics



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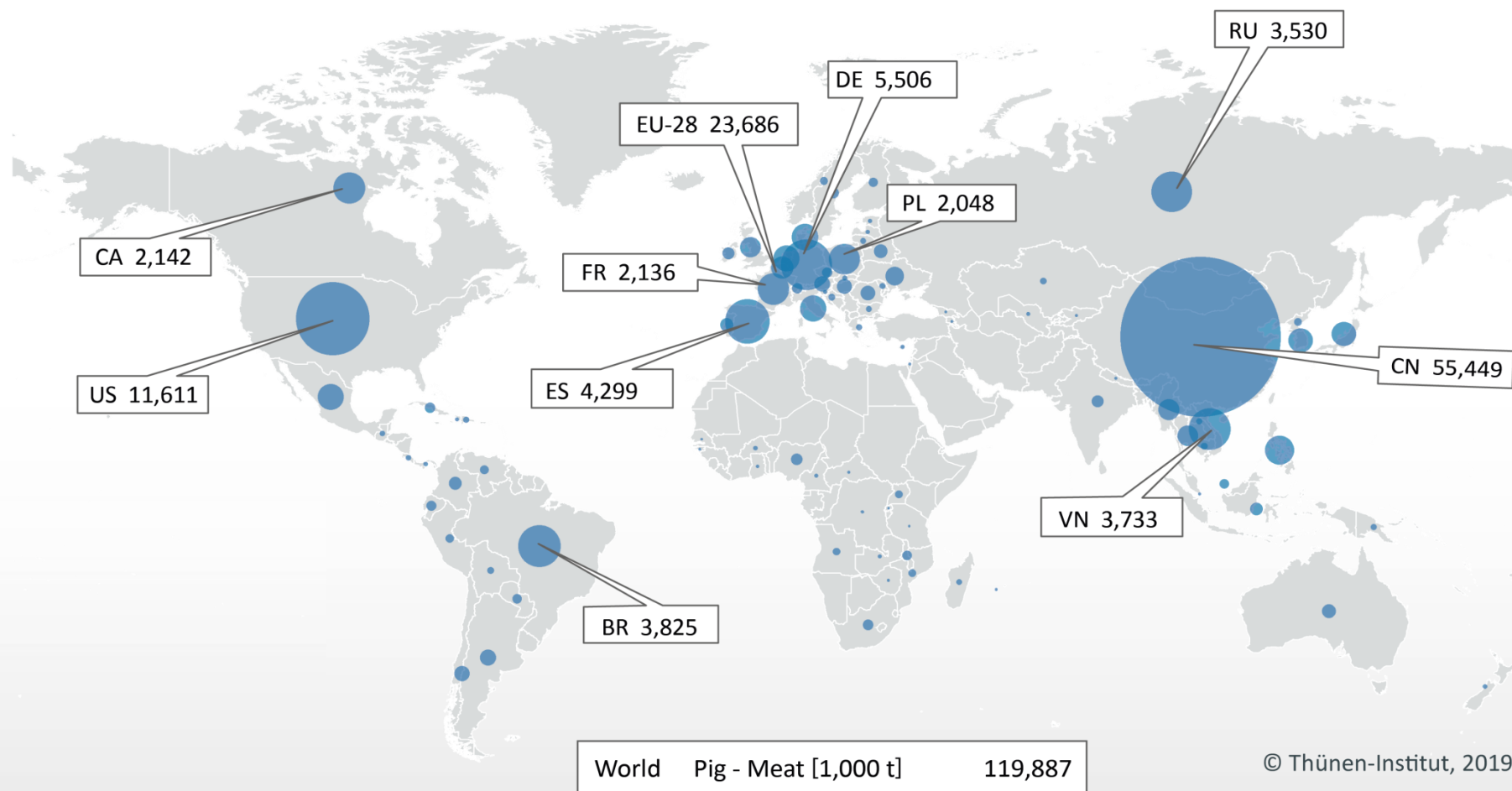
Denmark's market shares in production and trade



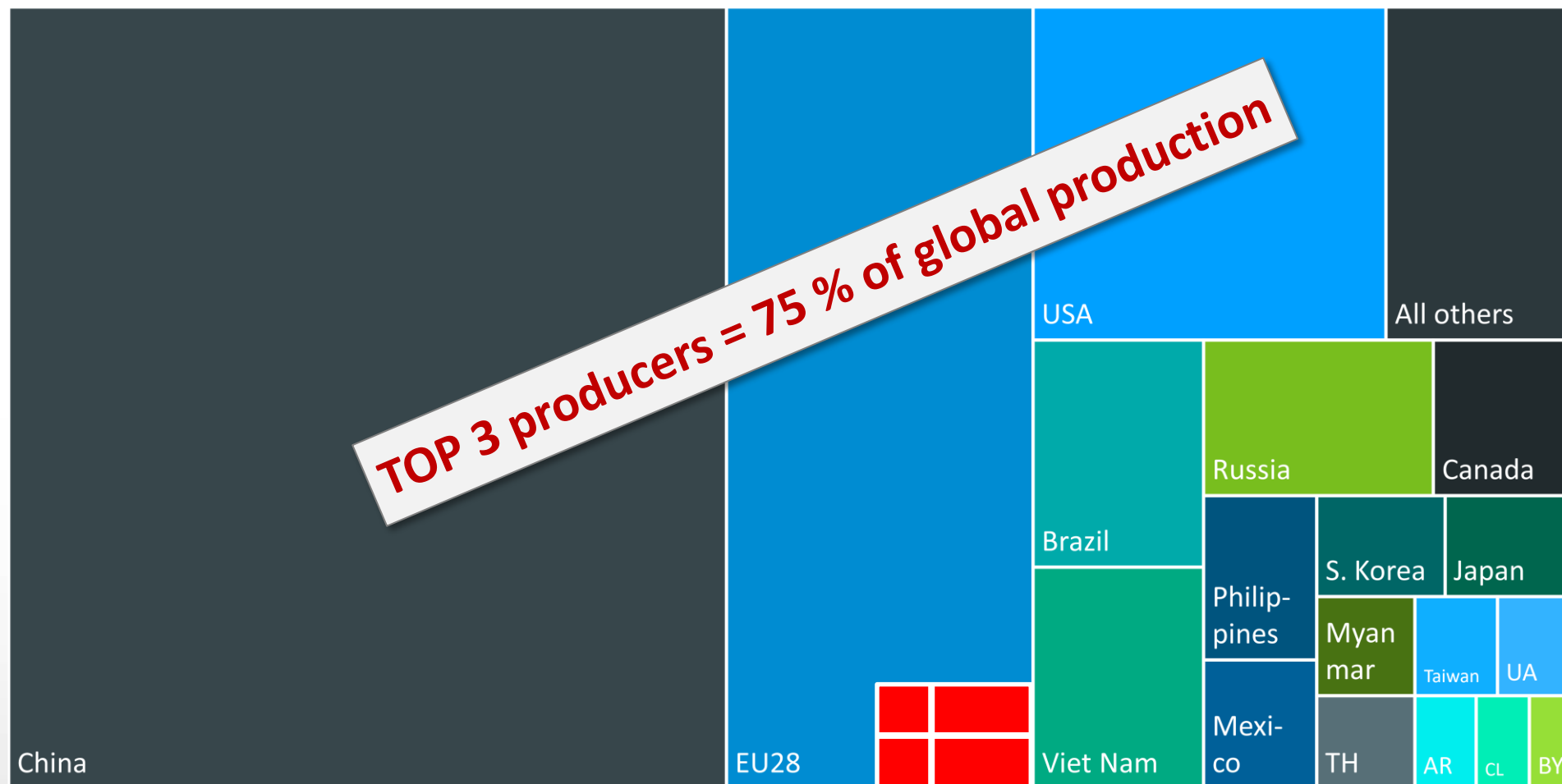
Herning
23.10.19

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Global pig meat production 2017 ('000 t)



Global pig meat production 2017 ('000 t)

