

# Patterns of livestock transport in the EU and to third countries

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**Protection of Animals during Transport**





RESEARCH FOR ANIT COMMITTEE

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# Patterns of livestock transport in the EU and to third countries

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## **Abstract**

This in-depth analysis was commissioned by the European Parliament's Committee of Inquiry on the Protection of Animals during Transport (ANIT). The paper provides an analysis of the main drivers and key features of livestock transport within the EU and to third countries.

This document was requested by the European Parliament's Committee of Inquiry on the Protection of Animals during Transport (ANIT).

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## LIST OF ABBREVIATIONS

<b>AGRI</b>	Committee on Agriculture and Rural Development
<b>ANIT</b>	Committee of Inquiry on the Protection of Animals during Transport
<b>CAP</b>	Common Agricultural Policy
<b>DG-SANTE</b>	Commission's Directorate-General for Health and Food Safety
<b>EFA</b>	Eurogroup for animals
<b>EPRS</b>	European Parliamentary Research Service
<b>EU</b>	European Union
<b>F2F</b>	Farm to Fork
<b>GHG</b>	Greenhouse Gas
<b>IEEP</b>	Institute for European Environmental Policy
<b>MS</b>	Member State
<b>TRACES</b>	TRAdE Control and Expert System
<b>UK</b>	United Kingdom
<b>US</b>	United States of America

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## 1. INTRODUCTION

### KEY FINDINGS

- Every year, millions of livestock is transported within and outside of the European Union for trade purposes.
- Trade reasons can be various, among those: breeding, fattening and slaughtering.
- Intra-EU trade of livestock represents 85% of transports, while 15% of transport is headed to extra-EU destinations.
- In 2019, about 1.4 billion bovines, swine, poultry, ovine, caprine and equines were traded across the EU Member States.
- Poultry is the most traded farm animal in Europe. 98% of intra-EU trade and 97% of extra-EU trade (as expressed in numbers of animals transported) are represented by this species.

Every year, millions of live animals are transported within and outside of the European Union (EU) for trade purposes (EPRS, 2020). Animals can be traded for diverse reasons such as essential domestic transport (transport from the farm to a slaughterhouse, or transport of cattle-fattening farms), breeding, relocation of companion animals or trade of laboratory animals.

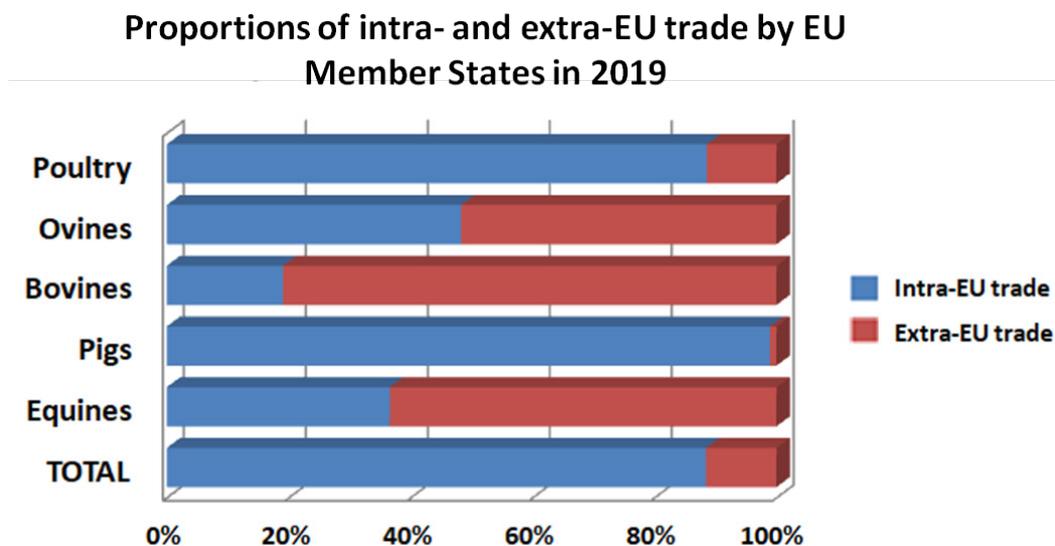
Council Regulation (EC) No 1/2005 of 22 December 2004 on the protection of animals during transport and related operations (“Transport Regulation”) is the current EU legislative framework to ensure the welfare during movement of live animals. It aims at avoiding injury or undue suffering to animals during transport, setting minimum requirements for fitness for transport, loading densities, journey and resting times, availability of water and feed, transport organisation and driver requirements. It applies to all live vertebrate animals transported in connection with an economic activity within the European Union, as well as to all consignments entering or leaving the customs territory of the Community (EPRS, 2018). However, the regulation does not apply to the transport of animals not in connection with an economic activity or to the transport to or from a veterinary practice or clinics, under the advice of a veterinarian (Article 1.5. of Regulation (EC) 1/2005). Moreover, there is a derogation for the transport of registered equines and their transport for non-commercial purposes such as competition, races, cultural events or breeding (Eurogroup for animals (EFA), 2021). Data on the transport of traded animals are not always available as the Transport Regulation (Council Regulation (EC) 1/2005) does not require Member States (MSs) to collect and report them in a harmonised way (EFA, 2021).

This in-depth analysis will focus on drivers of livestock transports within the EU and trade with third countries. Livestock includes bovines, swine, poultry, ovine, caprine and equines. Data will either refer to the entire animal category (e.g. ovines) or is else specified by the concrete age group or species (e.g. sheep or goats).

In 2019, about 1.4 billion bovines, swine, poultry, ovine and caprine and equines were traded across EU Member States. Extra-EU trade amounted to roughly 230 million animals of the same species. Poultry is the most traded farm animal species representing about 97 % of the intra-EU trade and 98 % of extra-EU trade (as expressed in numbers of animals transported) (EFA, 2021). Intra-EU trade represented 85 % of the farmed animal transport (including equines) in 2019 with the remaining 15 % corresponding

to extra-EU trade (**Figure 1**). The intra-EU transport of poultry, ovine, caprine and swine was higher than the extra-EU transports, while bovines and equines trade to extra-EU countries dominated their intra-EU trade (EFA, 2021).

**Figure 1: Proportion of intra and extra-EU trade of livestock during 2019**



Data from Eurogroup for animals, 2021. Graphic authors' elaboration.

Livestock transport is a major animal welfare concern. Animals are exposed to the stress of loading and unloading, hunger, thirst, exhaustion, and lack of space and rest during transit (EFA, 2021). Furthermore, in case of sea transport, the inadequacy of more than half of the operating vessels can pose a serious welfare risk (Boada-Saña et al., 2021). There is a lack of regular feedback from third countries on the conditions of the animals during transport and at arrival (DG SANTE 2019-6835).

The presence of veterinarians cannot always be guaranteed at the farm or at the point of loading. Farmers, drivers and inspectors experience difficulties in recognising the unfitness of livestock to be transported (EPRS, 2018).

While the Transport Regulation seeks to overcome these issues, there are a number of problems that remain to be solved, such as: the long-distance transports of unweaned calves, the need to ascertain the state of pregnancy, the extent to which the journey logs are checked, the relationship between infringements, enforcement and penalties, the 'mixed' impact of training, education and certification, border control and so on (EPRS, 2018).

The European Parliament <sup>(1)</sup>, the European Court of Auditors <sup>(2)</sup> as well as many academic analysis and NGO reports have noted that, despite the adoption and entry into force of Council Regulation (EC) N° 1/2005 on the protection of animals during transport<sup>(3)</sup>, the degree of progress in the implementation of many of its provisions by Member States has been insufficient to meet the regulation's objectives. As a result, weaknesses still persist in certain areas related to welfare issues during transport.

<sup>1</sup> [European Resolution of 14 February 2019](#) on the implementation of Council Regulation (EC) N° 1/2005 on the protection of animals during transport within and outside the EU; [European Implementation Assessment](#) on the Regulation (EC) N° 1/2005 on the protection of animals during transport and related operations, European Parliamentary Research Service (EPRS), October 2018.

<sup>2</sup> [European Court of Auditors, Special report N° 31/2018](#) - Animal welfare in the EU: closing the gap between ambitious goals and practical implementation, 14 November 2018.

<sup>3</sup> Council Regulation (EC) N° 1/2005 of 22 December 2004 on the protection of animals during transport and related operations ([consolidated text](#)).

In this context, the European Parliament decided to set up the Committee of Inquiry on the Protection of Animals during Transport (“ANIT Committee”) on 19 June 2020 to investigate alleged violations in the application of EU law on the protection of animals during transport and related operations within and outside the EU, including by air, road, rail and sea. The work of the ANIT Committee is focused on how EU rules are being implemented by Member States and whether the EU Commission is enforcing them properly <sup>(4)</sup>.

This research project is meant to provide the ANIT Committee Members with an overview of the main characteristics of animal transport in the EU and to third countries.

While the hearings and workshops organised by the ANIT Committee covered specific aspects of the transport of live animals within and outside the EU, this overview of the patterns of transport in the EU and to third countries will complete the sectoral or topical approach to provide input to the Committee’s final report. In doing so, this in-depth analysis will, whenever possible, build on the research already delivered to the ANIT Committee <sup>(5)</sup>.

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<sup>4</sup> [ANIT Committee Web page](#)

<sup>5</sup> for the transport to third countries see the conclusions of the ANIT Hearing on *‘The transport of live animals to third countries’* [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/690877/IPOL\\_STU\(2021\)690877\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/690877/IPOL_STU(2021)690877_EN.pdf) organised on 1 March 2021 and the workshop on *‘The practices of animal welfare during transport in third countries: an overview’* [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/690877/IPOL\\_STU\(2021\)690877\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/690877/IPOL_STU(2021)690877_EN.pdf) held on 25 May 2021.

