

DIRECTORATE-GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT
STRUCTURAL AND COHESION POLICIES **B**

Agriculture and Rural Development

Culture and Education

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**RISKS AND OPPORTUNITIES
FOR THE EU AGRI-FOOD
SECTOR IN A POSSIBLE
EU-US TRADE AGREEMENT**

STUDY





DIRECTORATE-GENERAL FOR INTERNAL POLICIES
POLICY DEPARTMENT B: STRUCTURAL AND COHESION POLICIES

AGRICULTURE AND RURAL DEVELOPMENT

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STUDY

This document was requested by the European Parliament's Committee on Agriculture and Rural Development.

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Abstract

The Transatlantic Trade and Investment Partnership (TTIP) is under negotiation. This report provides a detailed overview of EU-US agricultural trade. It analyses current barriers to trade, paying special attention to non-tariff measures. This information is then used in a computable general equilibrium model of international trade to assess the potential impact of the TTIP on agri-food exports, imports and value added. This study also includes a general discussion on the opportunities and risks of a TTIP for the EU agricultural sector.

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LIST OF ABBREVIATIONS

AVE	Ad Valorem Equivalent
BSE	Bovine Spongiform Encephalopathy
BST	Bovine Somatotropin
CAP	Common Agricultural Policy
CEPII	Centre d'Etudes Prospectives et d'Informations Internationales
CETA	Comprehensive Economic and Trade Agreement (EU-Canada)
CGE	Computable General Equilibrium
CIS	Community of Independent States
EFTA	European Free Trade Association
EU	European Union (all 28 Member States, unless otherwise stated)
GATT	General Agreement on Tariffs and Trade
GMO	Genetically Modified Organism
GTAP	Global Trade Analysis Project
HACCP	Hazard Analysis at Critical Control Points
HFCS	High Fructose Corn Syrup
ILUC	Indirect Land Use Change
ISDS	Investor-State Dispute Settlement
ITC	International Trade Centre
MT	Metric Ton
NAFTA	North American Free Trade Agreement
NTM	Non-tariff Measures
OECD	Organisation for Economic Cooperation and Development
rBGH	Recombinant Bovine Growth Hormone (also known as recombinant bovine somatotropin, rBST, i.e. genetically engineered BST)
REACH	EU regulation governing the placement on the market of chemical substances (Registration, Evaluation and Authorisation of Chemicals)
RoW	Rest of the World
SPS	Sanitary and Phytosanitary
TBT	Technical Barriers to Trade (agreement)
TTIP	Transatlantic Trade and Investment Partnership
TPP	Trans Pacific Partnership
TRQ	Tariff Rate Quota
USDA	US Department of Agriculture
USTR	US Trade Representative
US	United States (of America)
WTO	World Trade Organization

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EXECUTIVE SUMMARY

Background

- The European Commission is currently negotiating the Transatlantic Trade and Investment Partnership (TTIP), an agreement that aims to remove barriers to trade and investment between the European Union (EU) and the United States of America (US). Both regions have productive and strong agri-food industries. However, important political sensitivities exist.
- In 2012, the EU28 had a trade surplus in agricultural goods of about EUR 6 billion with the US. Until 1999, it had a trade deficit. Since 1992, exports of processed agricultural goods have grown dynamically, while imports from the US have moved sluggishly.
- The US plays only a minor role as a source and a destination country for EU agricultural imports and exports respectively. About 8 % of EU agri-food imports come from the US; about 13 % of EU agri-food exports go to the US. Compared to trade in the industrial sector, agriculture is quantitatively of limited importance in present EU-US trade relations.
- Member States are fairly heterogeneous as regards the relative importance of agri-food trade for their economies. Accordingly, in the TTIP negotiating process, sensitivities with respect to agricultural trade policy issues are distributed unevenly.

Trade barriers

- Transatlantic trade in the agri-food sector is still significantly affected by trade barriers. At product level, the likelihood for positive exports (as compared to zero exports) from the EU to the US is not affected by tariffs, while the likelihood of positive imports from the US is. Given active trade in a product line, the volume of EU imports from the US is more strongly impeded by tariffs than the volume of EU exports to the US.
- Both the likelihood of trade at product level and its volume are negatively affected by non-tariff measures (NTMs). The quantitative effect of these measures is similar for EU exports to the US and EU imports from the US.
- For both the likelihood and the volume of trade, the negative impacts of tariffs and NTMs are more pronounced in EU-US bilateral trade as compared to other OECD (Organisation for Economic Cooperation and Development) trade flows.