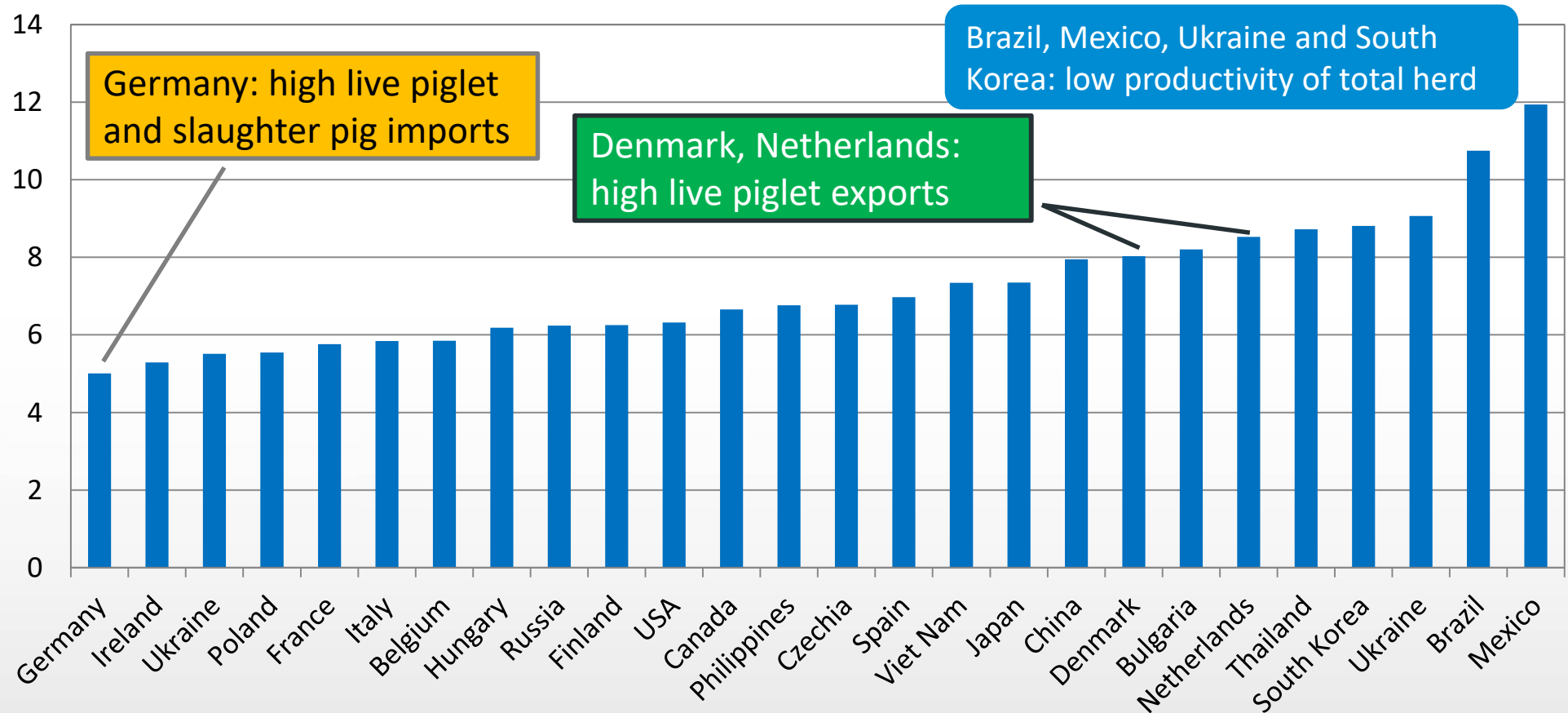


Source: FAOStat 09.2018

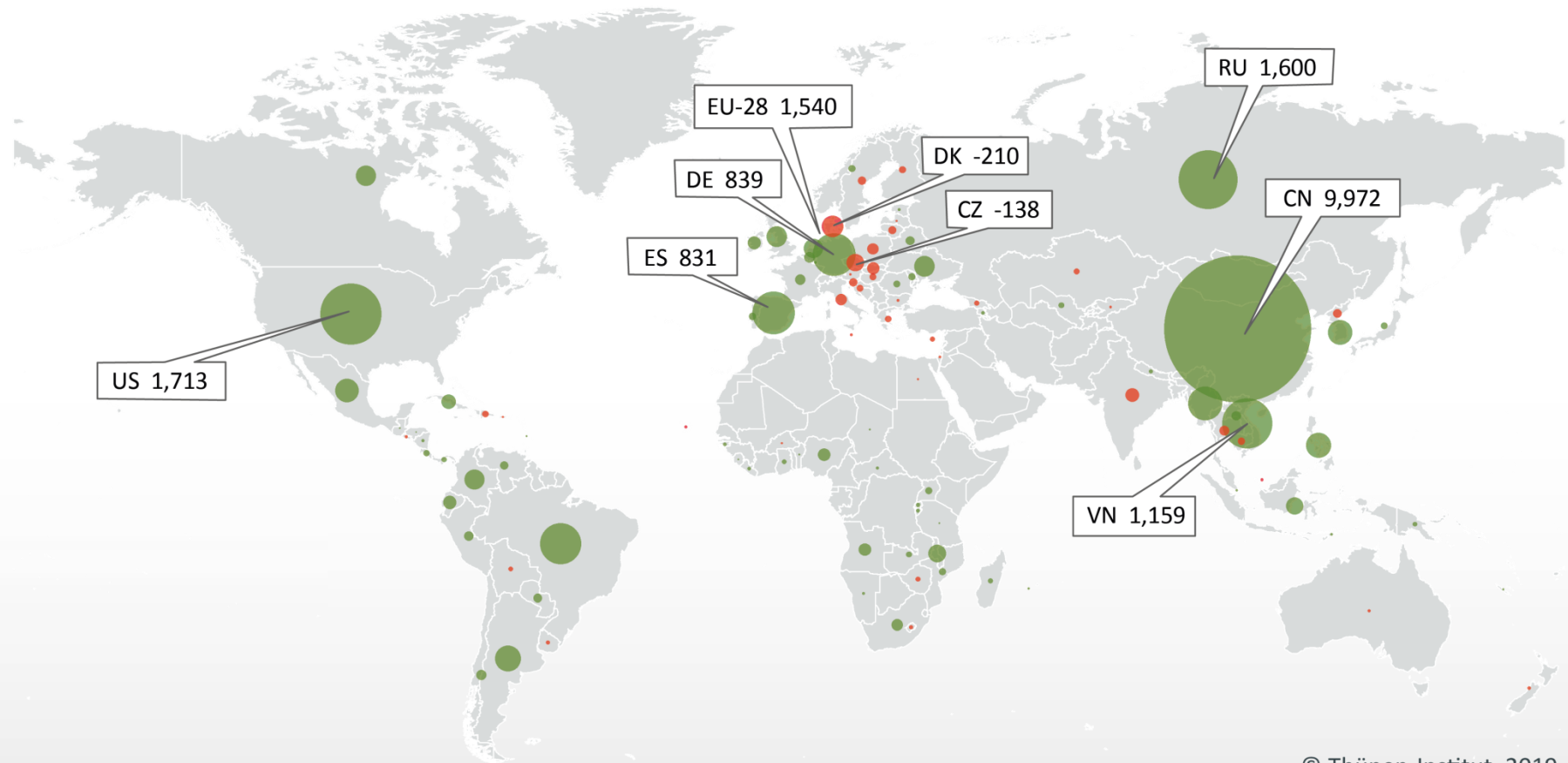
Ratio between pig inventories (million head) and pork production (tonnes) 2017

1. The lower the ratio, the lower the inventory compared with the production
2. A high ratio can be a sign of low productivity or high live exports

Source: FAOStat 12/2018, own calculations



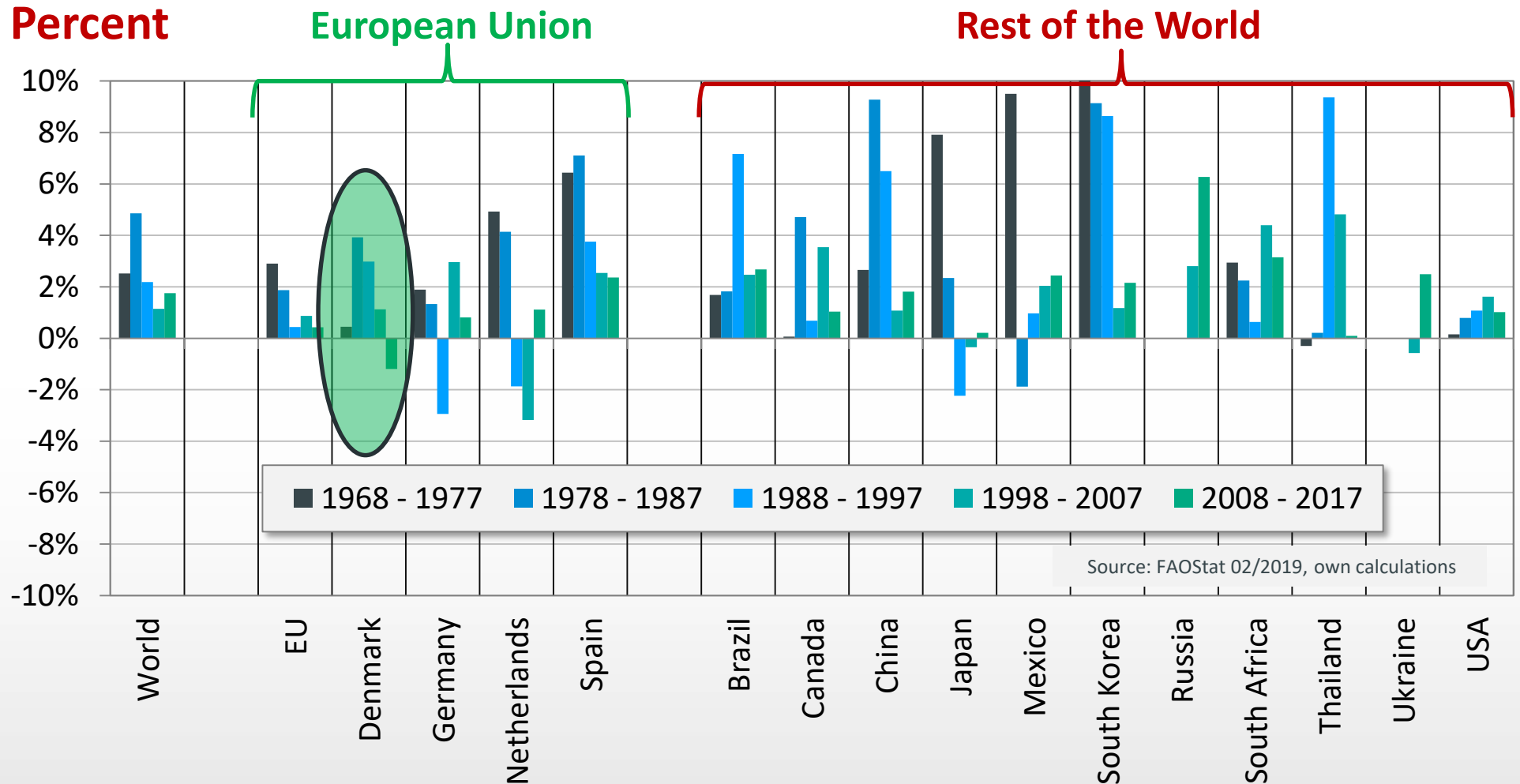
Absolute change in global pig meat production ('000 t) 2015-2017 vs. 2005-2007



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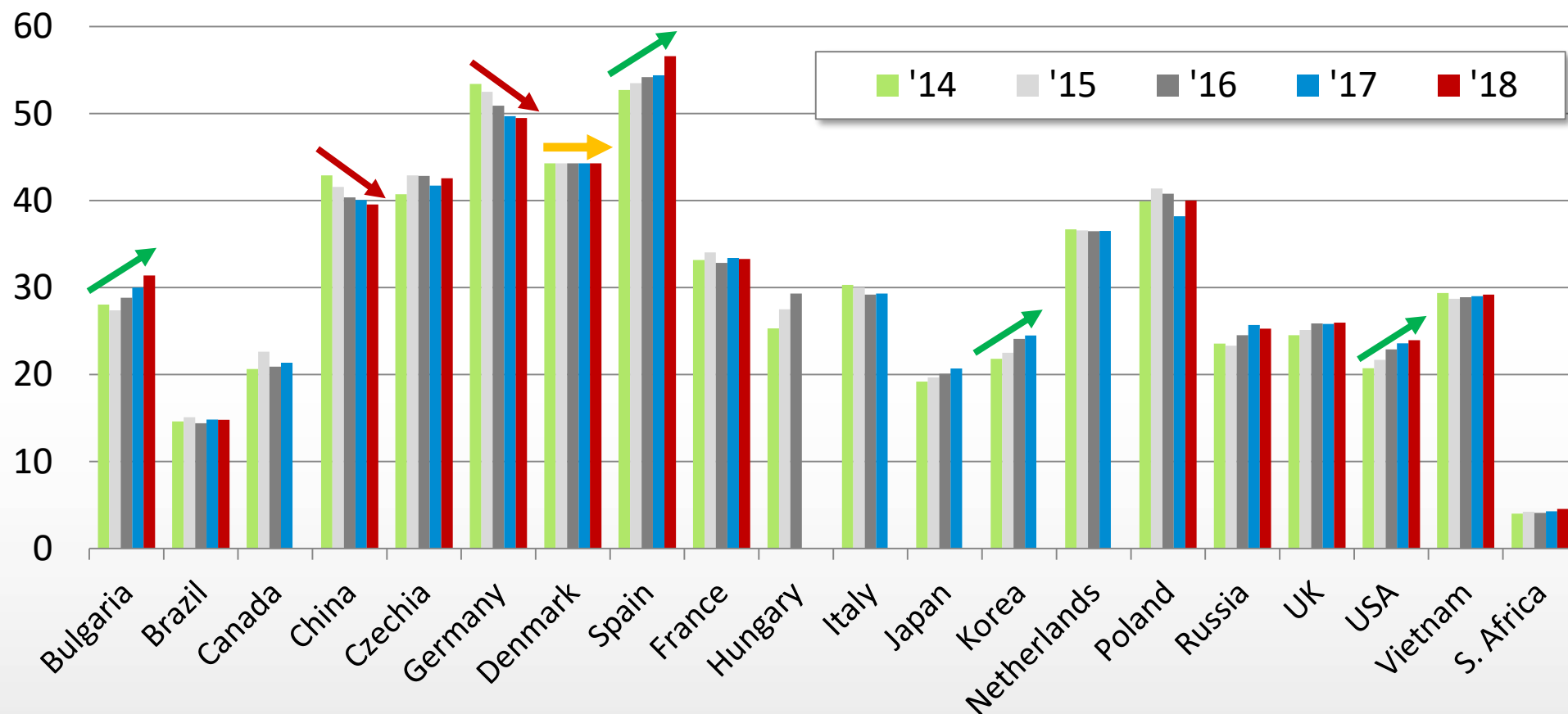
Source: FAOStat 12/1018, own calculations, Serbia and Montenegro = -367

Denmark is the only important country with decrease in last decade - annual pork production growth rates 1968-2017