## 2. DRIVERS OF LIVESTOCK TRANSPORT IN THE EU AND THIRD COUNTRIES

### KEY FINDINGS

- There are several drivers that affect the transport of livestock within the EU as well as to third countries.
- The **EU's regulatory framework** has influenced transport patterns in the past and will continue to do so in the future. The Farm to Fork strategy, new welfare requirements and the new Common Agriculture Policy will shape the transport patterns and conditions in the following years.
- The **decreasing number of slaughterhouses** in Europe in the past four decades has led to a centralization of livestock slaughter in fewer larger abattoirs; thus increasing the distance that livestock has to travel.
- The **free trade** gives farmers more negotiation flexibility taking advantage of cost variations in different countries. This provides an incentive for the transport of livestock to increase cost-benefits.
- **Specific local patterns** are another driver for transports of livestock to the Middle East and North Africa.
- **Meat consumption trends** have been changing in the EU and the world, affecting the production and the destination of livestock.
- **Environmental and health constraints related to livestock production** are more prominent than before and have to be considered in the future: greenhouse gas emissions, water shortage and the impact of animal diseases will affect the conditions of livestock transport in the coming years.

### 2.1. Regulatory framework

Livestock transport has seen many changes in the past years. The regulatory framework of the EU played a decisive role in this. This section lists some of the key elements that have affected and will affect trends and patterns in livestock transport, namely:

- **Hygiene package - Regulation (EC) No 853/2004** of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin. - has strongly affected the evolution of slaughterhouses in Europe (See section 2.2. Evolution of slaughterhouses).
- Increase in **free trade** between MSs allowed for easier cross-border movement of animals, thus affecting livestock transport (See section 2.3. Free trade of goods).
- **Farm to Fork (F2F) strategy** - for fair, healthy and environmentally friendly food systems - is at the heart of the European Green Deal. This strategy will aim to accelerate the transition to a sustainable food system where animal welfare will play a major role. The F2F strategy will have effects on the future regulation of the Common Agricultural Policy (CAP). Transport of livestock will also be considered (See section 2.6.2. Farm to Fork Strategy).

- **Council Regulation (EC) No 1/2005** came into force on 25 January 2005 and is aimed at protecting the welfare of animals during transportation. It lays down common rules for the transport of live vertebrate animals in connection with an economic activity within the EU, as well as all consignments entering or leaving the customs territory of the Community. This regulation covers general conditions for the transport of animals, specific requirements for transporters, keepers and assembly centres, obligations for competent authorities and enforcement measures and exchange of information, among others.
- **New animal welfare requirements** - While **Council Regulation (EC) No 1/2005** aims at protecting the welfare of animals during transport, there are still concerns about an inadequate application. Long-distance transports of unweaned calves, the need to ascertain the state of pregnancy of live animals, the extent to which the journey logs are checked, the infringement-enforcement-penalty relationship, the 'mixed' impact of training, education and certification, border controls etc. are some of the topics that still require improvements and solutions (EPRS, 2018). Progress in the application of welfare requirements will strongly affect livestock transport dynamics in the following years, thus affecting the transport trends within the EU and to third countries.

## 2.2. Free trade of goods

The free trade of goods in Europe, and the growing fragmentation and specialization of the farming system enables food producers to take advantage of the cost variations between different countries. Certain costs can be cut, due to different comparative advantages. For instance, variations in access and costs of raw materials (e.g. feed) and in labour costs can strongly affect the trade between countries. It can therefore be profitable to breed an animal in Country A, fatten it in country B, and then slaughter it in Country C. The possibility to transport livestock between MSs therefore gives farmers more negotiation possibilities. The related reduction in production costs must not be overstated however, as even moderate tariff variations could prevent or at least reduce trade (Mann et al.,2018).

An example of this can be observed in the transport of piglets from Denmark to Poland: while production of piglets is cheaper in Denmark, rearing is cheaper in Poland. The result is that five million piglets were sold and transported from Denmark to Poland in 2018<sup>6</sup>.

As the EU single market allows producers to export live animals and meat, there are ongoing debates on why animals should be transported alive rather than being traded as meat/carcasses.

Regarding the sustainability of meat transportation as compared to live animal transportation, studies by Baltussen et al (2009 and 2017) have estimated the advantages and disadvantages of long-distance transport of live animals for slaughter, compared to local slaughter followed by transport of meat, using a series of economic and sustainability indicators (transport costs, slaughter costs, animal welfare, environmental impact (CO<sub>2</sub> emissions NO<sub>x</sub> emissions), employment and other social effects). They concluded that:

- **The intra-EU transport of 67 thousand horses** required 3 thousand consignments in 2007. The trips lasted on average a week. Slaughtering horses in the production area and transport them as meat would decrease the number of consignment to 1 400. Consignments with meat are faster as no resting times for live animals are necessary. Diesel costs were calculated to be reduced by 48% considering that the transport of meat requires fewer consignments but does need investments in refrigeration. Baltrussen et al. (2009) concluded that a ban in horse transport would therefore benefit an animal's welfare, and reduce the CO<sub>2</sub> emission by almost half.

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<sup>6</sup> <https://www.theguardian.com/environment/2020/jan/24/something-is-wrong-meps-say-eu-is-failing-to-regulate-live-animal-exports>

- **Intra-EU transport of swine** in 2007 was about 22 million animals. Germany was the main buyer for swine in 2007 (Baltrussen et al., 2009) and is still nowadays (EPRS, 2020). The ban or a reduction in live pig transport would change employment within Europe, affecting drivers as well as slaughterhouse employees. While drivers' numbers would actually be reduced, the slaughterhouse employment would change location but not necessarily decrease. Consignments would be reduced, meaning less use of fuel and lower emissions of CO<sub>2</sub>. The scenario for a complete live pig transport ban in 2007 would cause a 40% reduction of CO<sub>2</sub> emissions and total transport costs could be reduced by 29 %. Less transport of adult pigs and piglets within Europe would therefore lower the risk of welfare problems, decrease the emissions of CO<sub>2</sub> and the transport costs. Transporting meat instead of adult pigs and piglets would therefore be more sustainable when looking at those parameters. There would nevertheless be huge structural effects in the regional production and slaughter of swine within Europe (Baltrussen et al., 2009).
- Long distance **transport of hens from the Netherlands to slaughter in Poland** is not sustainable from an animal welfare, animal health and environmental perspective, with an increasing risk of bruises, broken bones, stress, death on arrival, as well as higher CO<sub>2</sub> and NO<sub>x</sub> emissions. From a cost perspective, higher prices in the Netherlands create a difference of EUR 0.52 per kilogram of meat. (Baltussen et al., 2017).
- Long-distance **transports of lambs from Hungary to Italy** is not sustainable at all. All costs are higher, animal welfare is worse, the risk of spread of animal diseases and the environmental impact is higher. It would therefore be preferable to slaughter lambs in Hungary and avoid live transport (Baltussen et al., 2017).

### 2.3. Localisation and production factors

The regional production of meat in the EU is not equal to regional consumption. This is one of the underlying drivers for intra-community trade of meat and live animals between MSs (Baltussen et al., 2017). Therefore, the majority of the European livestock experiences transport during their life for several reasons that can vary from domestic transport to breeding or other reasons. While 70% of cattle and pigs were transported for production, in the EU, in 2019, sheep and goats were predominantly transported for slaughter (EPRS, 2020).

### 2.4. Evolution of slaughterhouses

#### Number of slaughterhouses

It is accepted by stakeholders in the food chain that slaughterhouse location has a major impact on the transport of live animals: as a consequence of the decrease in slaughterhouses, animals have to endure longer journeys, facing possible welfare concerns (EFA, 2019).

The number of slaughterhouses in Europe has been decreasing in the past decades, due to a concentration of slaughtering activity in larger abattoirs (EFA, 2019). In 2002, there were 3 890 large-scale slaughterhouses in the EU, which decreased to 2 863 in 2007 (Carlsson et al., 2007). This decreasing trend has been continuous over the last four decades, but has been accelerated since the entry into force of the **EU Hygiene Package** in January 2006 (Regulation (EC) No 853/2004). This package established a stricter rule of hygiene requirements with the consequence that many small slaughterhouses struggled to fulfil them, while maintaining an economically profitable activity (EFA, 2019). On the other hand, it is easier for larger slaughterhouses to meet the hygiene regulations, but

they also need a higher number of animals to operate in full capacity. As a consequence, a higher number of animals has to be transported from farther locations to meet the slaughterhouse demand.

At EU level, a few groups control some of the largest slaughterhouses on an industrial scale. In 2014, the ten biggest abattoirs in the EU slaughtered more than 44 million swine a year: this represented for instance around 17 % of the European total of pig slaughter (**Table 1**).

**Table 1: Top EU companies of slaughterhouses for swine and their activity in 2016**

<b>Companies (origin)</b>	<b>Activity in 2014 (millions of slaughtered swine)</b>
Danish Crown (DK)	21.7
Tönnies (DE)	17.2
Vion (NL)	15.8
Westfleisch (DE)	7.7
Pini (IT)	6.1
Cooperl (FR)	4.9
Bigard-Socopa (FR)	4.6
Vall Companys (ES)	4.4
Belgian Pork Group (BE)	4.2
Batallé-Juià (ES)	3.9

Source: May 2016 / IFIP / France. <https://www.ifip.asso.fr/fr>

### Mobile slaughterhouses

While mobile slaughterhouses (<sup>7</sup>), which reduce welfare issues that livestock may face during transport, can be seen as an alternative, industry figures suggest that the costs involved would be too high.