Quantitative economic analysis

- A 25 % reduction of NTMs (with exceptions) across the board and a full phasing-out of tariff protection would increase additional transatlantic trade by about 40 %. Effects in the agri-food sector would be stronger, with EU exports to the US increasing by about 60 % and EU imports from the US by about 120 % up to 2025.

- The simulation of the aforementioned scenario suggests that the largest potential EU export gains are found in the following industries: red meat (+404 %), sugar (+297 %), white meat (289 %) and dairy (+240 %). The largest predicted increases in EU imports from the US involve the same industries, but the magnitude of the effects is substantially greater. However, since at present EU-US trade is very low in many products, percentage changes are to be interpreted with caution. Trade gains from the elimination of tariffs are very minor.
- The simulation of the aforementioned scenario finds that agricultural value added is affected very little, despite large increases in bilateral trade. It is predicted to fall by 0.5 % in the EU and to rise by 0.4 % in the US. The larger EU Member States see losses close to the EU average, while the Baltic countries are forecast to register the largest losses.

Opportunities and risks

- The EU agricultural sector can expect only very limited gains from tariff cuts unless regulatory and administrative barriers are also addressed. The quantitative exercise and the issues-driven analysis agree in their conclusion that one sector where the EU could expect an increase in exports under the TTIP is the dairy products sector. There may also be benefits in the areas of processed products, including wine and spirits, and, under certain market conditions, sugar and biodiesel.
- Some EU sectors could face serious competition if trade with the US is liberalised. This is particularly the case for the beef sector. The TTIP could have serious adverse consequences for the suckler cows sector. Ethanol, poultry and cereals (corn and low-quality wheat) could also be affected by imports.
- If trade is liberalised without regulatory convergence, EU producers may face adverse competitive effects in some sectors. Compared to their US counterparts, EU producers may be disadvantaged by the extra costs involved in complying with EU regulations. This is most relevant regarding EU constraints on the use of genetically modified organisms (GMOs), on pesticide use, and on food safety measures in the meat sector.
- If regulatory convergence were to level the playing field, there would be a risk of downward harmonisation. While consequences in terms of food safety and consumer protection should not be overestimated, this could lead to major changes in EU legislation, which may undermine the traditional EU precaution and risk management policy on which the current regulatory framework is based.

1. FACTS AND FIGURES

1.1. Introduction

Both the EU and the US have well-developed, productive, and relatively strongly protected agricultural and food sectors. While much of the regulatory stock that has emerged over time does not interfere with unhindered transatlantic trade, some subsegments of the markets are still subject to quantitative restrictions, import duties or regulatory barriers.

It is commonly understood that for the proposed TTIP to be successful, substantial progress in contested areas of EU-US agricultural trade will be needed. This is despite the fact that agricultural trade between the EU and the US is low and agriculture value added amounts to only 1.1 % and 1.8 % of GDP in the US and the EU respectively.

The agri-food industries are of particular strategic interest for many governments. Policy changes in this area have direct health implications for consumers and for the welfare of farm animals. They affect landscapes and the environment like few other policy measures. The agri-food industries are critical for rural development; they provide jobs and incomes in remote regions and are often a matter of national pride.

For these reasons, agriculture and food-related themes have always played relatively large roles in trade negotiations. Be it at multi-, pluri-, or bilateral level, agricultural and food-related concerns play an important role. They are also of critical importance in the ongoing TTIP negotiations.