Per capita consumption changes 2014-2018

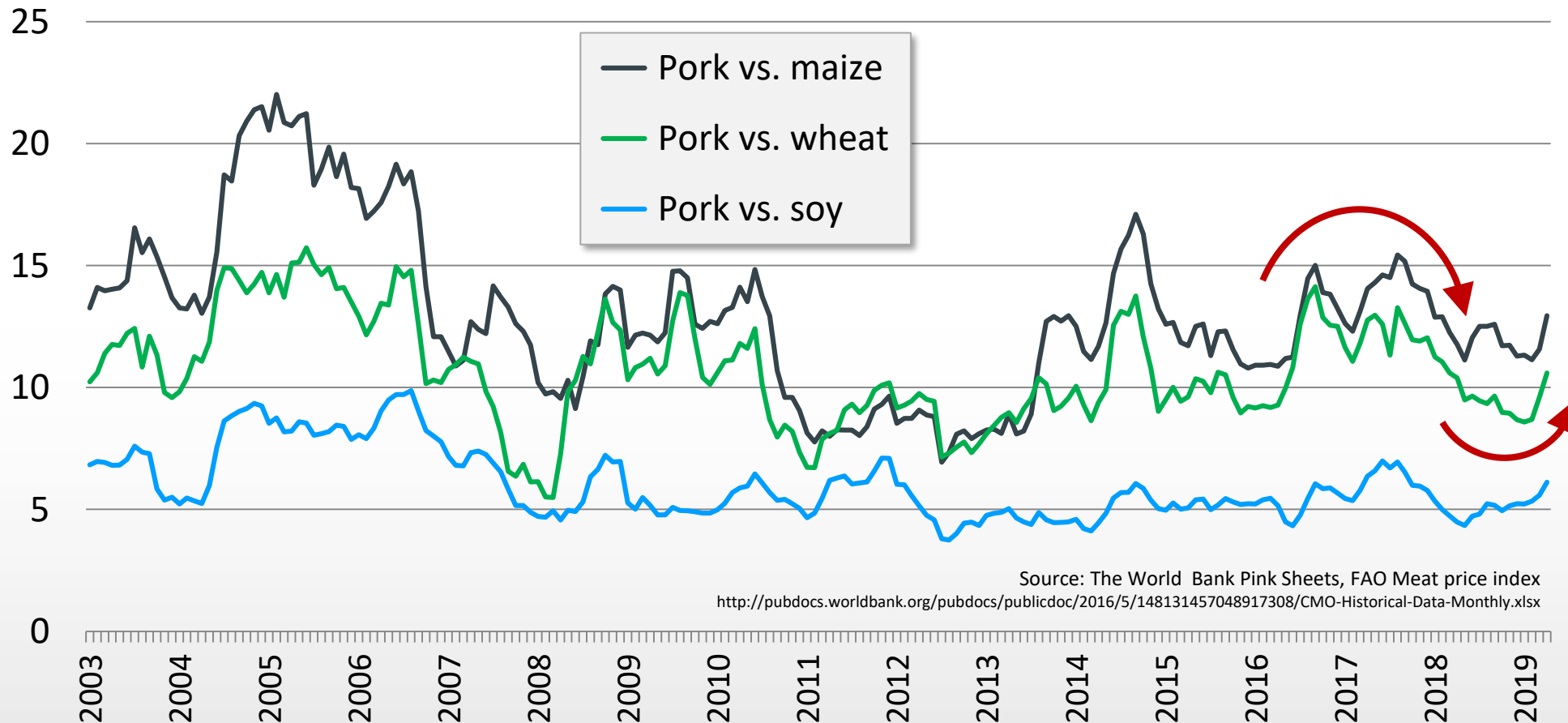
Kg pig meat per capita and year



Source: agri benchmark, national statistics

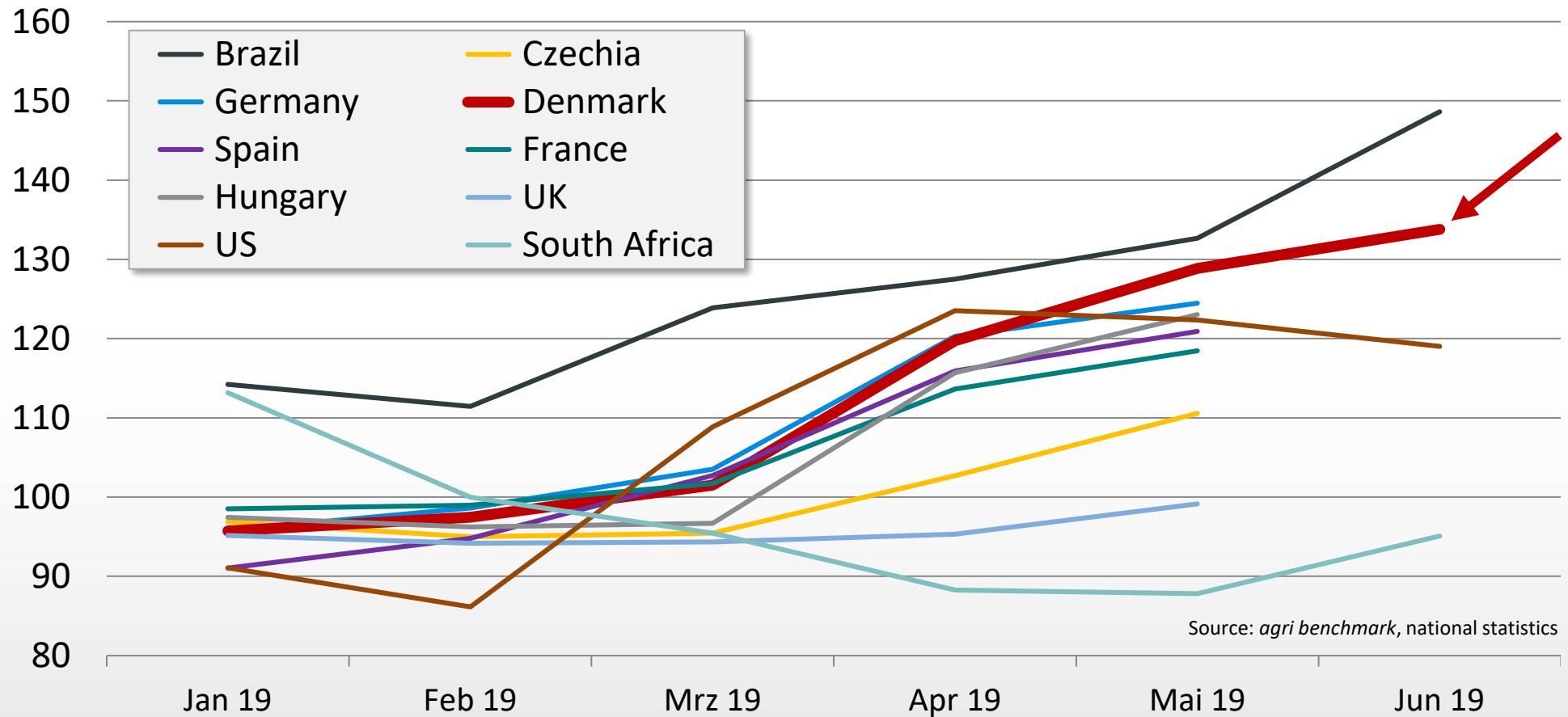
Pork – feed / grain price ratio recently improving

Based on USD per ton prices

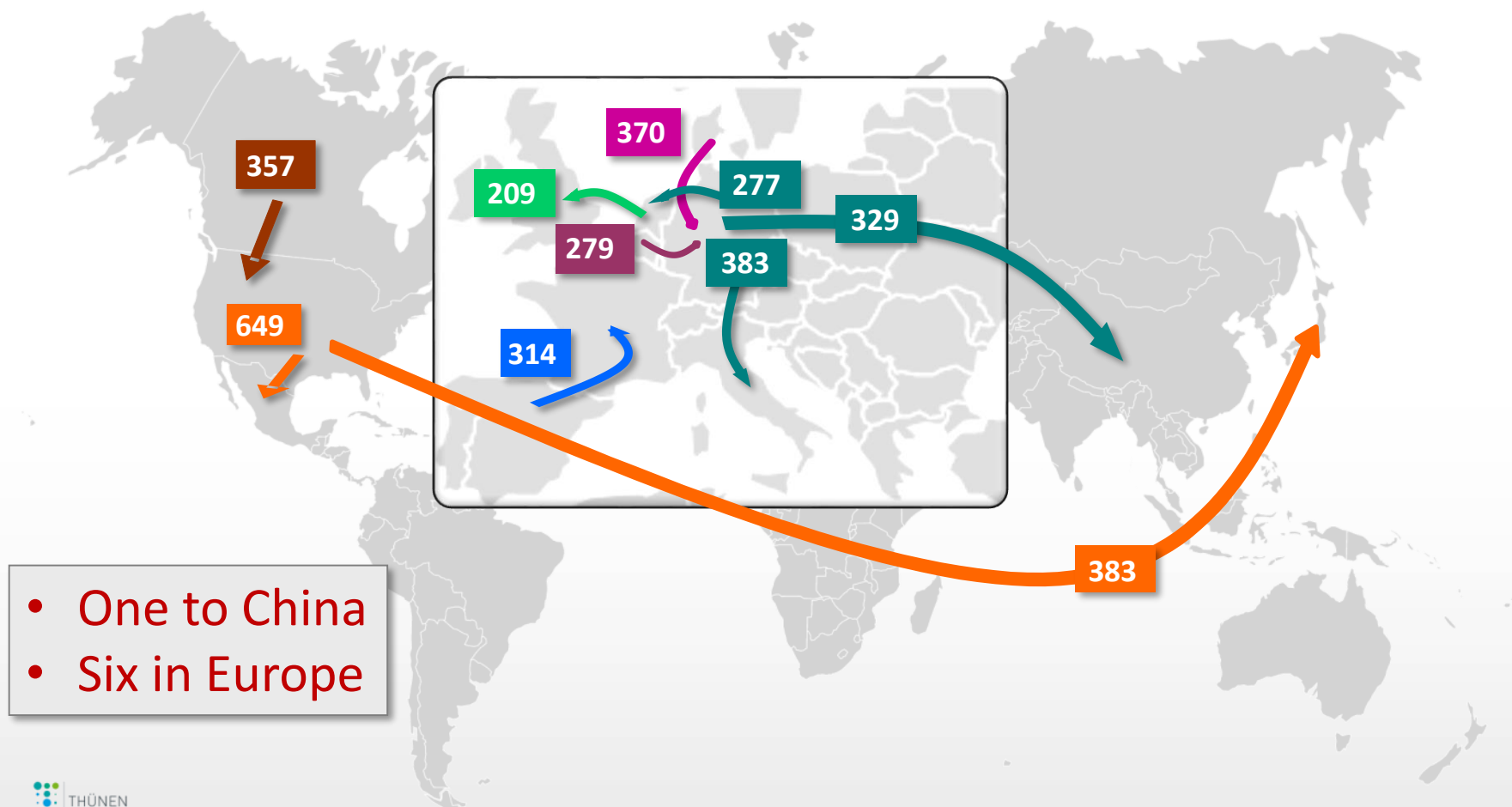


Pork prices very much driven by ASF and export (Index 100 = average of the year 2018)

Index based on national currencies

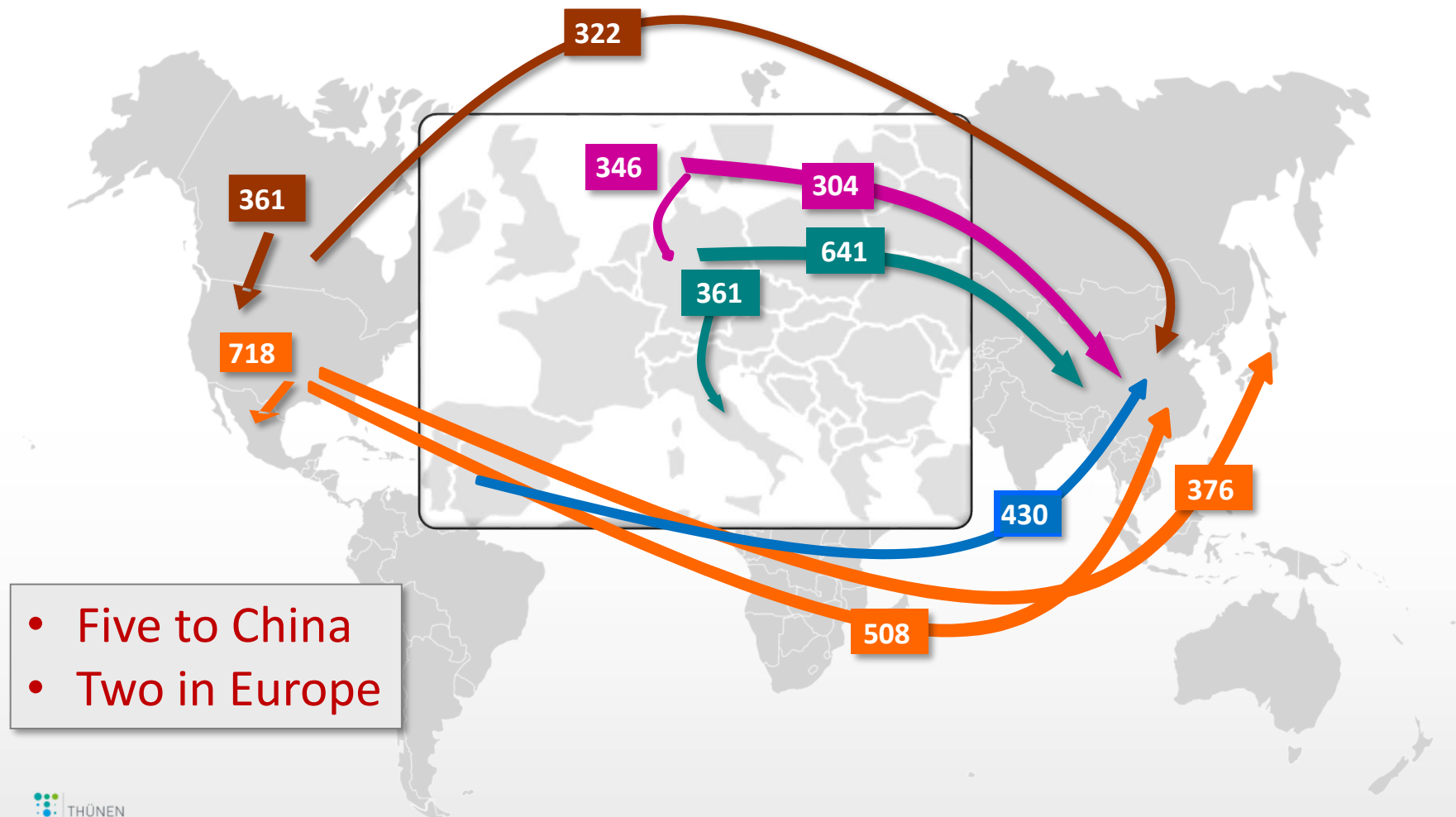


Top 10 pig trade flows 2014 ('000 tons)