Carlsson et al., studied consumers' willingness to pay more for meat coming from mobile slaughterhouses that therefore reduce live animal transport times. According to the 2016 Eurobarometer on the Attitudes of Europeans towards Animal Welfare, Europeans were asked whether they would be willing to pay more for products sourced from animal welfare-friendly production systems and if so, to what extent. Overall, 59 % of EU citizens mentioned they would be prepared to pay more. More specifically, more than a third (35 %) are prepared to pay up to 5 % more and more than one in ten (16 %) are prepared to pay 6 % to 10 % more for products sourced from animal welfare-friendly production systems. Very small percentages of Europeans are ready to pay 11 % - 20 % more (5 %) or more than 20 % (3 % of respondents). However, more than a third of EU citizens (35 %) are not ready to pay more and a small percentage mentioned spontaneously (4 %) that it depended on the price of the product (DG for Health and Food Safety, 2016).

<sup>7</sup> EU legislation allows mobile slaughter of all kinds of domestic animals (Council Regulation (EC) No 1099/2009). A mobile slaughterhouse plant is a self-contained processing unit that can be moved between farms, allowing slaughter to be performed on farm and avoiding the relocation of livestock.

## Parallel trend towards small-scale production of premium products

Not all meat-processing companies have concentrated their activities as a response to the increasing price competition. There is also a trend of smaller businesses that focus on quality, eco-friendly production and animal welfare. Food scandals related to contaminated meat and hygiene problems are a driving force in this trend <sup>(6)</sup>.

As example, strict regulatory standards for animal welfare and food safety and a large home market have driven Sweden to invest in small-scale production, as consumers increasingly focus on local, sustainable meat. While the slaughter prices in large abattoirs make it impossible for small and medium sized slaughterhouses to compete, some are still working in Germany selling premium products from regional and transparent supply chains <sup>(8)</sup>.

## Average slaughterhouse wage in Europe

The shift towards mass production in large units has been driven by structural market forces such as retailer concentrations, price pressure but also by the competition and imports from low-wage countries (Eurofound, 2018) thus affecting the transport and slaughter conditions of live animals.

While average wage data for meat processors is not available for all MSs, a comparison on minimum wage highlights the differences in salaries between MSs. In January 2021, ten MSs located in the east of the EU, had minimum wages below EUR 700 per month: Bulgaria (EUR 332), Hungary (EUR 442), Romania (EUR 458), Latvia (EUR 500), Croatia (EUR 563), Czech Republic (EUR 579), Estonia (EUR 584), Poland (EUR 614), Slovakia (EUR 623) and Lithuania (EUR 642). Only six MSs, all located in the west and north of the EU, have minimum wages above EUR 1 500: France (EUR 1 555), Germany (EUR 1 614), Belgium (EUR 1 626), the Netherlands (EUR 1 685), Ireland (EUR 1 724) and Luxembourg (EUR 2 202) <sup>(9)</sup>.

The pay and wage levels of meat processors vary across EU MSs.

Until recently, meat processing used to be a low-wage industry in Germany, often based on temporary contracts <sup>(10)</sup>. A mean wage for a permanent contract in Germany in 2017 was EUR 21 576 to 32 232 per year, while temporary and posted workers were in some cases paid only EUR 4 to 6 an hour (Eurofound, 2018). Sweden has an average wage for meat processors of EUR 33 679, which is regarded as a high cost level compared to other MSs. This number nevertheless does not represent the temporary workers' wage (Eurofound, 2018).

## 2.5. Market dynamics

### Meat consumption trends

Population growth and per capita consumption of meat products have an effect on transport patterns of livestock, as well as meat. Income growth in emerging economies has led to an increasing consumption of higher value products such as meat and dairy products. The rise of societal and environmental concerns in developed economies led to lower red meat consumption (EU Agricultural Market briefs, 2019).

The changes in meat consumption patterns in Europe and around the world have had effects on the internal trade, as well as exports and imports. The consumption of **beef** in Europe has been relatively

<sup>8</sup> <https://euagenda.eu/upload/publications/untitled-178347-ea.pdf>

<sup>9</sup> <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20210205-1>

<sup>10</sup> The Occupational Safety and Health Inspection Act (Arbeitsschutzkontrollgesetz) adopted in December 2020 and in place since 1 January, 2021 sets rules for a transition away from a low-wage industry, <https://www.bundesregierung.de/breg-de/suche/arbeitsschutzkontrollgesetz-1772606>

stable in the past few years (**Table 2**). It is expected that beef consumption will decline by 0.9 kg by 2030 (EC, 2020). The beef production is also expected to continue declining, despite moderate export prospects and decreasing feed prices (EC, 2020).

The EU production and consumption of **sheep/goat** meat has decreased gradually until 2013, when the production stabilized. The EU consumption is expected to remain relatively stable by 2030 at 1.3 kg *per capita*. The withdrawal of the UK from the EU creates uncertainty in the predictions in the sheep sector, as it was the EU’s largest producer (EC, 2020).

While the EU is the largest consumer of **pig meat** worldwide (40 kg *per capita*), there is a slight decrease in consumption. Strong international demand and increased prices are believed to be main drivers in the decreasing pattern (EC, 2020).

The production of pig meat has not decreased, while exports have been increasing (+12%) (EU Agricultural Market briefs, 2019). The EU is expected to continue being a main exporter and pig meat supplier, but not rebounding the record levels of 2019-2020 (EC, 2020).

**Poultry** meat consumption is increasing significantly in all regions of the world. The consumption in the EU is currently 25 kg *per capita* and is expected to increase.

The EU is one of the major poultry exporter and importer worldwide. The demand of poultry meat is increasing in Africa and Asia, possibly having effects on EU exports. (EU Agricultural Market briefs, 2019).

**Table 2: Per capita consumption (kg/capita/year) of meat and trends by regions**

Per capita consumption (kg/capita/year)			
	Beef	Pig meat	Poultry
<b>Europe</b>	15	40	25
<b>Africa</b>	5	Na	6
<b>Asia</b>	5	15	10
<b>Oceania</b>	20	20	40
<b>North America</b>	35	30	50
<b>South America</b>	35	na	40

Note: Increasing consumption trends in orange. Decreasing consumption trends in yellow.

Source: EU Agricultural Market briefs, 2019. Table own elaboration.

As consumer dietary patterns, health considerations, and convenience trends change, the EU meat consumption is projected to decline by 1.1 kg *per capita* per year (from 68.7 to 67.6 kg) by 2030 (EC, 2020).

The worldwide demand, on the other hand, is expected to sharply increase by + 15 % over the next ten years, reaching 38 kg *per capita* in 2027 (OECD-FAO, 2018; Peyraud et al., 2020). These patterns will have an impact on the transport of livestock to slaughterhouses, as well as on exports and imports of meat and live animals from and to third countries.

## Consumer patterns and preferences

Environmental concerns will shape consumer preferences and increase their attention on local markets, organic and other quality schemes, animal welfare and environmental footprint. Changes in consumption habits are driven by different reasons such as dietary adjustments (more flexitarians, vegetarians and vegans), health considerations (population ageing and lower protein needs) and convenience (shift from fresh meat to more processed meat and preparations) (EC, 2020). In fact, sustainability is expected to take a more prominent role in EU meat markets, among both producers and consumers (EC, 2020).

This could lead to a smaller EU livestock herd, particularly of bovines and swine (-5.5 million and -4.5 million heads respectively) by 2030.

Linked to production and sustainability, there is an expected **decline in exports** that will affect **livestock** (-30 %). Exports of live cattle are expected to decline gradually due to a lower demand from Turkey and increasing concerns over animal welfare during transport (EC, 2020). The export of ovine is also projected to slowly decline to 40 thousand heads by 2030 (-32 % compared to 2020). The main reasons are animal welfare concerns and financial risks linked to certain trade destinations.

Supplies from other markets such as Brazil, the United States of America (US) and Argentina for beef or US, Brazil and Canada for pig meat will further drive the evolution of prices for meat products in the EU and thus shape the export of meat and livestock.

## 2.6. Environmental and health constraints

Environmental factors play a key role in agriculture and livestock production. Concerns about greenhouse gas emissions, changes in temperatures, water shortages, reoccurring appearance of zoonosis and many other factors are affecting the trade of livestock. The EU's commitment to a greener, fairer and more sustainable transition in the agricultural sector will have to address and foresee environmental challenges. Some main drivers that may affect the transport of livestock are mentioned in this section.

### Greenhouse gas emissions

The European Council, in its conclusions of 12 December 2019, agreed on the objective of achieving a climate-neutral EU by 2050, in line with the objectives of the Paris Agreement. On 4 March 2020, as part of the European Green Deal, the European Commission adopted a legislative proposal for a European Climate Law <sup>(1)</sup>, setting out the objective of a decarbonised EU economy and establishing a framework for achieving this objective.

To this end, the Commission shall proceed to the quantification of the mitigation potential in agriculture up to 2030, which will include reductions in greenhouse gas (GHG) emissions, effects of land use changes and carbon storage in agricultural soils. Modelling projections for 2030 show that GHG emissions from EU agriculture are going to remain largely unchanged from current levels (EC, 2020). Enabling agriculture to make a significant and proportionate contribution to the EU's climate mitigation efforts will require the deployment of all the tools and options available to the sector to drive down GHG emissions (IEEP, 2019).

The majority of agricultural emissions (~59 %) are attributed to livestock production (including manure decomposition and enteric fermentation) (IEEP, 2019). While the vast majority of emissions are

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<sup>11</sup> [commission-proposal-regulation-european-climate-law-march-2020\\_en.pdf\(europa.eu\)](#).

attributed to the production cycle of livestock, some are caused by the transport of livestock between EU MSs and to third countries.

Transporting meat instead of live animals has been proposed as a means to reduce emissions. Transporting carcasses instead of livestock implies shorter journeys (less resting stops for live animals), a decrease in consignments (more carcasses can be transported in the same volume than livestock), and an increase in energy for refrigeration, amongst other factors.