In this report, we provide an analysis of EU-US trade in agricultural goods and food. In this section, we start with a brief account of some important facts. Section 2 studies political trade barriers. It pays special attention to the difficult issues of NTMs, providing quantitative insights into their role as trade inhibiting factors. Section 3 uses this information in a computable general equilibrium (CGE) model of international trade and derives predictions on the potential impact of the TTIP on agri-food exports, imports and value added. Section 4 provides a more general discussion of the key issues that are likely to affect EU-US trade negotiations. The Annex contains additional analyses and robustness checks of our empirical exercises. It also includes a two-page characterisation of agricultural trade for each EU Member State.²

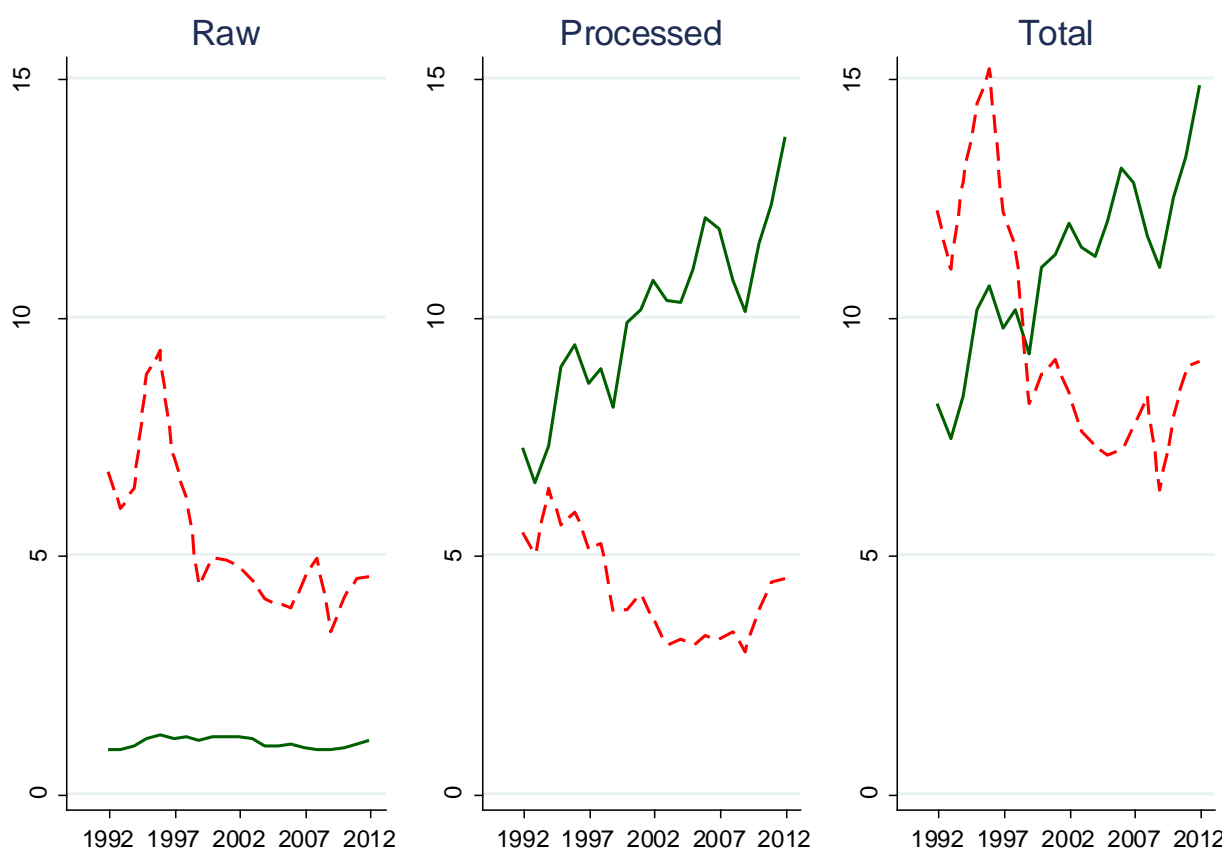
² Belgium and Luxembourg are combined for reasons of data availability in earlier years and comparability in later years.

1.2. The role of agriculture in EU-US trade

Figure 1.1 plots the volume of EU-US trade over time in the area of agriculture. The left-hand panel shows exports (solid green line) and imports (dashed red line) in raw agricultural goods. Clearly, the EU had a bilateral trade deficit in these products from 1992 to 2012. The deficit has shrunk over time, mostly because of falling imports, and stood at about EUR 3 billion in 2012.