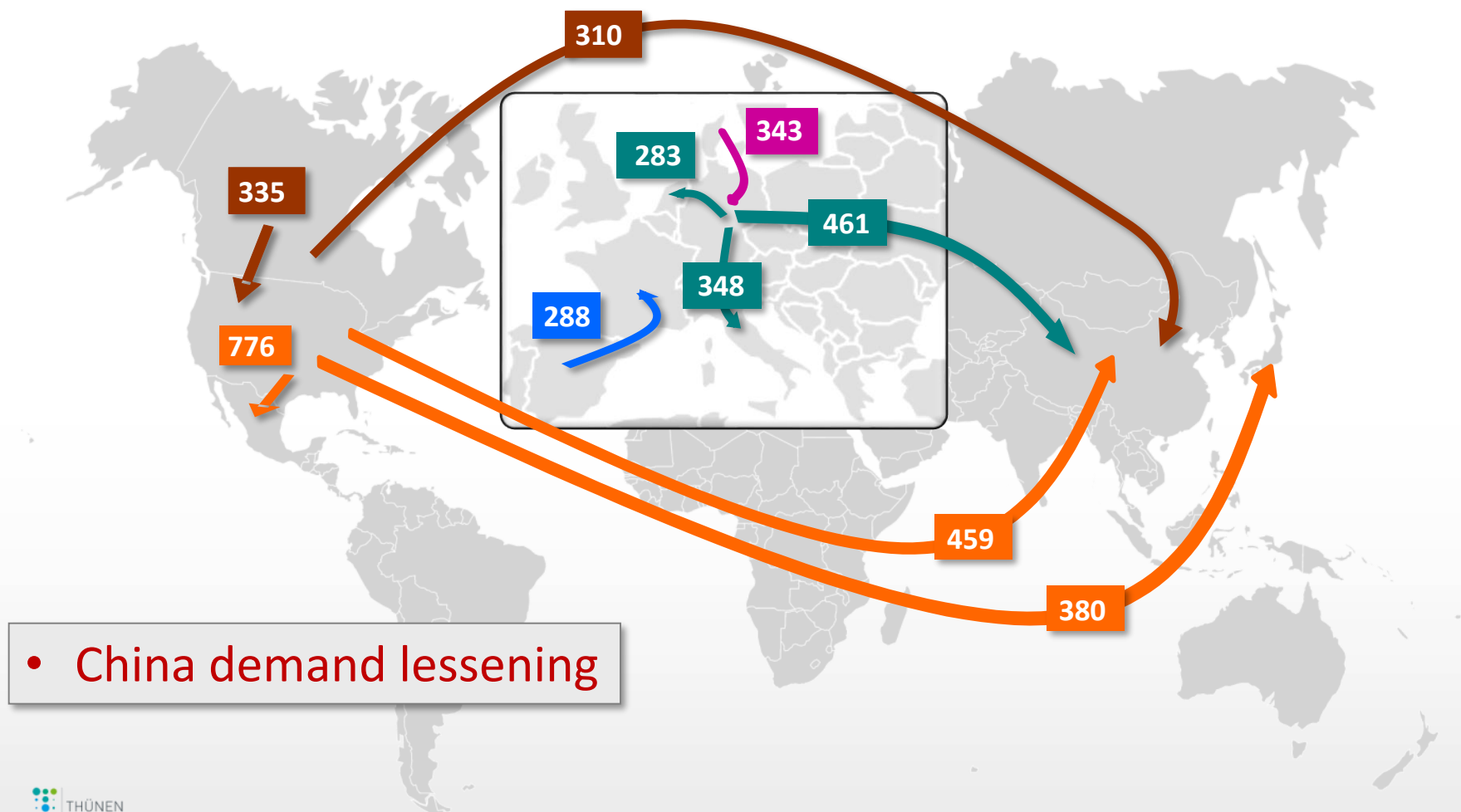


- One to China
- Six in Europe

Top 10 pig trade flows 2016 ('000 tons)

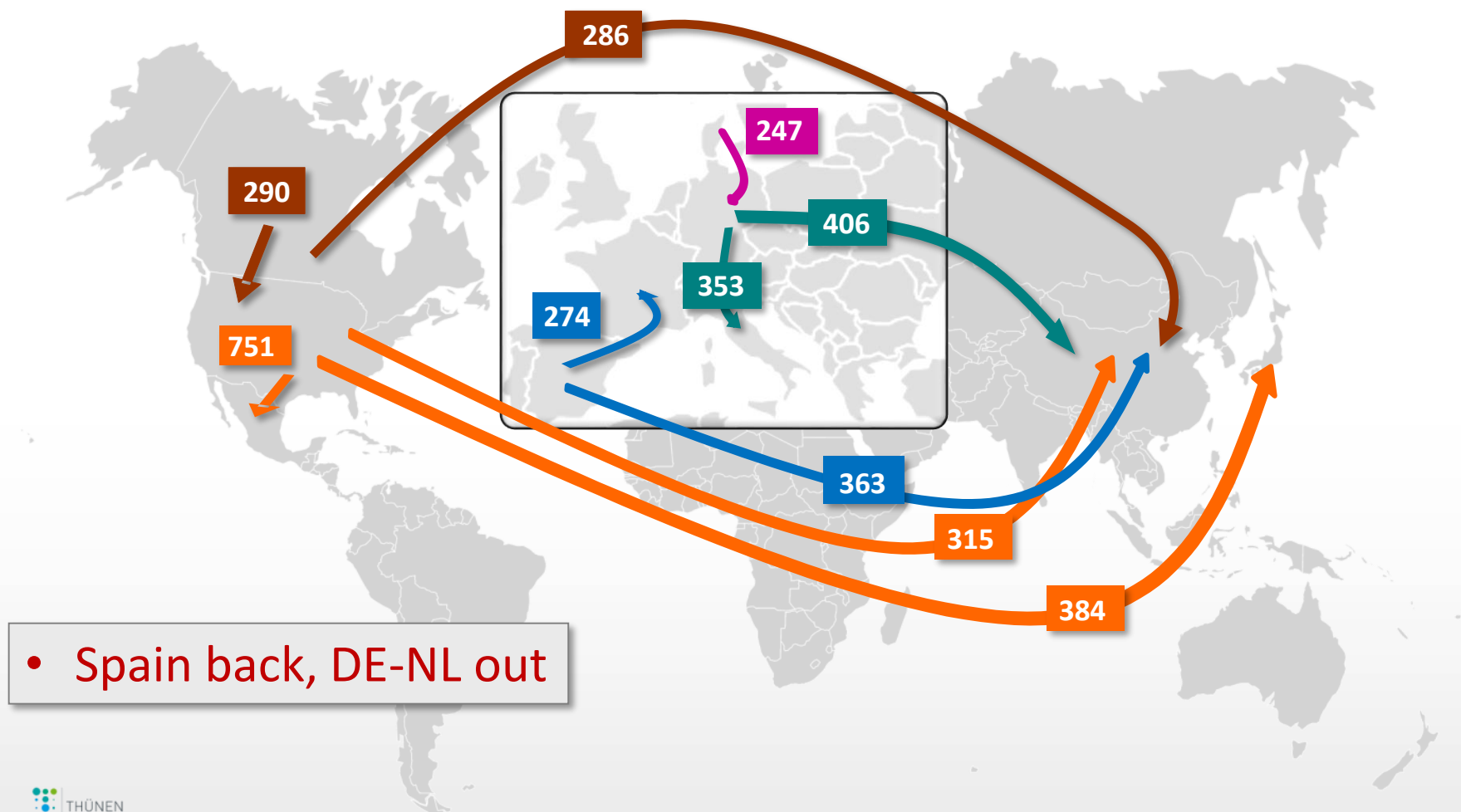


Top 10 pig trade flows 2017 (1,000 tons)



- China demand lessening

Top 10 pig trade flows 2018 (1,000 tons) - preliminary

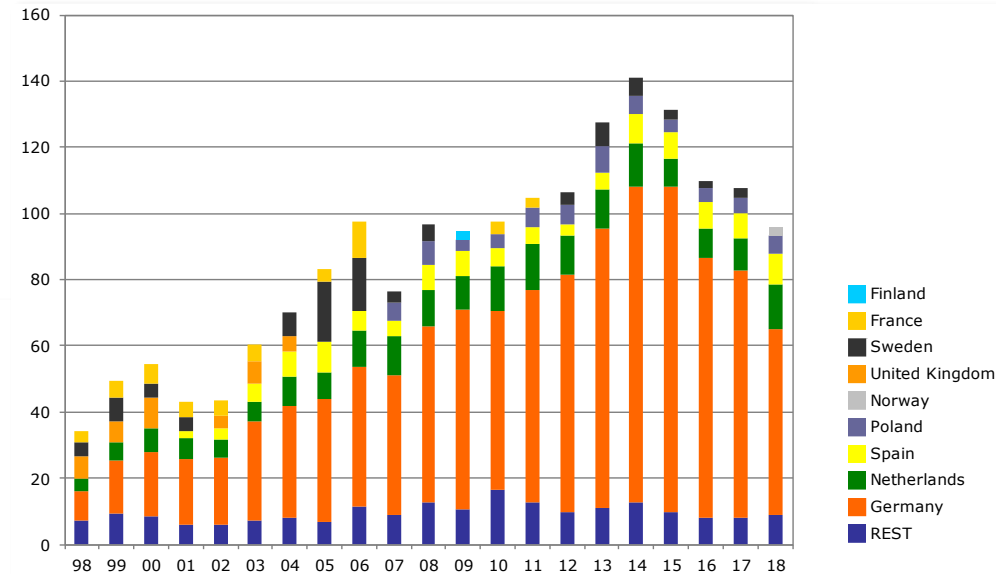
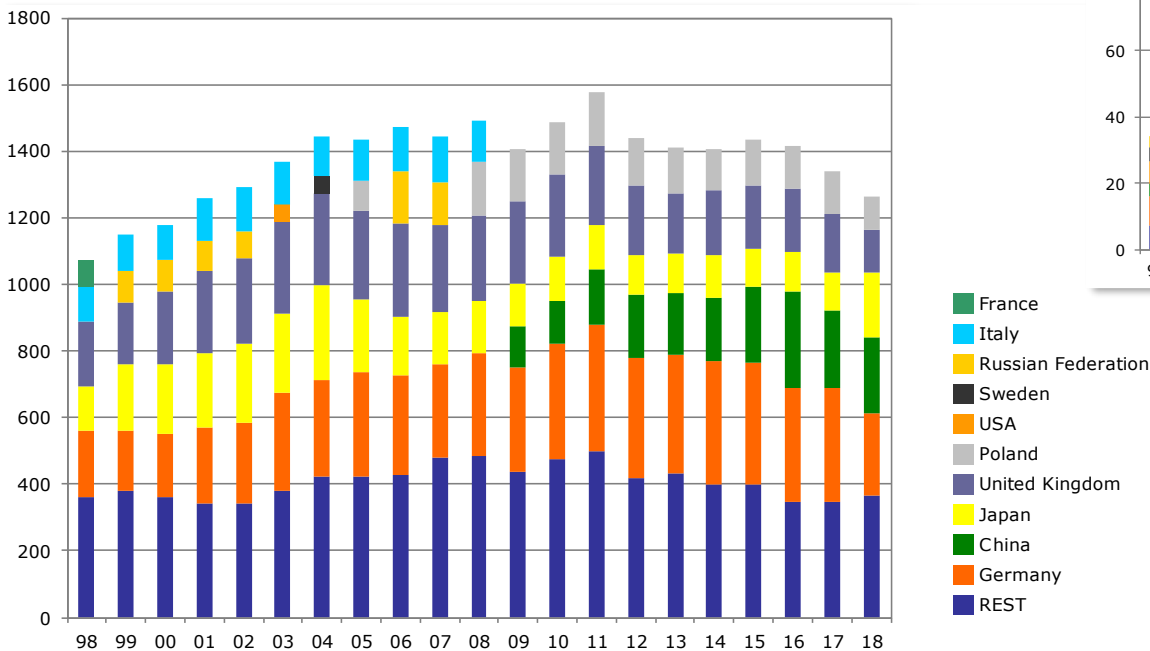