Based on the 2007 trade volumes, Baltrussen et al. calculated that transporting horse carcasses instead of live horses within the EU could reduce CO<sub>2</sub> emissions by 48%, while stopping the intra-EU transport of live swine would cut CO<sub>2</sub> emissions by 40 % (Baltrussen et al., 2009).

Concrete calculations show that transporting live lambs from Hungary to Italy, instead of their carcasses, increases CO<sub>2</sub> emissions in 108 gram per kg of meat, NO<sub>x</sub> emissions by 0.41 gram per kg meat, and requires 0.03 more litres of diesel per kg of transported meat (Baltrussen et al., 2017). CO<sub>2</sub> and NO<sub>x</sub> emissions were also estimated to be 85 % higher in long-distance transport of livestock, compared to long-distance transport of meat. The transport of carcasses requires 5 times less consignments than the transport of livestock; however, this is partially compensated by a 20 % increase in diesel use for refrigeration (Baltrussen et al., 2017).

While transport represents just a minor percentage of GHG emissions in the livestock production cycle, it is a factor to be considered when discussing measures to reduce emissions. Switching livestock transport to meat and carcass transport would also have a relevant impact on the welfare of animals.

### **Farm to Fork strategy**

On 20 May the European Commission unveiled the Communication '**A Farm to Fork Strategy - For a fair, healthy and environmentally-friendly food system**' (COM (2020) 381).

Livestock farming is one of the sectors most concerned by the Farm to Fork (F2F) Strategy. It highlights the environmental and climate impacts of current levels of consumption and production of meat, dairy and eggs and addresses the need to shift to a more plant-based diet (Massot, 2019). The F2F Strategy also addresses the revision of the EU legislation on animal welfare, including on animal transport and slaughter of animals. To enhance the regional and local food systems, the Commission will also support reducing the dependence on long-haul transportations of primary agricultural goods (COM (2020) 381)<sup>12</sup>.

A change in consumption patterns and concerns about animal welfare during the production cycle (including transport) will affect the meat production and therefore also the amount of transported livestock within the EU. It is yet unclear if a decrease in meat consumption in the EU will cause a decrease in overall livestock production and transport, or rather be compensated by an increase in exports to third countries. All of the above-mentioned factors will determine livestock transport patterns in the coming years.

### **Animal Health**

Animal diseases can cause serious social, economic and environmental damage, and can in some cases pose a threat to human health (Peyraud et al., 2020). Some emerging infectious diseases in humans have an animal origin and are classified as zoonosis (Blancou et al., 2005 and Peyraud et al., 2020). Animal diseases threaten economic development, as well as animal and human well-being. Major

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<sup>12</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0381&qid=1624630067243>

animal disease threats have a negative impact both on the livestock production and on worldwide trade.

Intensive farming systems, exposure to high densities and increased levels of stress during transport are some underlying causes of disease outbreaks in livestock production (Peyraud et al., 2020). Conditions of transport, health, and stress levels of livestock destined for transport have to be controlled and considered as threat factors.

### **Water Shortage**

Global warming can be a challenge to the increase in demand for meat and dairy products. Water-stressed nations are avoiding rearing animals from birth and are evading water-demanding options<sup>(13)</sup>. Dairy cows, for example, can drink between 110 and 180 litres of water per day and this amount can double when exposed to a lot of heat.

Libya and Jordan, the main importers of sheep from the EU, have been facing water scarcity. Population growth, improved living standards and the loss of certain resources due to mismanagement and environmental degradation are some of the main reasons for water shortage in Jordan (Haddadin et al., 2006). Water shortage, both for domestic and agricultural use, is also registered in North Cyprus (Katircioglu, 2006). Egypt imports 12-months old cows and raises them the final six months before slaughter. This allows the reduction of the cost of water and nutrient-rich feed that the animals need in their early life stages. In addition, the meat is sold as produced in Egypt, raising market price<sup>(13)</sup>.

## **2.7. Specific local patterns**

Religious slaughter methods are often cited as one of the main reasons why livestock imports are preferred by certain countries<sup>(14)</sup>. Turkey's beef production system for instance relies largely on fattening imported live cattle. The import of live animals helps them to protect local producers, while ensuring consumers have access to fresh meat, processed in accordance with Muslim religious practices. The EU provides 25 % of Turkey's imports of live animals (DG Health and Food Safety, 2019).

The export is also driven by the consumers' preference of purchasing freshly slaughtered and non-refrigerated meat, even if modern meat preservation techniques involving controlled refrigeration in a protective atmosphere mean that it is increasingly difficult to distinguish between fresh and refrigerated meat<sup>(9)</sup>.

Lebanon claims that the availability of refrigerated trucks and warehouses is not always ensured, making live animal transport more convenient as a continuous cold chain is necessary for safe imports. However, Lebanon already imports some meat and carcasses, indicating that facilities are in place in some areas. Investments in infrastructure would be required in more urban areas to allow the replacement of live animal imports with carcasses or meat imports<sup>(9)</sup>.

Since 2000, there has also been an increase in demand in Europe for meat slaughtered following religious practices. This period of growth and development has continued in the past decade (Lever and Miele, 2012). Data regarding ritual slaughter is lacking for different MSs making it hard to assess how much it contributes to the EU economy and of animal slaughter and transport.

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<sup>13</sup> <https://www.theguardian.com/environment/2020/jan/23/how-the-middle-east-water-shortage-drives-demand-for-live-animal-imports>

<sup>14</sup> <http://live1.ciwf.org.uk/media/3817826/stop-the-bull-ship-report.pdf>

### 3. LIVESTOCK TRANSPORT IN THE EU AND TO THIRD COUNTRIES: KEY FEATURES

#### KEY FINDINGS

- The EU has an important population of livestock, the majority of which experiences transport during their life.
- Almost all livestock transport occurs within the EU, with extra-EU trade being just a small fraction. Extra-EU trade is nevertheless an important component of livestock transport.
- In 2019, about **1.4 billion** bovines, swine, poultry, ovine and equines were traded across the EU Member States while roughly **230 million** bovines, pigs, poultry and ovine were exported from EU to non-EU countries.
- Intra-EU livestock trade accounted for **EUR 8.6 billion** in 2018 while extra-EU trade accounted for **EUR 3 billion**.
- The number of animals transported within the EU has increased by 19 % from 2009 to 2015.
- By and large, the number of consignments increased in line with the increase in the number of transported animals. The number of animals transported per consignment decreased for all animal categories except swine, which has increased by 56 % from 2005 to 2015.
- Exports to third countries have increased between 2005 and 2015, driven mainly by a threefold increase in cattle exports.
- The duration of journeys for extra-EU consignments are generally longer given the transport routes, border procedures, waiting times and the fact that a large number of exports is carried out by sea.

The EU has an important population of livestock. In 2018, EU herds counted 87 million bovine animals, 147 million pigs, some 100 million sheep and goats, 290 million laying hens as well as countless chicks and other types of animals such as rabbits and horses (EPRS 2020). The majority of this livestock is kept in few MSs with Spain, France, Germany, Italy, Romania and Poland leading the market<sup>15</sup>.

Data from TRACES (TRAde Control and Expert System) indicates that the total number of animals transported within the EU increased by 19 % between **2009 and 2015**. The increase of transported animals caused an upwards trend in the number of consignments within the same years. Nevertheless, different trends were observed for the different animal categories. The number of transported cattle, sheep and goats decreased as well as their number of consignments. The number of heads of horses, pigs and poultry increased together with the number of consignments for said animals. During the same time, the consignments for pigs, sheep and goats remained relatively stable (EPRS, 2018).

<sup>15</sup> <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20200923-1>

Almost all the livestock transport is **intra-EU**. Extra-EU trade in live animals represents a small part of all EU trade, summing up to between 10 and 15 % of total trade (EPRS, 2020; EFA, 2021). Horses dominate extra-EU consignments, while cattle represents the next largest group. (EPRS, 2018).

Proportion of live animal trade within and outside of the EU differs for the different animal species. Cattle is mostly destined for exports to third countries while live pigs trade is much higher within the EU than to third countries. The number of sheep exported is almost as high as the number of sheep traded within the EU (**Figure 1**) (EPRS, 2020).