The middle panel shows trade in processed agricultural goods. Again, the solid green line indicates exports to the US while the red dashed one marks imports. In 2012, exports stood at about EUR 14 billion, while imports were close to EUR 5 billion. This gives rise to a trade surplus of more than EUR 9 billion. This surplus has widened over time, starting from an almost balanced situation at the beginning of the 1990s. While the export dynamics have been quite pronounced (a doubling of exports in about 20 years), imports have oscillated at around EUR 5 billion. The weak evolution of imports from the US partly reflects substantial gains in market shares by emerging economies (such as Brazil or Argentina) in traditional US export staples such as soy beans.

Figure 1.1.: EU-US agricultural trade, 1992-2012, EUR billion



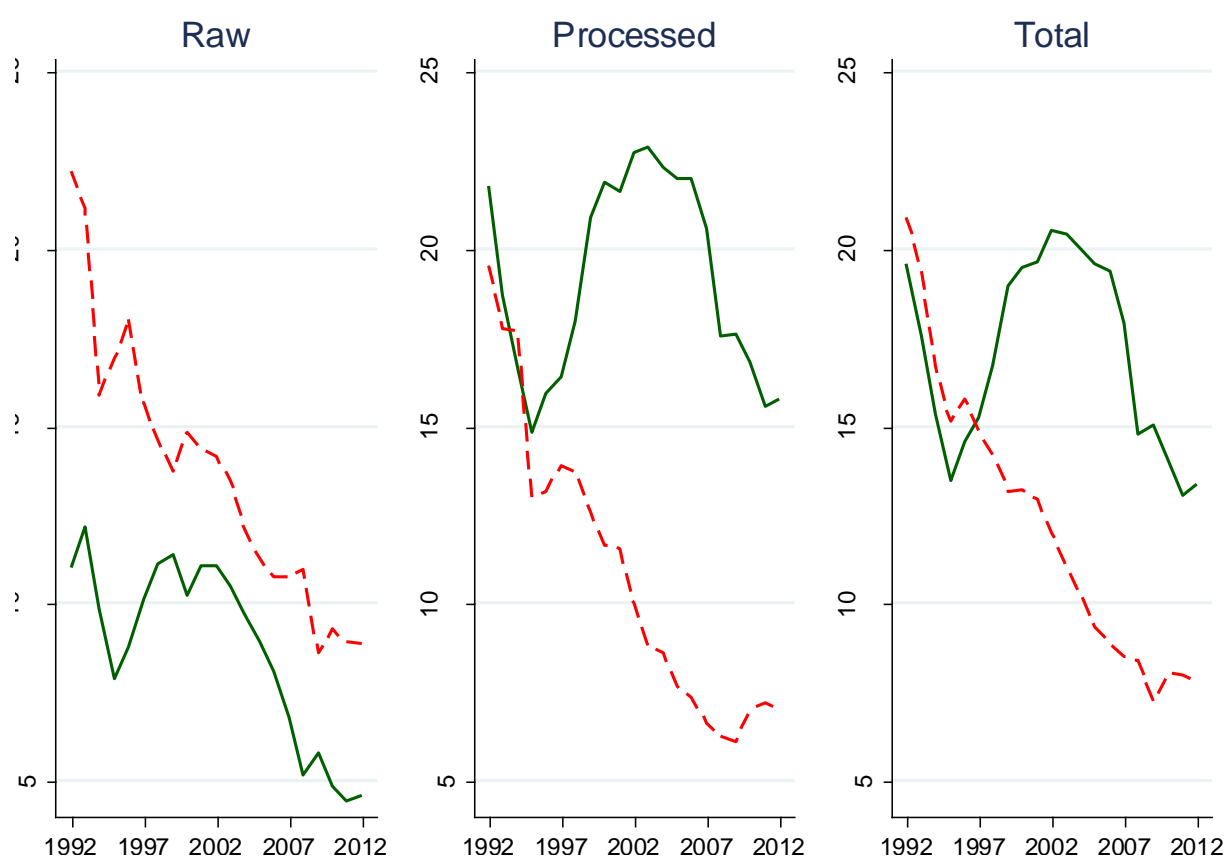
Notes: Green solid line: exports; red dashed line: imports. Raw goods: sectors 0 to 14; processed goods: sectors 19 to 26. EU defined as EU28 over entire interval. Source: BACI database of CEPII.