- Spain back, DE-NL out

Denmark's Top 5 export destinations and import origins 1996-2018 (1,000 tons) - preliminary

Export destinations

- Recent downward trend
- Growing importance of China (and Japan)
- UK and Germany weakening



Import origins

- Downward trend last 4 years
- Only a fraction of exports
- Germany, Spain, Netherlands

Source: UNComtrade 09.2019

Farm-level results



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Danish farms in our comparison

Farm name	Location	Number of sows	Number of finishers	Particularities
DK_1100_0	Fyn	1100	0	
DK_350_5000	Jylland	350	5 000	Closed cycle Sale of piglets
DK_600_20K	Fyn	600	20 000	Closed cycle
DK_0_13K	Sjælland	0	13 000	
DK_0_37K	Jylland	0	37 000	

Meaning of farm names

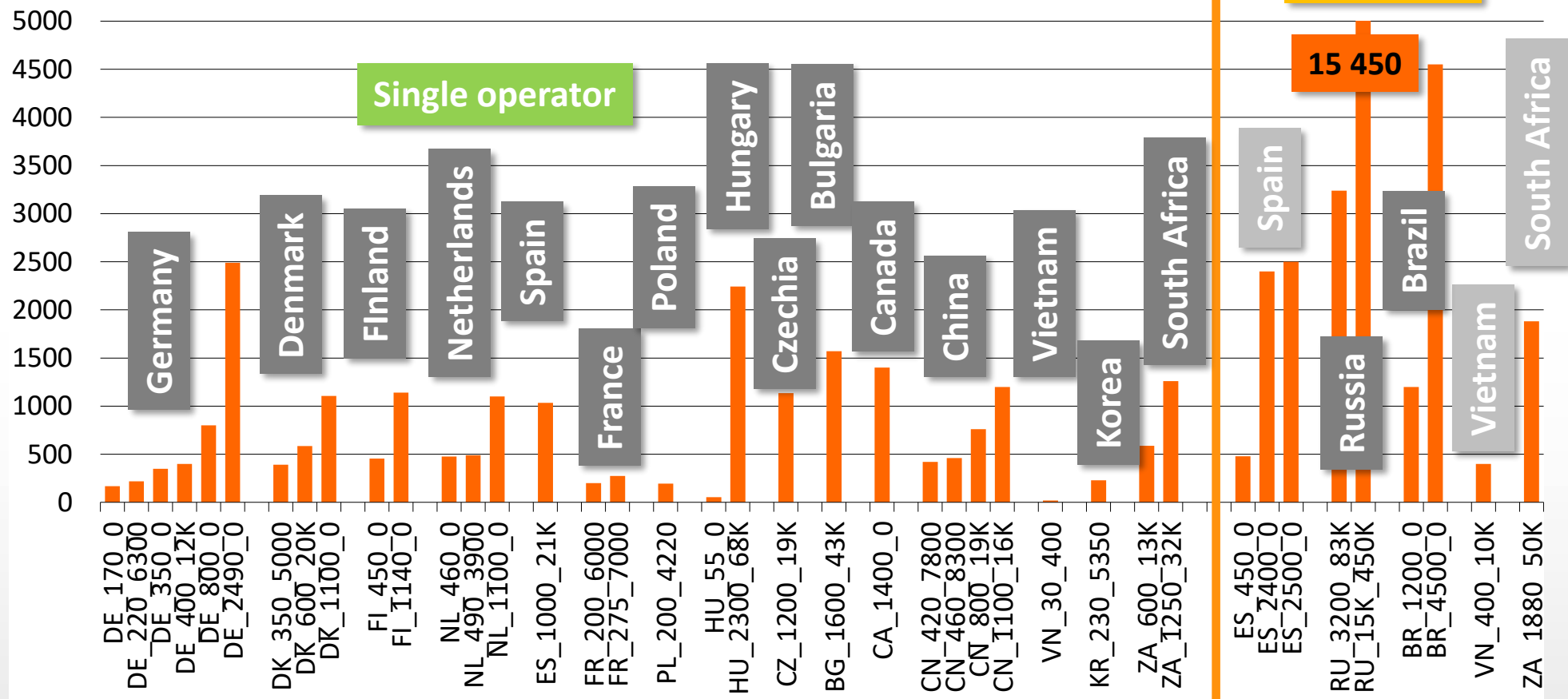
DK: Denmark

First number: Number of sows (if there are any)

Second number: Number of finished pigs (if there are any)

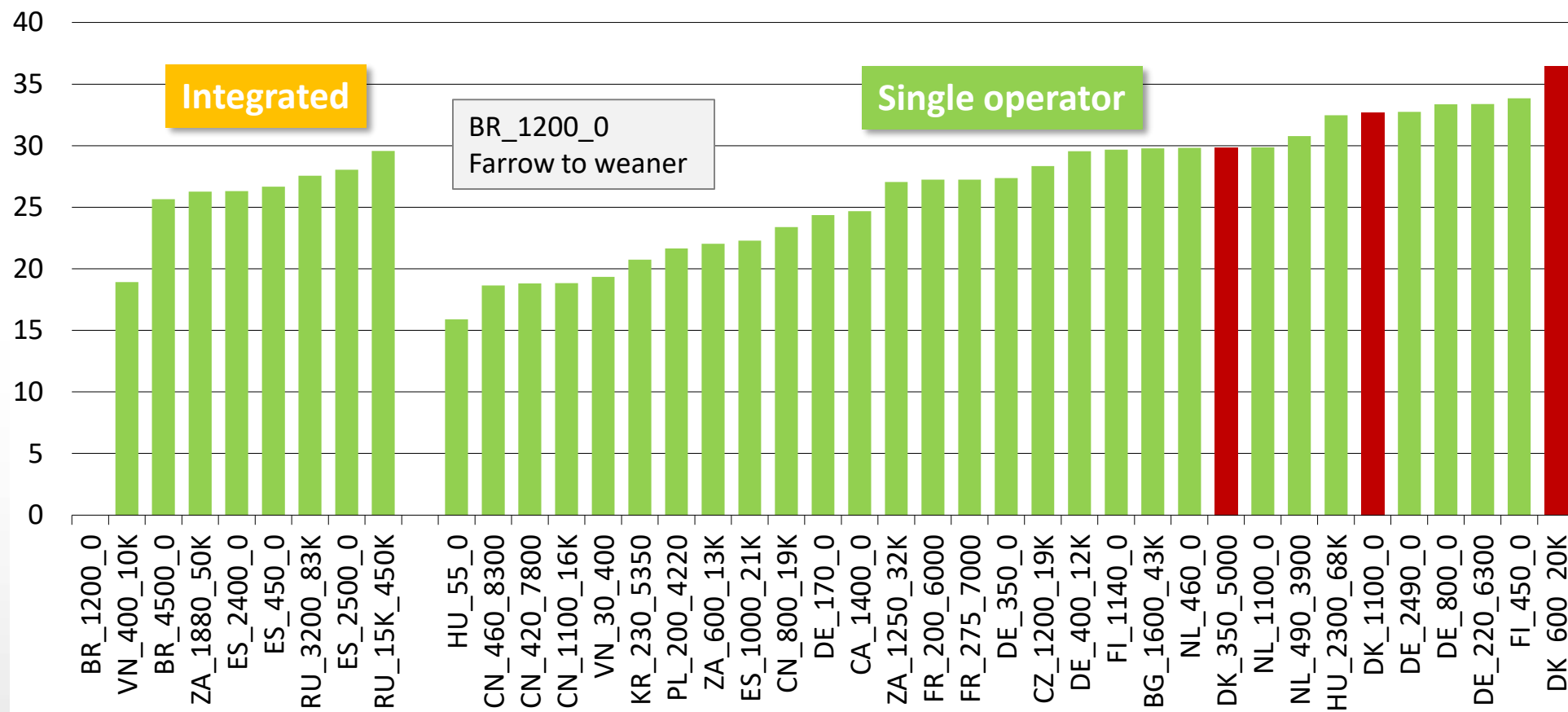
Number of sows

Number



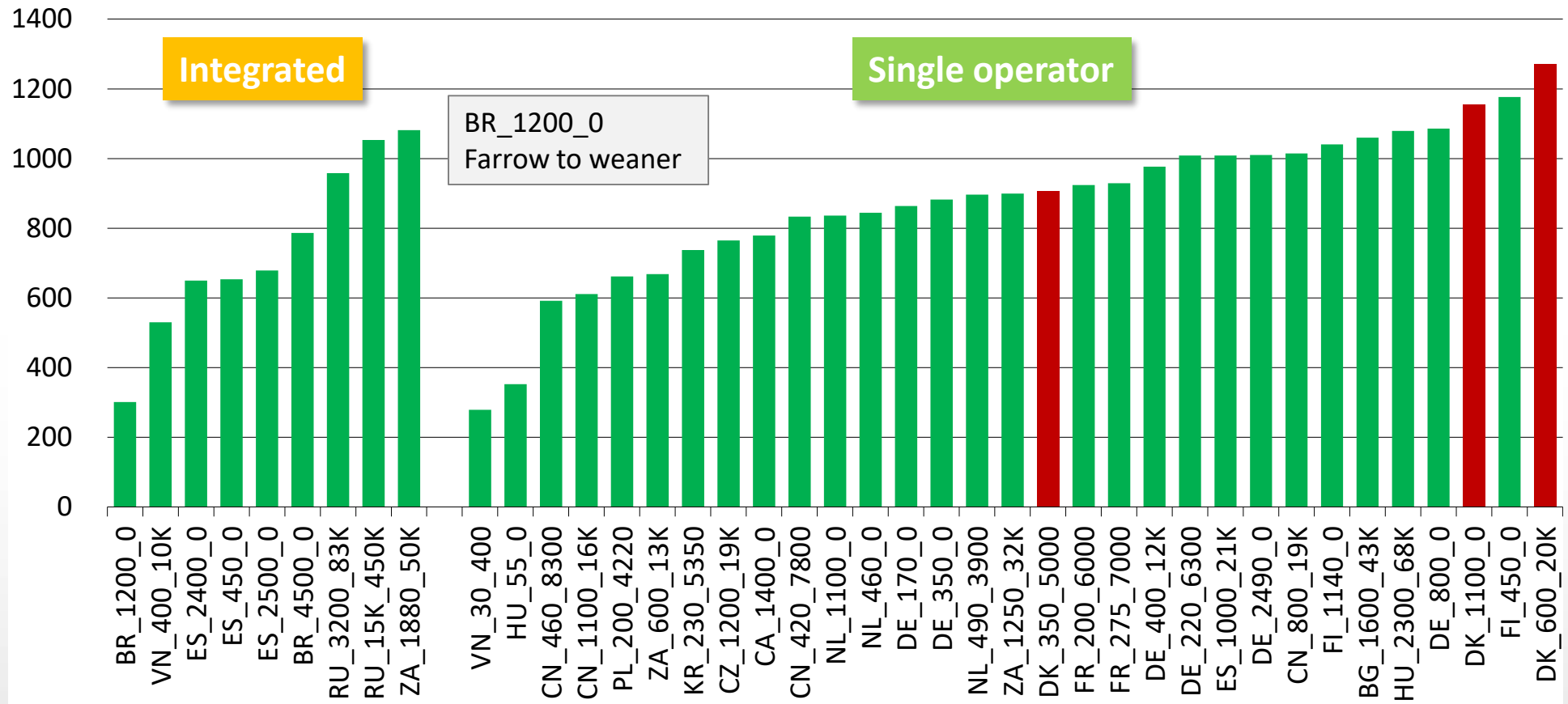
Danish farms with high piglet numbers ...