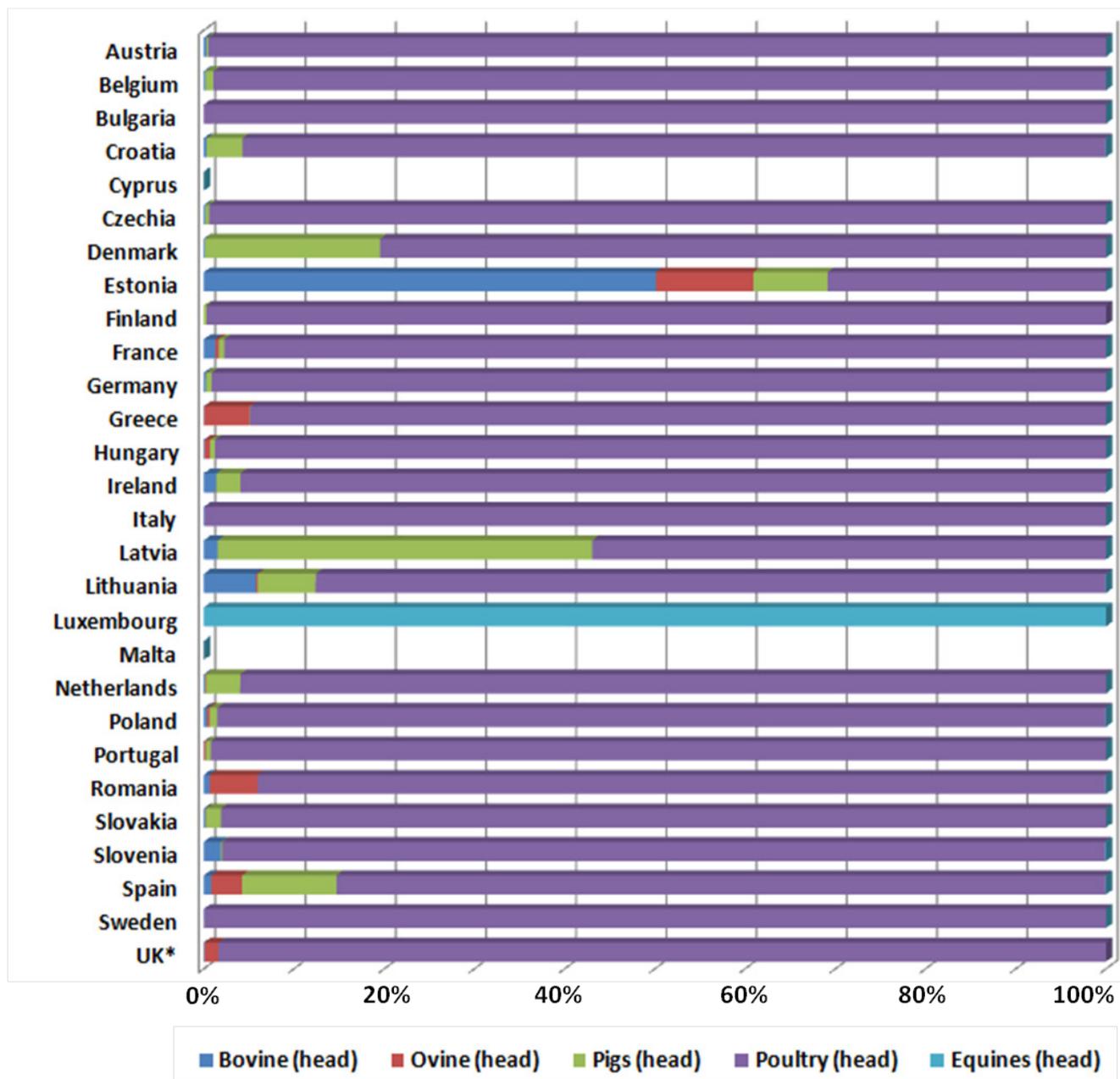
### 3.1. Intra-EU trade

In **2019**, about 1.4 billion bovines, swine, poultry, ovine, caprine and equines were traded across the EU Member States. The trade of live animals between MSs has been increasing over the past decades. Between **2005 and 2015**, the intra-EU trade flow of pigs has increased while the transport of cattle has been relatively stable. The transport of sheep and goats has decreased for the same period (EFA, 2019). The increase in traded animals can be linked to some extent to the enlargement of the EU from 25 MSs in 2005 to 28 MSs in 2013. The withdrawal of the United Kingdom in 2020 will have effects on the intra-EU trade. All animal categories have nevertheless seen a trade flow increase between **2014 and 2017**, with the number of live cattle transport increasing by +8.3 %, live pig trade by +15.3 % and sheep/goats by +10.8 % (EFA, 2019).

In **2019**, 4.3 million bovines, 3.3 million ovine and caprine, 36.9 million pigs, 1 300 million poultry and 55 692 equines were traded between EU Member States (EFA, 2021). Poultry was the most traded group of animals, representing at least 57 % of the total number of traded live animals for all MSs. The proportion of the different animal species traded in 2019 by MSs is available in **Figure 2** while **Figure 3** shows proportions excluding poultry (EFA, 2021).

**Figure 2: Proportion of animal category sales from Member States in 2019**

**Proportion of sales by animal category and Member States in 2019**

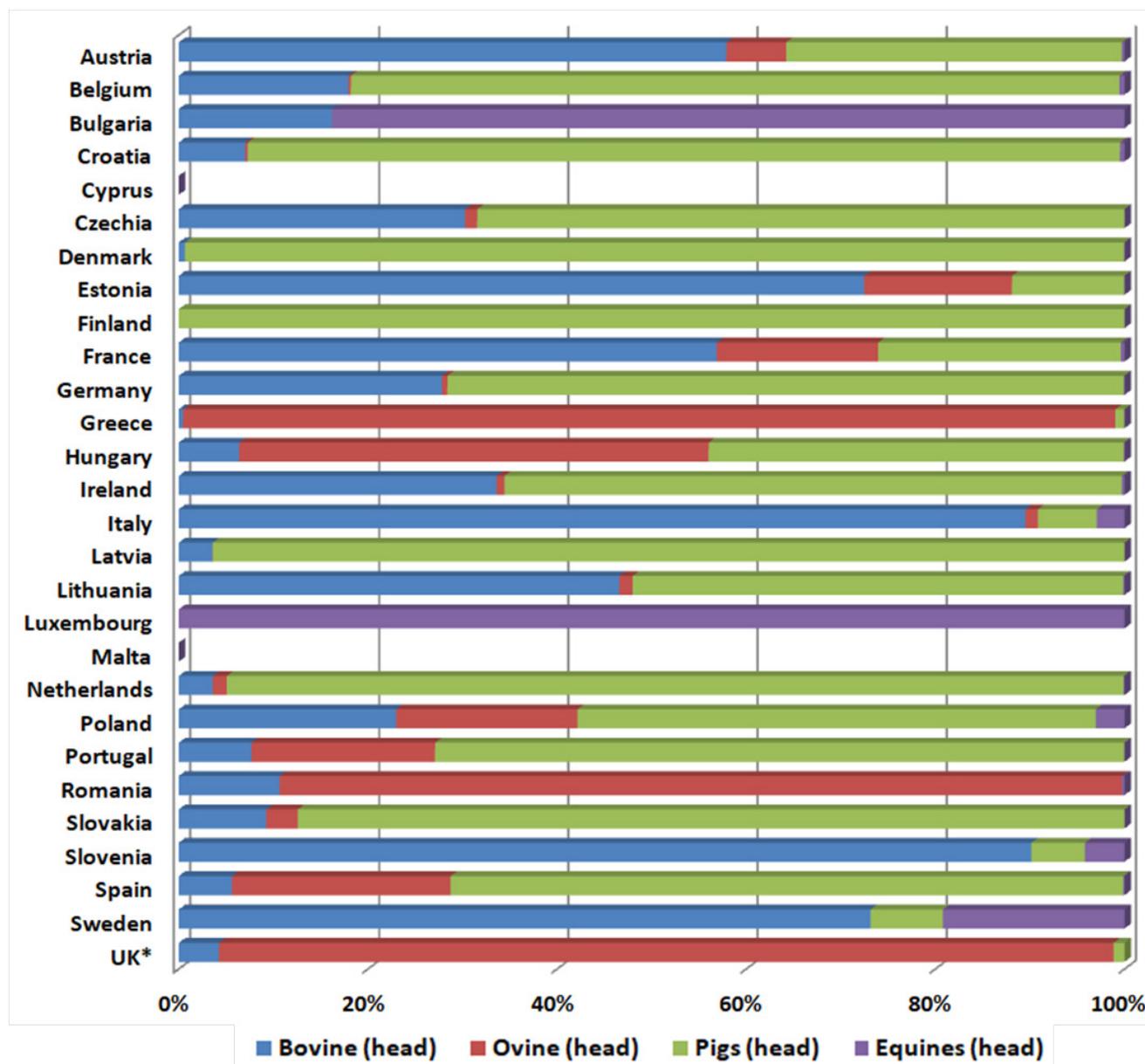


Note: \* UK data on equines is missing.

Data source EFA, 2021; Comtext, Eurostat. Graphic: own elaboration.

**Figure 3: Proportion of animal categories sold by one Member State to the rest of EU MSs in 2019**

**Proportion of sales by animal category and Member States in 2019  
(excluding poultry)**



Note: \* UK data on equines is missing (excluding poultry).

Data source EFA, 2021; Comtext, Eurostat. Graphic: own elaboration.