Overall, in 2012, the EU had a bilateral surplus in agricultural trade that stood at about EUR 6 billion. Interestingly, the situation was different during most of the 1990s, when the EU had a bilateral trade deficit. The dynamic development in the area of exports is quite striking, as is the weak evolution of imports.

Figure 1.2 shows that the relative importance of the US as a source for agricultural goods has fallen over time. In 2012, the US absorbed less than 5 % of the EU's raw agricultural exports, and about 16 % of processed exports. The US has become increasingly less important as a source of imports for the EU: in 2012, only about 8 % of agricultural exports (raw and processed goods) originated in the US. This is down from 21 % in 1992.

This pattern reflects the emergence of new, large trading partners for both the EU and the US, rather than trade policy changes. Most importantly, China (which has been a member of the WTO since 2001) has been absorbing increasing shares of world agricultural exports, while countries such as Brazil have emerged as important suppliers to the EU and the US.

Figure 1.2.: The relative importance of the US in EU agricultural trade, 1992-2012, %

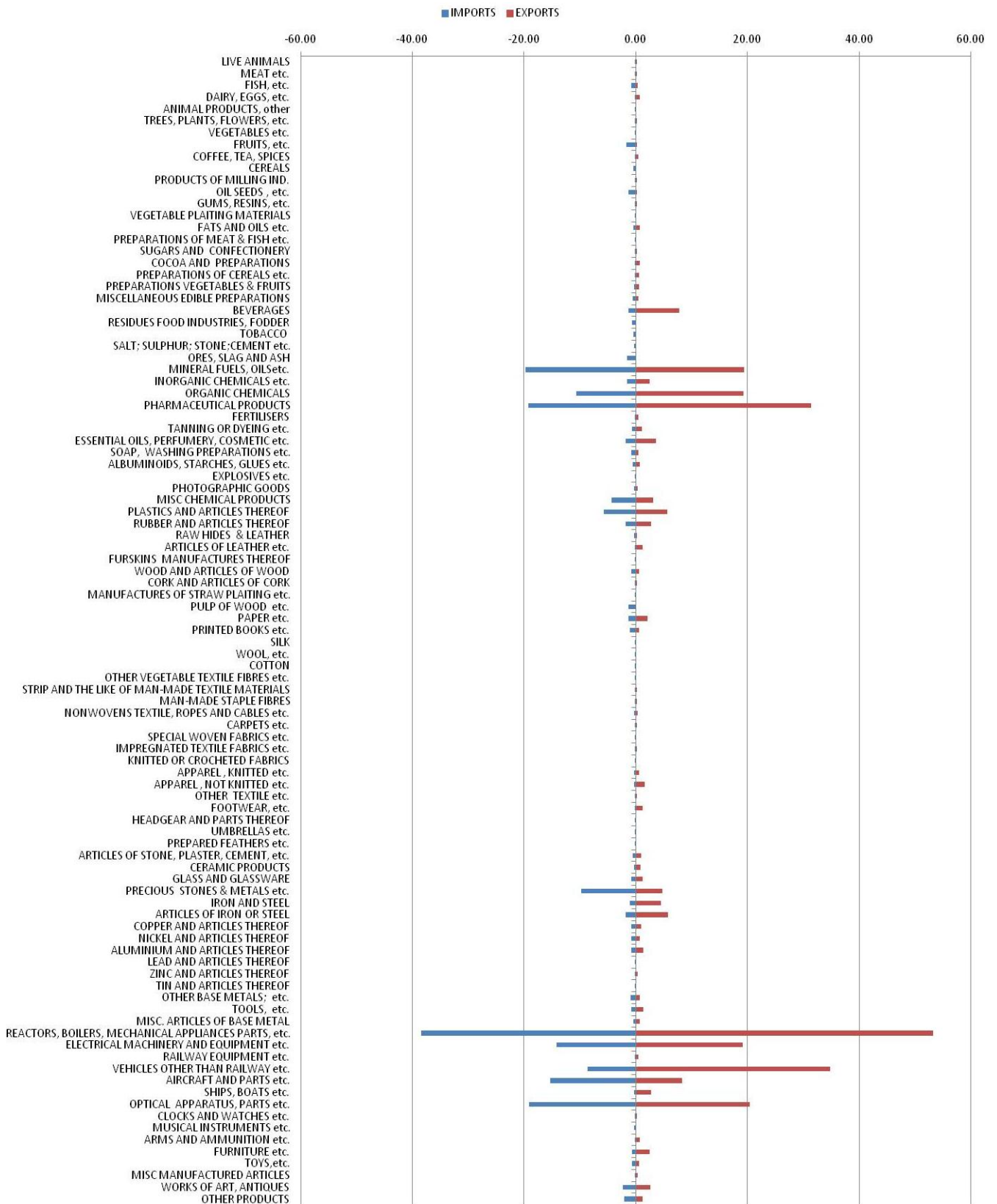


Notes: Green solid line: exports; red dashed line: imports. Raw goods: sectors 0 to 14; processed goods: sectors 19 to 26. EU defined as EU28 over entire interval. Source: BACI database of CEPII.

Next, we turn to the importance of the agri-food industry for overall EU trade with the US. Figure 1.3 provides an illustration. The first 24 chapters in the HS2 classification presented in the figure relate to agri-food industries. It is immediately apparent that agri-food trade is of relatively low importance. The sum of all EU exports in the 24 statistical chapters corresponding to agricultural, food, and fish products amounts to only 28 % of overall EU exports to the US in one single industrial sector, i.e. Chapter 83.³ This suggests that the main stakes of a TTIP are unlikely to lie in the agricultural sector.

³ Chapter 83 in the harmonised system stands for 'nuclear reactors, boilers, machinery and mechanical appliances; parts thereof'.

Figure 1.3.: EU imports from the US and EU exports to the US by HS2 chapter, EUR billion, 2012



Source: Eurostat.

1.3. The role of agricultural trade for EU Member States