Number per sow and year



... and high weights per sow

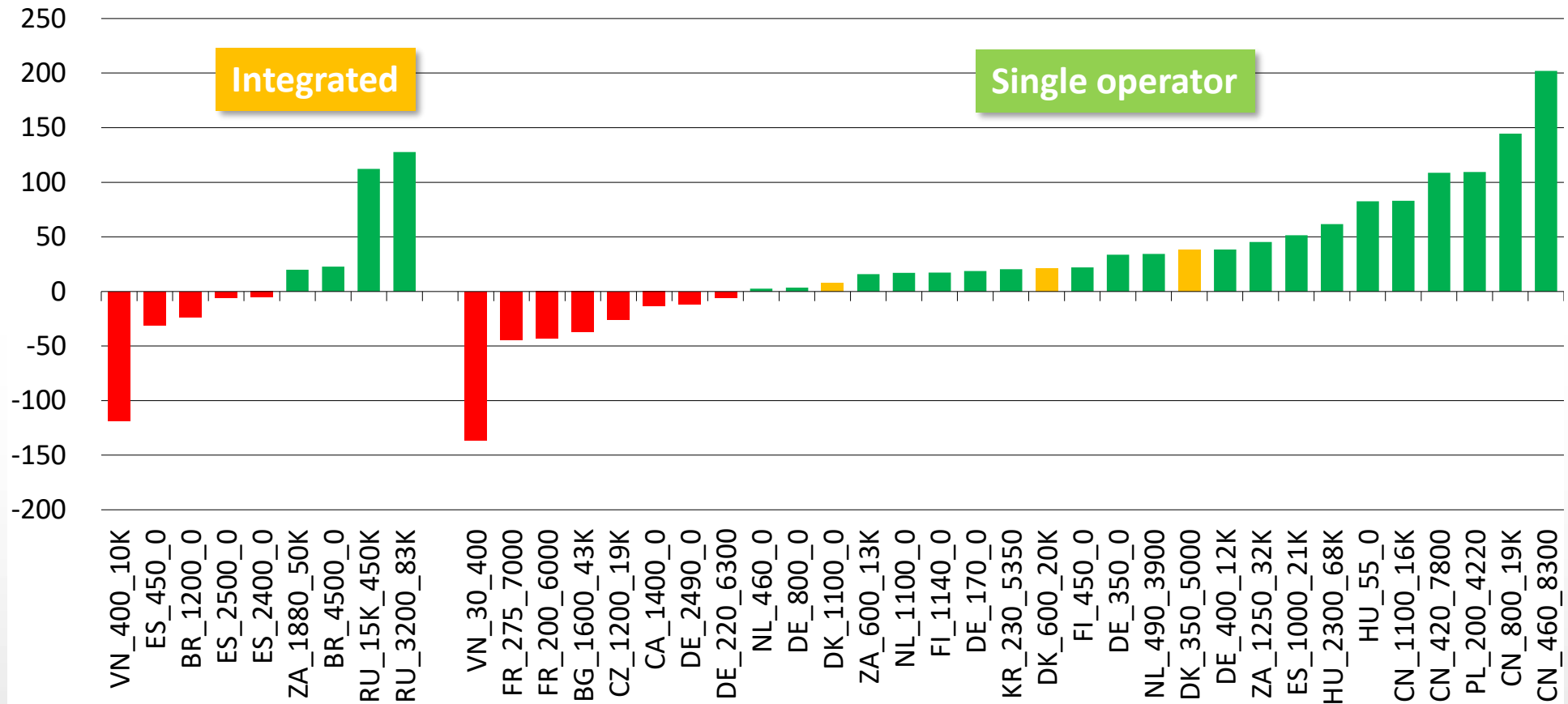
Kg liveweight per sow and year



Medium-term profitability of the sow enterprise 2018

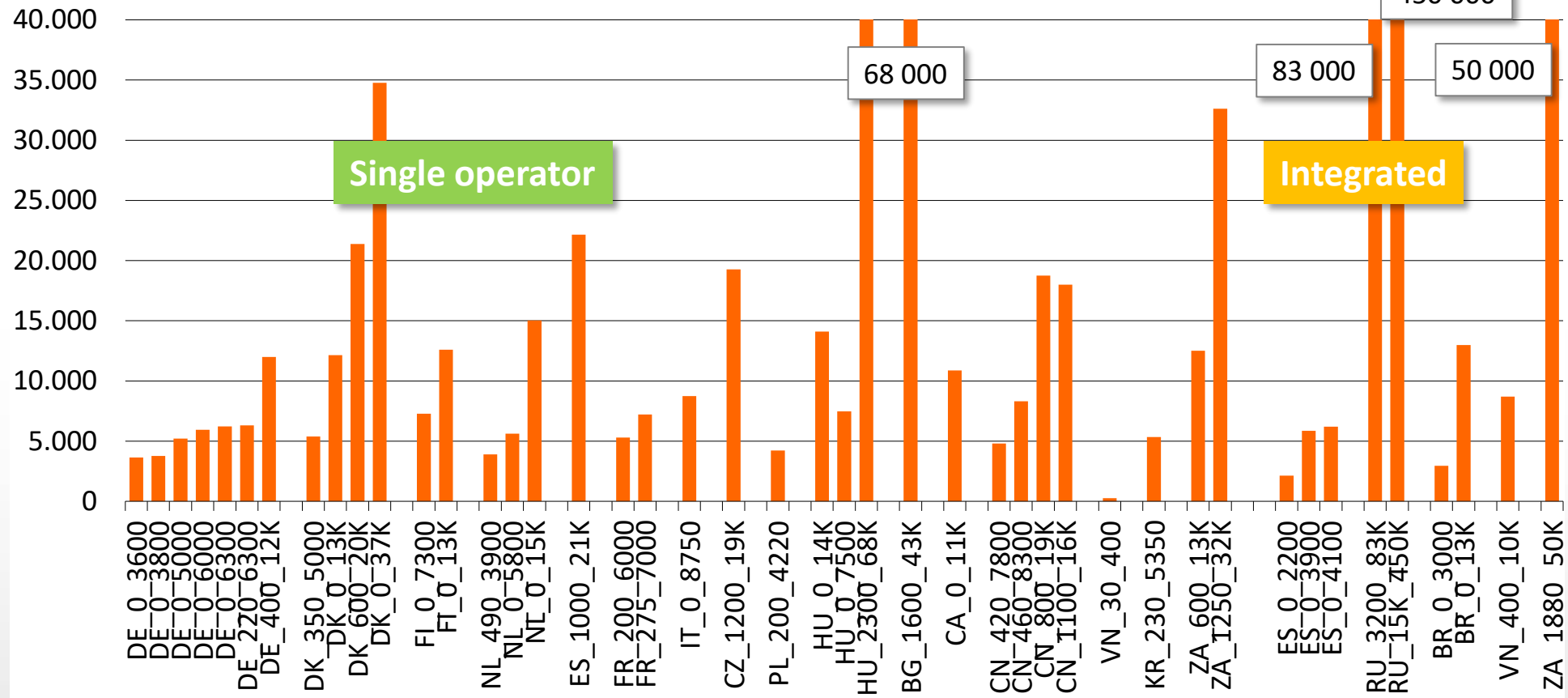
(Total returns – cash costs – depreciation)