### 3.1.1. Number of consignments

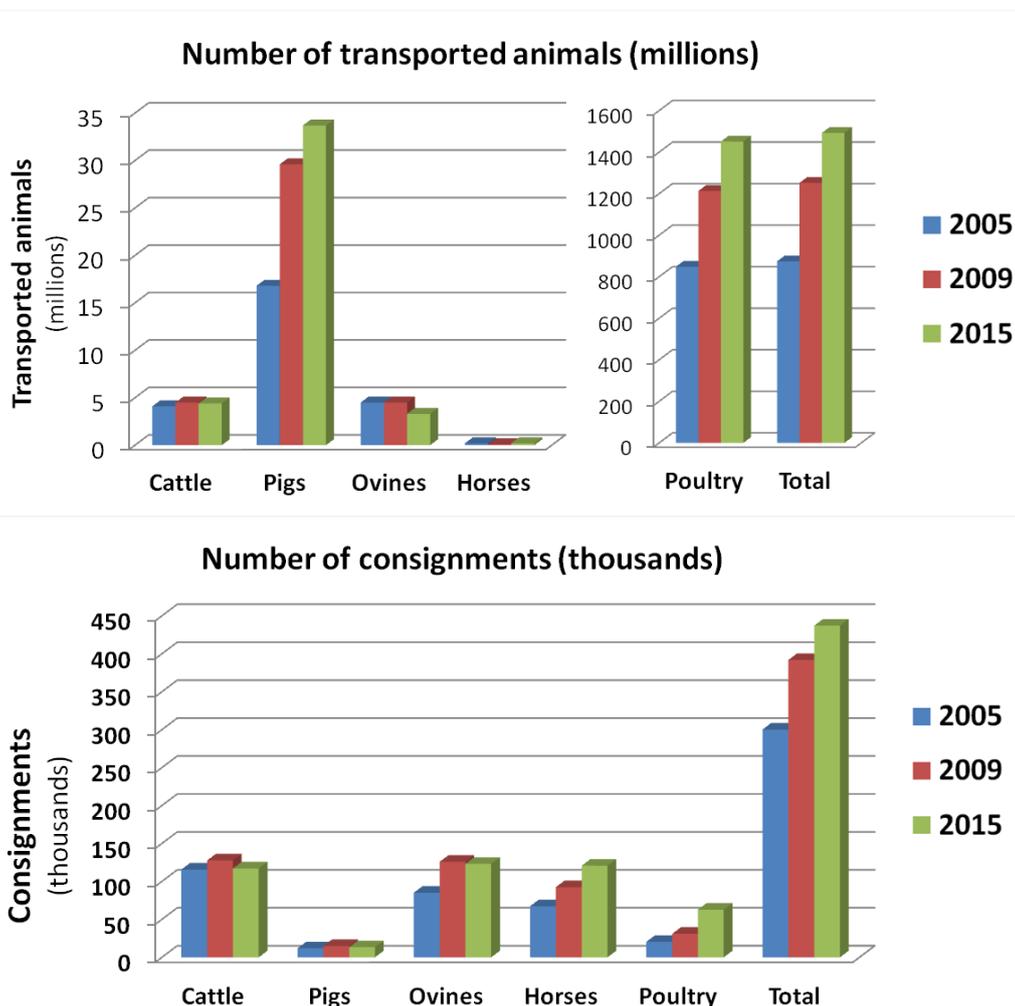
95 % of the livestock raised in a MS is transported and slaughtered in the same MS (EPRS, 2018). Following the increase in transport of animals between **2005 and 2015**, there has been a raise in consignments. This was not proportional to the increase in number of transported animals for all categories (**Table 3**). A slight rise in average number of animals per consignment was observed for cattle, while the number of transported pigs per consignment doubled between 2005 and 2015. Sheep and goats had a reduction of animals per consignments (**Figure 4**) (EPRS, 2018).

**Table 3: Number of transported animals (in millions), number of consignments within the EU and mean number of animals transported per consignment for 2005, 2009 and 2015**

	Transported animals (in millions)			Number of consignments			Mean number of animals transported per consignment		
	2005	2009	2015	2005	2009	2015	2005	2009	2015
<b>Cattle</b>	4.1	4.5	4.4	115632	127710	117095	35.5	35.2	37.6
<b>Pigs</b>	16.8	29.6	33.7	11824	14878	13293	1420.8	1989.5	2535.2
<b>Poultry</b>	848.5	1213.4	1451.2	85092	125850	123136	41697	39230	23092
<b>Ovines</b>	4.5	4.5	3.3	67285	92489	120745	52.9	35.8	26.8
<b>Horses</b>	0.2	0.1	0.2	20349	30930	62844	2.9	1.1	1.7
<b>Total</b>	874.1	1252.1	1492.8	300182	391857	437113	-	-	-

Source: EPRS, 2018

**Figure 4: Number of transported animals (in millions) and number of consignments for the intra-EU trade in 2005, 2009 and 2015**



Source: EPRS, 2018.

### 3.1.2. Main trading countries

The **main players in intra-EU trade** vary depending on the animal category. France dominates bovine trade with more than double the amount of Germany, the second country with highest bovine trade (EFA, 2021) (**Table 4**). Italy, the Netherlands and Spain are the main buyers, accounting for 70 % of total intra-EU destinations on average for 2016-2017 (EFA, 2019). Romania is the top trader of ovine within the EU, followed by Spain and Hungary. Pigs are mainly transported by Denmark and the Netherlands, which together represent 73 % of the entire trade within the EU. Germany is the first in poultry trade, closely followed by the Netherlands. Lastly, equine trade is dominated by the Netherlands, France and Belgium.

**Table 4: Top intra-EU traders of live animals in 2019 (total of intra-EU trade) in million head of animals**

Bovines	France	1.5	Ovines	Romania	1.5	Pigs	Denmark	15.7	Poultry	Germany	312	Equines*	Netherlands	12.9
	Germany	0.7		Spain	0.6		Netherlands	11.3		Netherlands	282		France	9.85
	Netherlands	0.4		Hungary	0.5		Spain	2.0		Belgium	136		Belgium	7.8
	Belgium	0.2		France	0.4		Germany	1.9		France	112		Poland	5.2
	Ireland	0.2		UK	0.2		Latvia	1.4		Czechia	105		Denmark	3.9

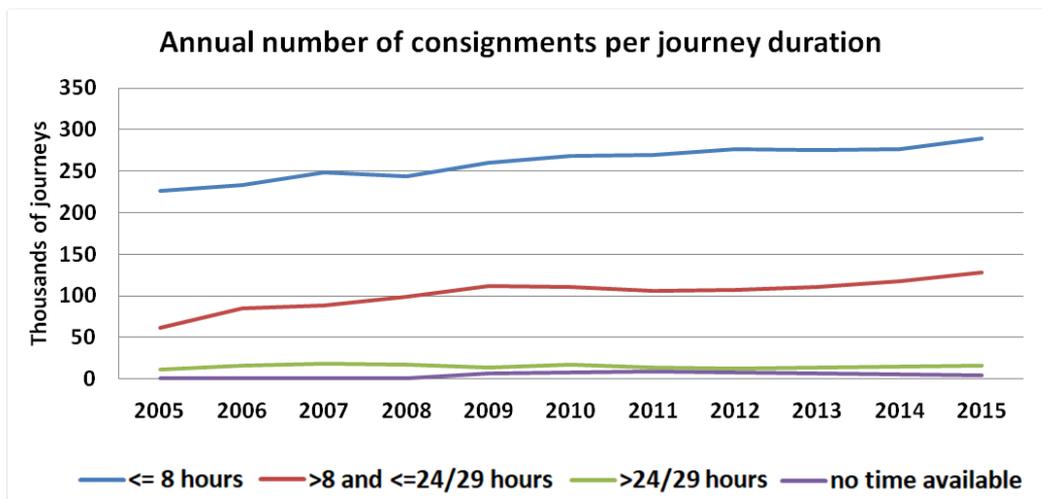
Note: \*Equines are in thousands of heads.

Data Source: Eurogroup for animals, 2021.

### 3.1.3. Duration of journeys

The duration of intra-EU journeys has increased for all time categories from **2005 to 2015 (Figure 5)**. Short journeys, lasting less than 8 hours, have relatively steadily increased from 227 thousand journeys in 2005 to 260 thousand journeys in 2015. Long journeys (between 8 and 24 hours) and very long journeys (more than 24 hours) have almost doubled in the same period of time, going from 72 thousand journeys to 125 thousand journeys. The eastward expansion of the EU resulted in increased transport times. The biggest increase in long-distance journeys (+80 %) occurred between **2005 and 2009**, after the accession of Bulgaria and Romania to the EU (EFA, 2019).

For around 1% of the journeys, there was no time registered (EPRS, 2018). Almost all of the transports of livestock occur within EU MSs with two thirds being short journeys. The increase of long and very long journeys can be attributed to a certain extent to the geographical expansion of the EU, from 2005 to 2013 (EFA, 2019). Livestock is also traded by sea between EU MSs, increasing the journey duration. According to DG SANTE, 2.8 million sheep and cattle were transported by sea to Croatia, France, Ireland, Portugal, Romania, Slovenia and Spain in **2018** (Boada-Saña et al., 2021).

**Figure 5: Annual number of consignments per journey of duration for intra-EU trade from 2005 until 2015**

Note: 24/29 hour: a stop at a control is needed for pigs/poultry and horses after a journey of 24 hours; for cattle, sheep and goats a stop is needed if the journey last more than 29 hours. 2005 – 2006: EU 25, 2007-2012: EU 27 (including Bulgaria and Romania), 2013-2015 (including Croatia).

Source EPRS, 2018.

### 3.1.4. Trade Value

The value of intra-EU trade in live animals was **EUR 8.6 billion in 2018** (EPRS, 2020). Bovines, pigs and poultry accounted for the highest values. Bovines accounted for EUR 2.7 billion, followed by swine (EUR 2.47 billion) while poultry contributed to the intra-EU trade with EUR 1.7 billion. Equidae had a trade value of EUR 825 million, while sheep and goats accounted for EUR 215 million. Other animals had a trade value of EUR 6.2 million <sup>(16)</sup>.

### 3.1.5. Reasons for transport

**Cattle for slaughter** constituted just over half of the total number of cattle sold among EU countries between 2014 and 2017. The key destinations of cattle for slaughter during this period of time were the Netherlands (48%), Spain (24 %) and Belgium (13 %). The transport for other reasons such as replacement for dairy herd or animals for further fattening represented the other half and has risen by 21 % between 2014 and 2017. Main buyers for other purposes were Italy (73 %) and Spain (19 %) (EFA, 2019).

Denmark and the Netherlands are the most prominent sellers of **swine** accounting for 74% of total intra-EU trade in 2015-2016, and 73 % in 2019 (EFA, 2019; EPRS, 2020). Most of the intra-EU trade are young pigs sent for further **fattening** while a smaller proportion is sent for **slaughter** (EFA, 2019).

Romania, Hungary, France and Spain were the main sellers of **sheep and goats** in the EU between 2014 and 2017, as well as in 2019 (EFA, 2019; EPRS, 2020). Key buyers within the EU are Italy, Greece and Spain, followed by France, Ireland and Germany. The trade routes for intra-EU live sheep and goat appear to be stabilized in a continuous flow. Some of the main routes are Romania-Greece; Romania-Italy; France-Italy; Hungary-Italy; Spain-France. It is interesting to note here that some of the main sellers are also main buyers. Most sheep and goats are transported for **slaughter** (EFA, 2019).

<sup>16</sup> <https://epthinktank.eu/2020/02/10/eu-trade-and-transport-of-live-animals/value-of-eu-trade-in-live-animals-in-e-and-shares-of-animal-categories/>

Horses for slaughter (43 %) and pure-breeding horses (30 %) dominated the intra-EU trade of horses in 2019. More than half of selling of pure-breeding horses come from Belgium (46 %) and Denmark (21 %). Horses for slaughter come predominately from the Netherlands (23 %), Poland (22 %), France (20 %) and Romania (13 %). Live horses, excluding those destined for slaughter and breeding, are mainly sold by France (48 %) and Spain (23 %). Live asses, mules and hinnies are exported almost exclusively by the Netherlands, which accounts for 87 % of live asses selling and 99 % of mules and hinnies (EFA, 2021).

### 3.2. Extra-EU trade

The demand for live animals in third countries has been growing in recent years for different reasons such as breeding, fattening or immediate slaughter. The movement between the EU and third countries in 2019 was dominated by exports, which represented two-thirds of trade, whereas imports accounted for the remaining third (EPRS, 2018). This in-depth analysis will focus on exports while some data on imports is also provided.

Exports to third countries have increased between **2005 and 2015**, driven mainly by a threefold increase in cattle exports. Cattle exports have further nearly doubled between **2015 and 2017** (EFA, 2019). The trade of pigs and ovine was low, with the transport of pigs decreasing between 2005 and 2015 from 22 % of total exported animals to 5%. (EFA, 2019). Export of live horses is typically related to non-food purposes. 44 % of the transport is for purposes other than slaughter and pure-breeding, while pure-breeding horses account for 28% (EFA, 2021).

About 239 thousand breeding cattle, 78 thousand cattle for slaughter, 416 thousand pigs, 2.4 million sheep and 14 thousand goats, were exported from the EU to third countries for breeding or slaughter in **2018** (Marahrens and Kernberger-Fischer, 2021). In **2019**, about **230 million** bovines, pigs, poultry and ovine were exported from EU to third countries. Poultry was the most traded farmed species accounting for 98% of the exports. Lastly, 32 thousand horses, asses, mules and hinnies were exported in the same year (EFA, 2021). Exports of ovine also increased nearly threefold between 2005 and 2015 even if they started from a relatively low initial value (EFA, 2019).

The number of traded animals with third countries is not consistent between different databases. For instance, discrepancies between TRACES and Eurostat have been observed for several years. These differences may be attributed to the fact that databases group the animal categories differently; this would nevertheless lead to a similar total number, which is not the case (Marahrens and Kernberger-Fischer, 2021). It could be concluded that there is still a lack of coherent data collection and reporting from third countries, which prevents an accurate view of live animal trade outside of the EU.

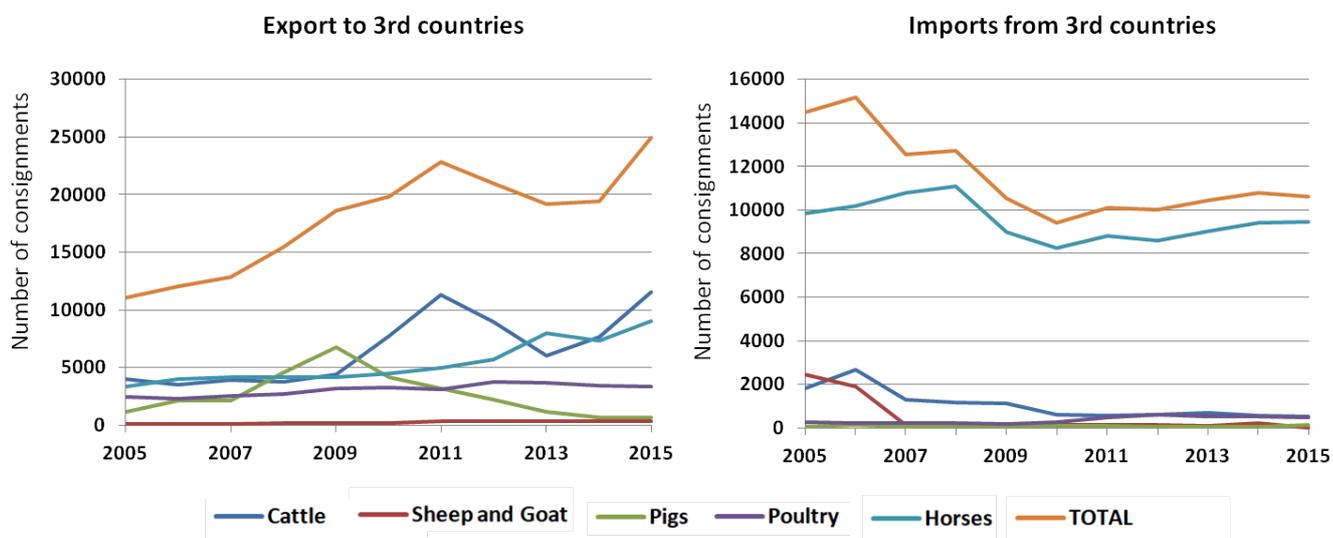
#### 3.2.1. Number of consignments

The export of live animals to third countries represents a small fraction of the total EU transports. The number of exported animals has been increasing in the past decades, which was followed by an increase in consignments. More than half of the extra-EU consignments are for horses, with less than two horses per journey (EFA, 2021). The number of consignments for cattle is the second highest and has increased threefold from 2005 to 2015 (EFA, 2019). This contributed to the increase in total extra-EU transports in the past years. The increase of consignments of poultry has been relatively steady from 2005 to 2015, while consignments for pigs fluctuated significantly between years (**Figure 6**).

The trade of pigs, ovine and caprine with third countries was low and fluctuated between the years. According to data of the Eurogroup for animals (2019), consignments of ovine increased by 2 % between 2005 and 2015, representing a small portion of the total extra-EU transports. The EPRS

documented a steep decline of ovine and caprine consignments after 2006 caused by the drastic decrease in imports. These differences may lay in the discrepancies of data sources mentioned previously. The consignments then stayed at a relatively low but steady numbers between 2007 and 2015 of around 3350 consignments per year (EPRS, 2018). Consignments of pigs also decreased, representing 22 % of all extra-EU consignments in 2005. This number dropped to 5 % in 2015.

**Figure 6: Number of consignments for EU imports and exports between 2005 and 2015**



Note: EU25 from 2005-2006; EU27 from 2007-2012 (including Bulgaria and Romania); EU28 from 2013-2015 (including Croatia).

Source (EPRS, 2018).

### 3.2.2. Main trade partners

The main EU trade partners vary depending on the animal category.

Ukraine has been a major trade partner in 2019, when it imported 84.6 million terrestrial farmed animals, most of them poultry. Other important poultry destinations of EU exports in 2019 was Belarus, Ghana, Egypt, Morocco and Albania. The top exporter of poultry in 2019 was Poland with about 61.9 million heads, followed by Hungary with 35.6 million heads, the Netherlands with 29.8 million heads and France with roughly 25.4 million heads.

Looking at the export data for mammals only, the major EU trade partner is Libya, importing 1.1 million ovine and caprine, bovines and swine in 2019 (**Table 5**). Other major trade partners for mammals are Jordan, Israel, Saudi Arabia, Lebanon and Turkey (EFA, 2021). United Kingdom was the main exporter of live horses in 2019 accounting for 59 % of total exports. The other categories of equidae undergoing long-distance transports with 94 % of live horses for slaughter being exported to Japan. 63 % of live horses that are not meant for slaughter or breeding have long-distance transports with the United States being the destination for 32 % of exports, followed by Switzerland (15 %), Mexico (10 %) and China (6 %). Live asses are mainly exported to Switzerland (75 %) while live mules and hinnies primarily go to the United States (92 %) (EFA, 2021).

**Table 5: Top receiving countries for EU exports of live animals in 2019 in thousands of animal heads**

Breeding cattle	Russia	73.1	Slaughter cattle	Lebanon	36.1	Swine	Serbia	142.0	Sheep	Libya	1 032	Goats	Iran	5.0
	Algeria	42.5		Kosovo	9.9		Albania	46.4		Jordan	615.1		Russia	2.1
	Turkey	20.6		Bosnia and Herzegovina	7.1		Bosnia and Herzegovina	32.9		Saudi Arabia	402.5		Uzbekistan	1.3

Data source: Marahrens and Kernberger-Fischer, 2021.

### 3.2.3. Duration of journeys

Extra-EU journeys are generally long, due to administrative procedures at the borders. For instance, one of the most crossed borders of live animals is the one between Bulgaria and Turkey, where waiting times are at least 6 hours. In case not all documents are complete, these waiting times can further increase. This border is the second busiest in the world, with a large amount of vehicles crossing it (DG Health and Food Safety, 2019).

A large number of exports to third countries is carried out by sea, mainly to the Middle East and North Africa. The duration of journeys is highly variable and can extend to several weeks (Boada-Saña et al., 2021).