USD per 100 kg total liveweight



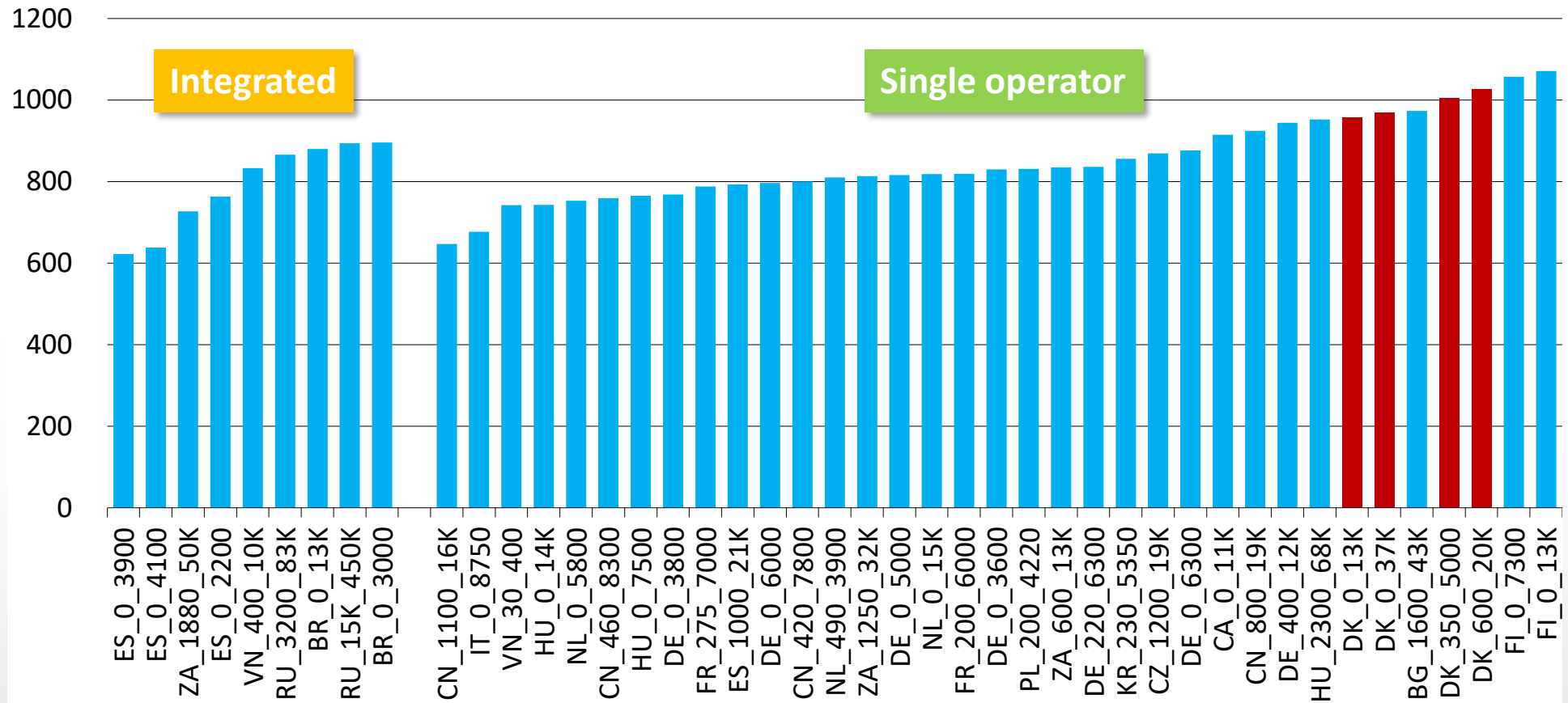
Size of finishing farms

Number of pigs sold per year



High daily weight gains

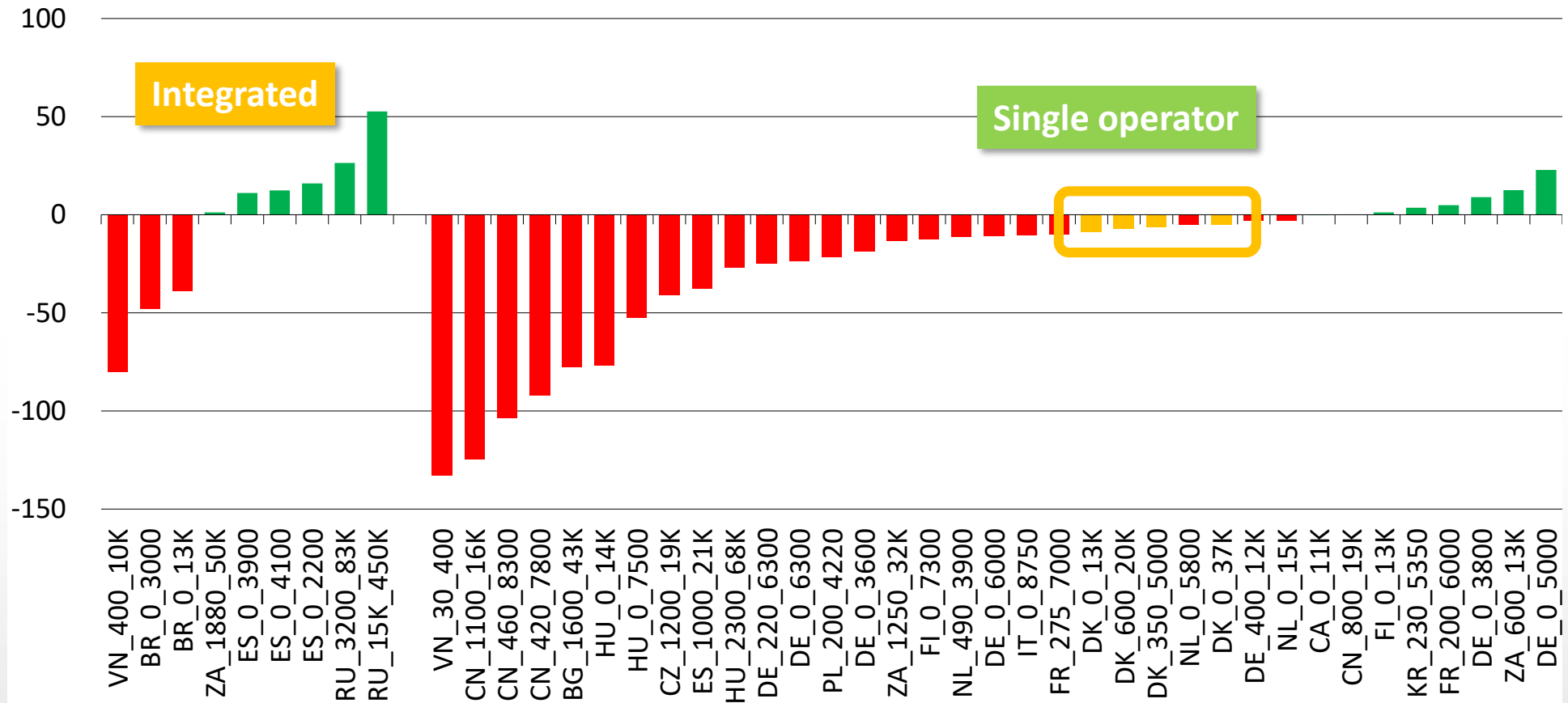
g per day



Low to negative profitability of DK finishing farms

(Total returns – cash costs – depreciation)

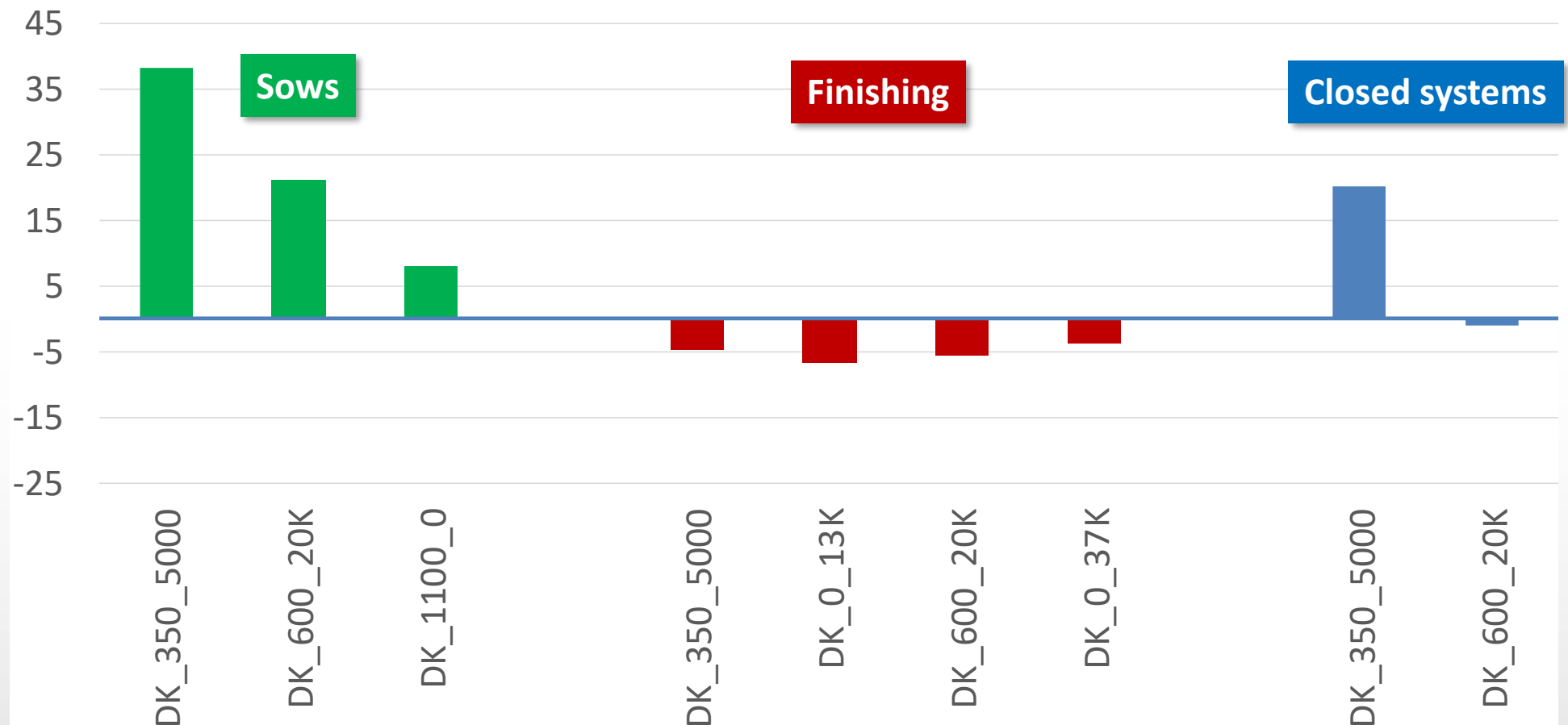
USD per 100 kg carcass weight



Medium-term profitability of the DK farms

(Total returns – cash costs – depreciation)

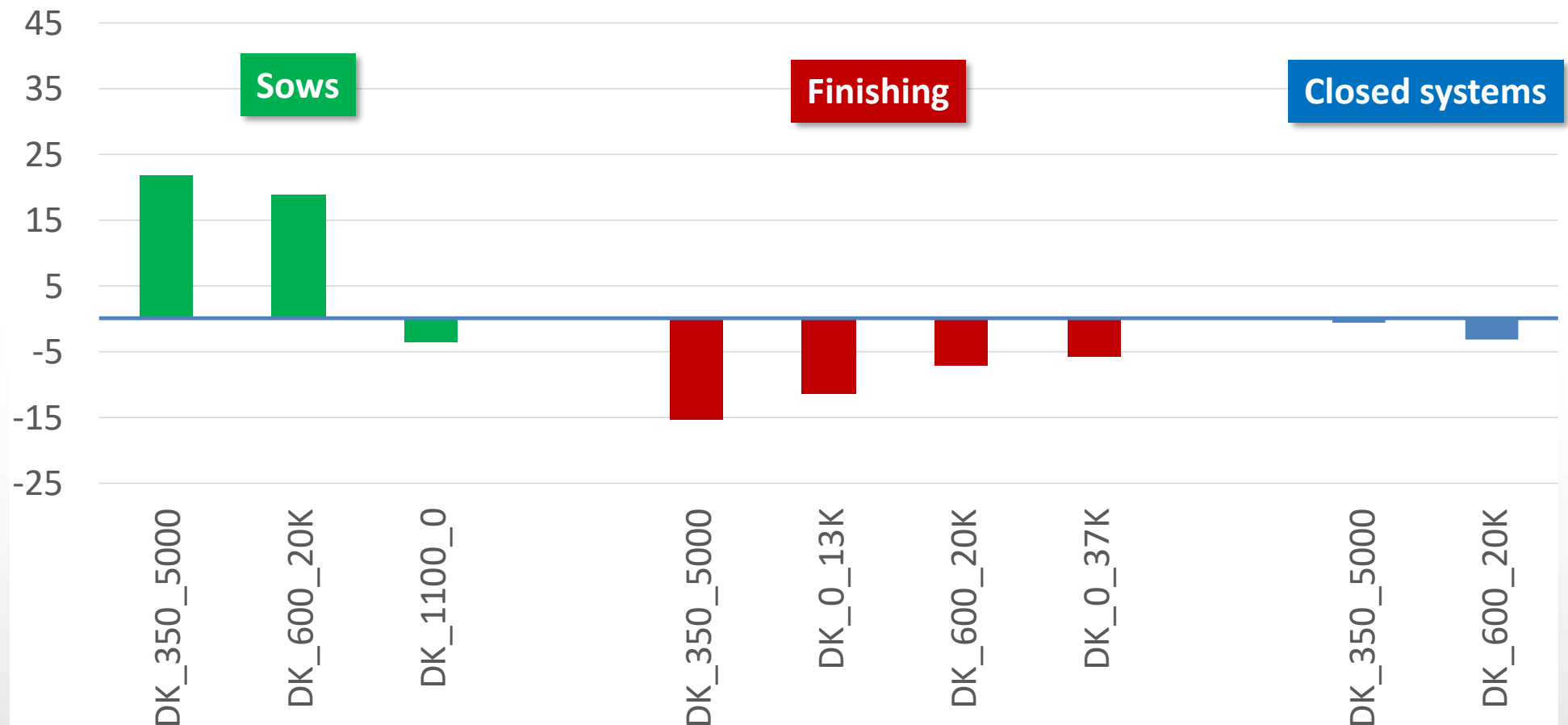
USD per 100 kg live weight



Long-term profitability of the DK farms

(Total returns – cash costs – depreciation – **opportunity costs**)

USD per 100 kg live weight

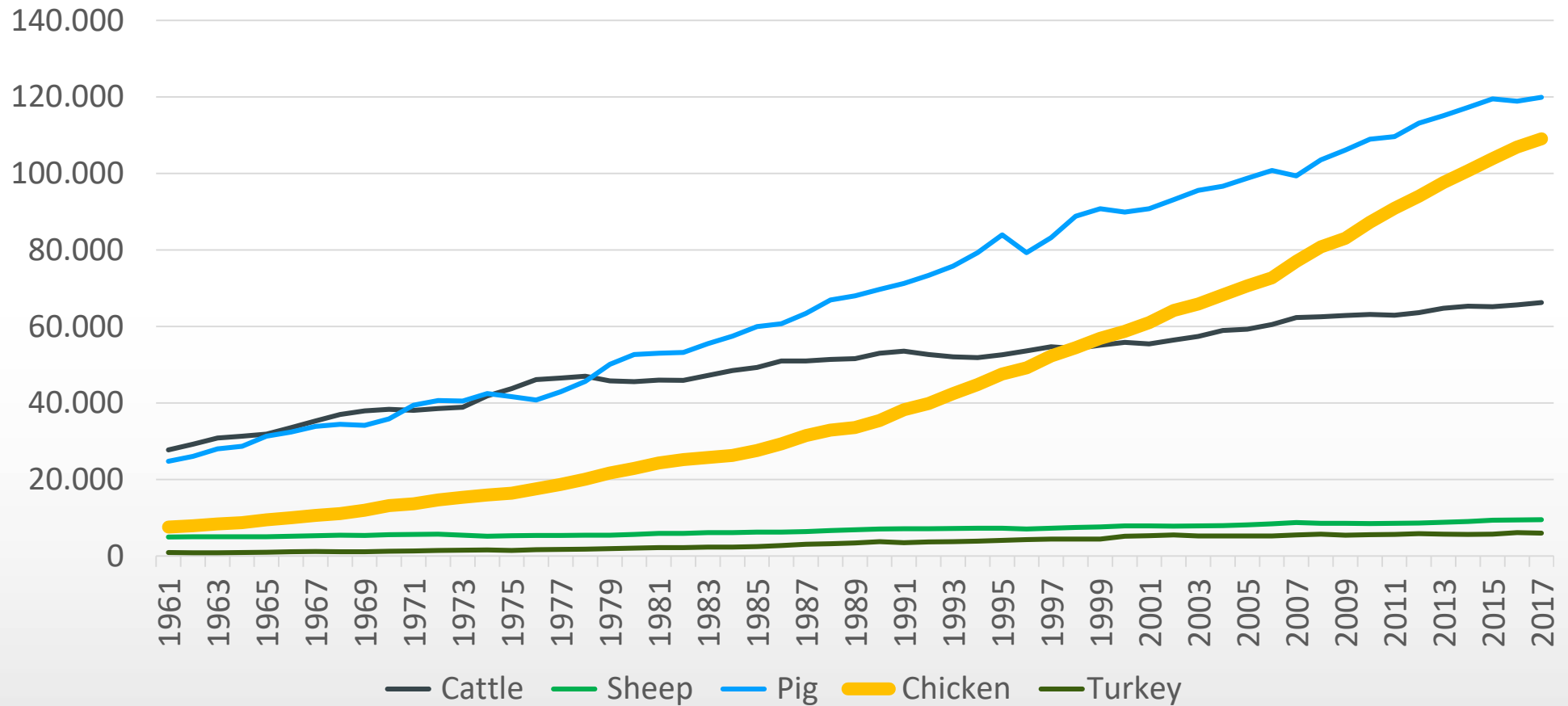


Is the pig vs. pig competitiveness the right focus?