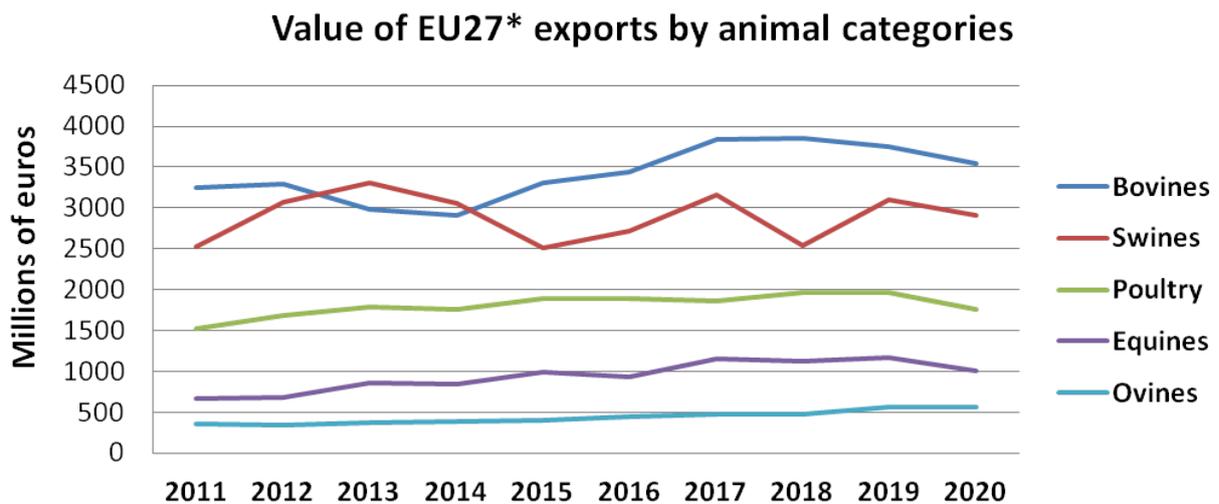
### 3.2.4. Trade Value

In **2018**, the value of EU trade with third countries amounted to **EUR 3 billion**. Most of the value came from EU exports (**EUR 2.8 billion**), while imports represented the remaining (**EUR 0.2 billion**). Most of the value in trade came from bovines, equines and poultry (EPRS, 2020). The movement of equidae is dominated by live horses, typically related to non-food purposes. Bovines, swine and poultry dominated in value of exports, while bovines, swine and equidae accounted for the highest values of imports (**Figure 7 and Figure 8**).

The value of bovine exports has been increasing in the years, in line with the increase of transport.

Even though the number of consignments of swine is relatively low, they contribute to an important fraction of the value of exports and imports. The same fluctuations are observed in the number of transported swine. Despite these fluctuations, the average value of extra-EU trade of swine maintains a relative stable level over the years.

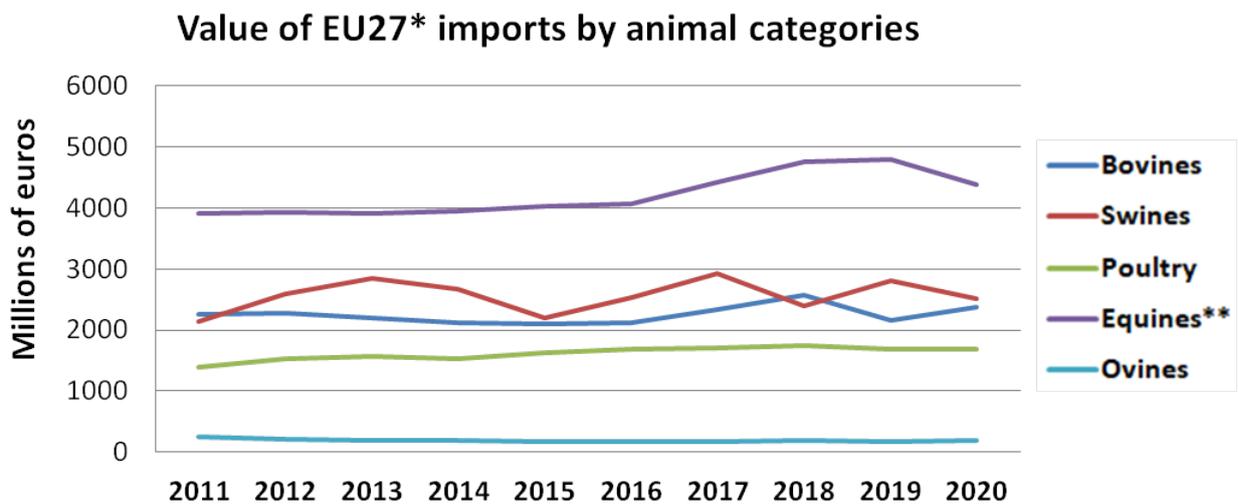
**Figure 7: Value of the EU27\* exports from 2011 to 2020 for all animal categories**



Note: \*Data for UK was excluded.

Sources: ITC calculations based on UN COMTRADE and ITC statistics. Consulted June 2021.

**Figure 8: Value of the EU27\* imports from 2011 to 2020 for all animal categories**



Note: \*Data for UK has been excluded.

Sources: ITC calculations based on UN COMTRADE and ITC statistics. Consulted June 2021.

### 3.2.5. Reasons for transport

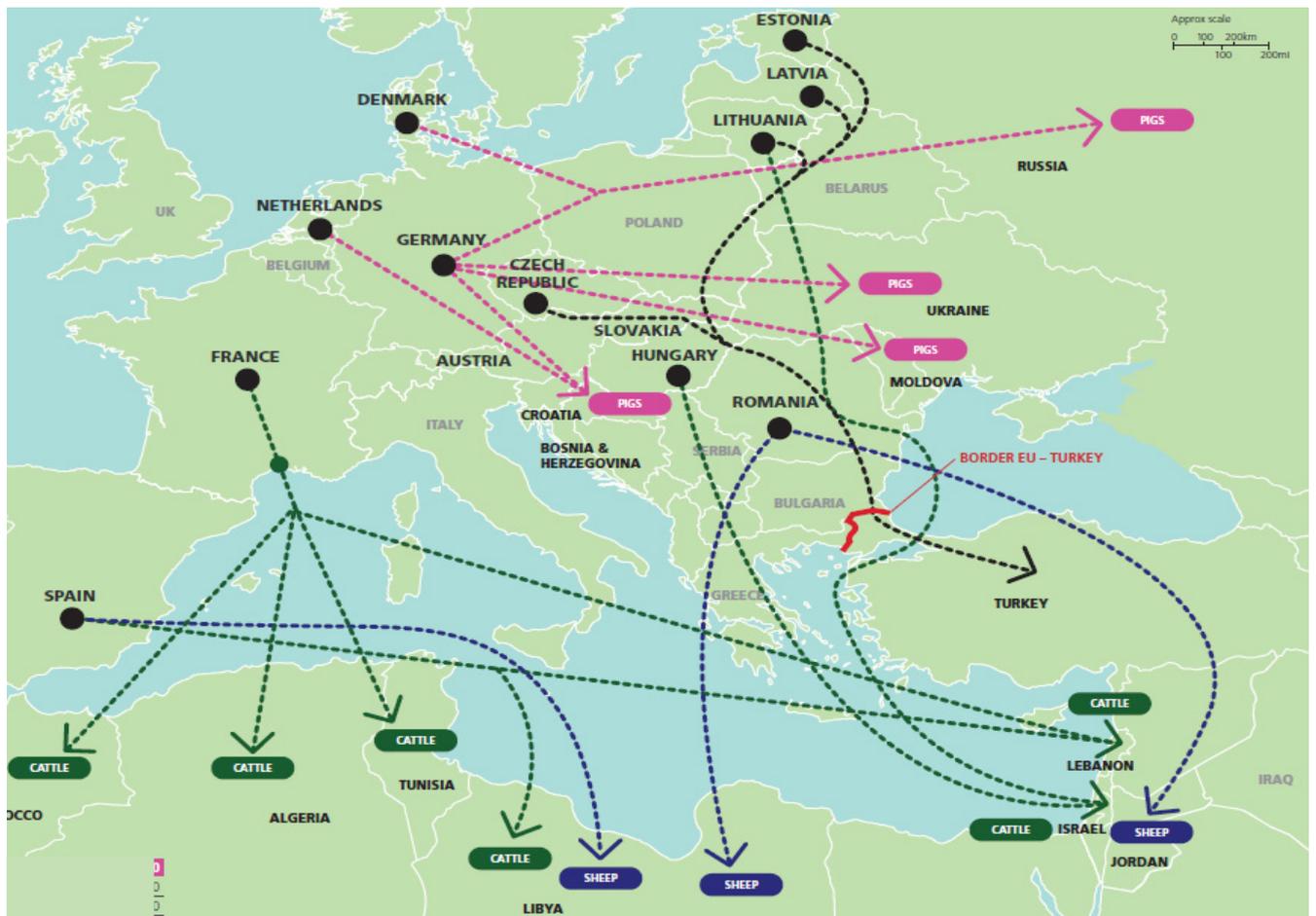
The increase in the export of cattle between 2015 and 2017 was mainly driven by breeding purposes (presumably for dairy herds) and for fattening. Exports of cattle for slaughter fell in 2012, slowly recovering to the same levels in 2017. The share of cattle for slaughter represented 34 % of the exports in 2017 (EFA, 2019). Turkey is the key destination for export of breeding (dairy) cows (66 %), and for fattening (41 %). Israel also imports a considerable amount of cows for fattening (39 %). The EU also exports cattle for slaughter to Lebanon (43 %), Libya (22 %) and Turkey (17 %).

### 3.2.6. Travel routes

Some of the main routes of EU live transport represent long to very long journeys. Around 700 thousand cattle and sheep are exported annually from the EU to Turkey. A high number of cattle (70 000) is also transported to Lebanon, mainly departing from France and Spain. France further exports cattle to Algeria, Tunisia and Morocco. Over 600 thousand pigs are sent each year from the EU to Russia as well as to, Ukraine and Moldova.

Pigs often undergo long distance transports from Germany to Russia, Ukraine, Moldova, and Serbia. **Figure 9** shows frequent transport routes for livestock exports from the EU by animal categories.

**Figure 9: Main transport routes for extra-EU live animal transport**



Source: Animal welfare Foundation, 2021 <sup>(17)</sup>.

<sup>17</sup> <https://www.animal-welfare-foundation.org/en/service/dossiers/export-of-live-animals-eu-to-non-eu-countries> (figures from Eurostat. Except where otherwise indicated, the numbers of animals exported have been averaged from 2010 and 2011 and have been rounded up or down).

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