Eat more chicken?

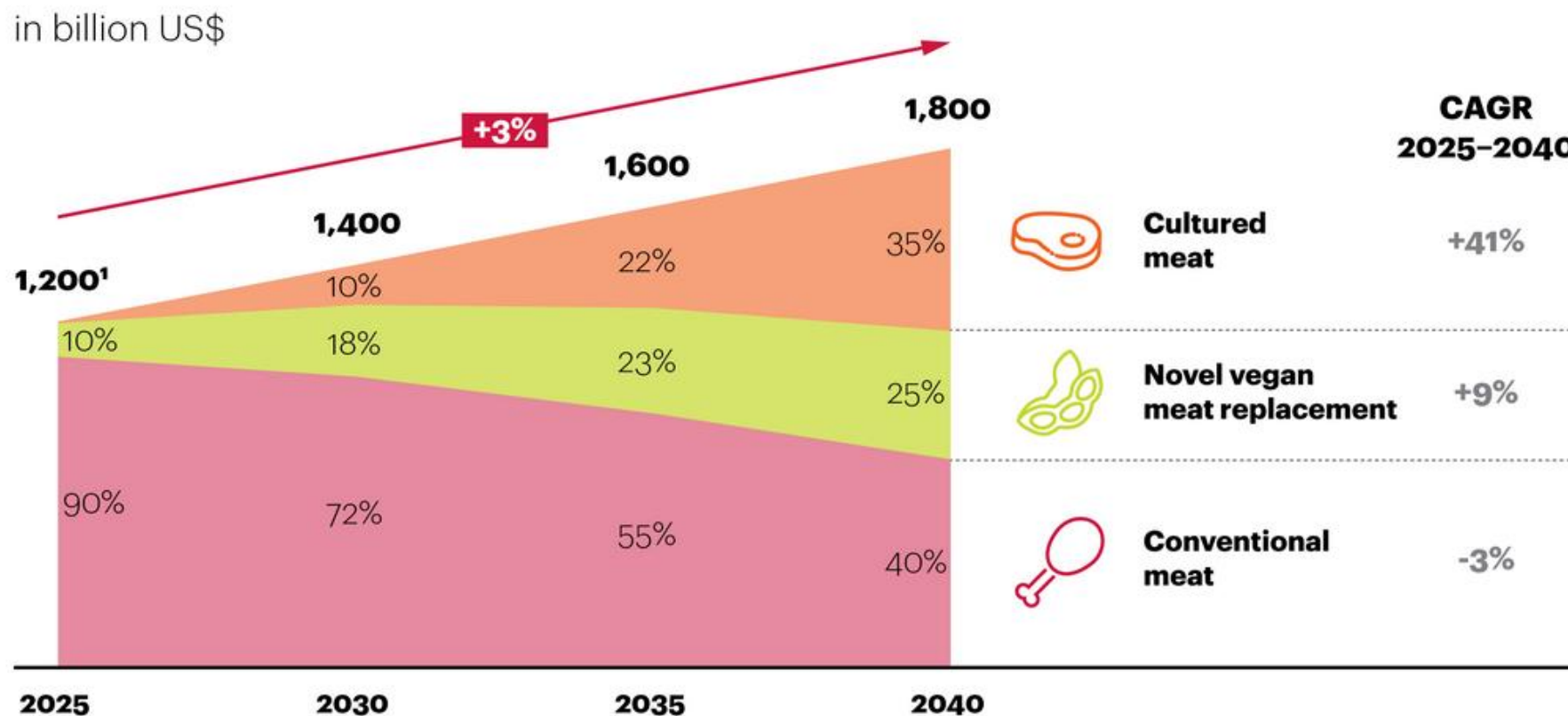
'000 t



Alternative meats



Global meat consumption by 2040



¹ Numbers are rounded to hundred billions.

Sources: United Nations, World Bank, Expert interviews; A.T. Kearney analysis

Ban of piglet castration without anaesthesia in Germany – Economic Effects



Economic effects of immunocastration and boar finishing 2018

Change in costs in EUR per 100 kg CW	DE_0_3600	DE_0_3800	DE_0_5000	DE_0_6000	DE_0_6300
	Lower-Saxony	Bavaria	NRW	Lower-Saxony	Schleswig-Holstein
Immunocastration with 2 vaccinations	-0,88 €	-2,69 €	-0,38 €	-2,88 €	-0,68 €
VR 1: with 3 vaccinations	0,11 €	-1,65 €	0,62 €	-1,88 €	0,34 €
VR 2: Payment System "Eberpreismaske"	-0,26 €	-2,03 €	0,23 €	-2,20 €	-0,08 €
VR 3: 3 vaccinations and "Eberpreismaske"	0,73 €	-1,00 €	1,23 €	-1,20 €	0,95 €
VR 4: after end of patent "Improvac"	-1,87 €	-3,73 €	-1,38 €	-3,87 €	-1,70 €
Boar Finishing without Investments	-1,52 €	-1,91 €	-0,22 €	-2,49 €	-0,08 €
VR 1: reduced CW of Boars (110 kg LW)	-0,37 €	-0,28 €	1,29 €	-0,97 €	1,55 €
VR 2: same finishing period (max. 123 kg LW)	2,02 €	5,47 €	2,54 €	3,37 €	3,33 €
VR 3: same finishing period (115 kg LW)	10,75 €	16,80 €	10,02 €	16,45 €	14,10 €
VR 4: same finishing period and higher production cycle	-1,95 €	-1,17 €	-0,11 €	-2,18 €	-0,84 €
Boar Finishing with Investments	-0,95 €	-1,43 €	0,31 €	-1,98 €	0,85 €
VR 1: reduced CW of Boars (110 kg LW)	0,02 €	-0,32 €	1,60 €	-0,71 €	2,47 €
VR 2: same finishing period (max. 123 kg LW)	2,64 €	6,06 €	3,12 €	3,94 €	4,34 €
VR 3: same finishing period (115 kg LW)	11,40 €	17,43 €	10,63 €	17,07 €	15,17 €
VR 4: same finishing period and higher production cycle	-1,37 €	-0,71 €	0,43 €	-1,66 €	0,09 €

Source: Own calculations based in literature review and expert assessments

Additional costs due to procedures and variational calculations in EUR per male piglet 2018

	NRW_20_K	NRW_30_K	NRW_54_M	NRW_65_M	NRW_70_M	NRW_11_G
Castration with injection anaesthesia	12,81 €	8,90 €	7,23 €	7,91 €	6,57 €	5,35 €
Follow-up inspection by the farmer	4,58 €	3,73 €	3,15 €	4,06 €	3,27 €	2,79 €
Castration with isoflurane anaesthesia A	2,36 €	3,07 €	3,15 €	2,05 €	1,53 €	1,73 €
carried out by the farmer	0,89 €	1,69 €	1,14 €	0,96 €	0,77 €	0,95 €
Castration with isoflurane anaesthesia B	3,12 €	4,06 €	2,81 €	2,72 €	2,45 €	2,26 €
carried out by the farmer	1,23 €	2,15 €	1,34 €	1,43 €	1,26 €	1,26 €
Castration with local anesthesia	1,67 €	1,76 €	1,45 €	1,25 €	0,97 €	1,00 €
carried out by the farmer	0,45 €	0,81 €	0,55 €	0,61 €	0,43 €	0,45 €

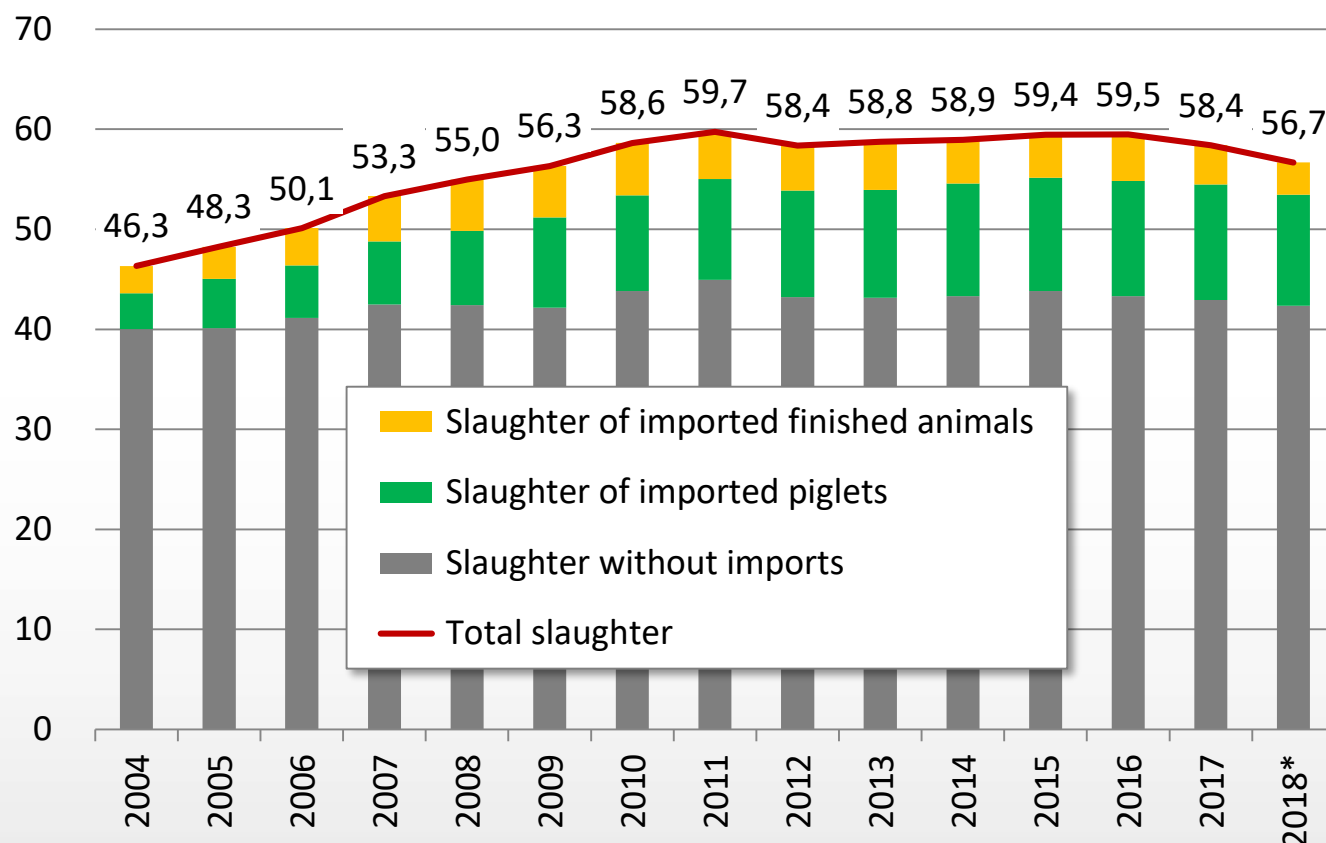
Isofluran Device A: for 4 piglets (EUR 8 695)

Isofluran Device B: for 3 piglets (EUR 9 800)

Source: Own calculations based on PraxiKaPIKA project

Composition and origin of slaughter pigs in Germany

Million pigs



- About 20 % of slaughter pigs are based on imported piglets (mainly from DK and NL)
- About 6 % of slaughter animals are imported (from NL, DK and BE)

Source: Statistisches Bundesamt, various years; EU-Kommission, 2019, own calculations

Conclusions

- ▶ **Less production: lower market shares**
- ▶ **Less exports and imports: lower market shares**
- ▶ **Sows / piglet production: high performance / productivity, relatively good prices, better profits than finishing**
- ▶ **Finishing: also high performance but rel. low prices and has to bear the piglet price (competition with Germany)**
- ▶ **The German ‚solution‘ towards castration will most likely provide competitive edge to Danish piglet producers**

agri benchmark – passionate about facts



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