Table 1.1 shows the importance of exports of raw and processed agricultural goods for EU Member States and the Union as a whole. It focuses on extra-EU exports in the year 2012.

The largest exporter is France, with total extra-EU exports of almost EUR 20 billion (accounting for almost 18 % of the EU total). The Netherlands and Germany have very similar export values, close to EUR 14 billion (12 % of the EU total). The fourth and fifth largest exporters are Italy and Spain (accounting for 10 % and 8 % of the EU total respectively).

While these numbers highlight the absolute importance of the agri-food complex, Table 1.1 also shows the relative role of agricultural goods in countries' extra-EU trade. Agriculture makes up close to 20 % of total exports in some of the new Member States, such as Croatia, Latvia or Lithuania. However, it is also very important for Denmark and the Netherlands (20 % and 13 % of total exports). For the EU in total, agricultural trade accounts for about 6.6 % of total extra-EU trade; the bulk being in processed goods (about 80 % of the total).

Table 1.2 looks at the import side. Overall, the EU imports raw agricultural goods amounting to about EUR 51 billion, thereby generating a trade deficit of EUR 27 billion. However, the situation is different in processed agricultural goods, where imports total EUR 64 billion, so that the net position is a surplus of EUR 23 billion. Together, raw and processed agricultural exports and imports almost balance.

The country with the highest imports of agricultural goods is Germany (EUR 19 billion). Thus, it has a trade deficit in this industry of about EUR 5 billion. France, in contrast, enjoys a trade surplus of more than EUR 8 billion. Interestingly, Denmark and the Netherlands, important exporters, also rank high as agricultural importers. These countries have positioned themselves as important processing hubs in the EU agri-food industry. Denmark, for example, is among the world's largest pork exporters, which requires substantial imports of pig feed.

Table 1.1.: The role of agriculture in EU28 exports (extra-EU trade), 2012

Country	Agricultural exports, EUR millions			Share of agricultural goods in total exports, %		
	Raw goods (1)	Processed goods (2)	Total (3)	Raw goods (4)	Processe d goods (5)	Total (6)
Austria	226	1 941	2 167	0.5 %	4.5 %	5.0 %
Belgium/Lux	571	3 888	4 459	0.6 %	4.2 %	4.9 %
Bulgaria	431	558	989	4.8 %	6.2 %	11.0 %
Croatia	240	507	747	5.5 %	11.5 %	17.0 %
Cyprus	59	149	208	2.2 %	5.6 %	7.8 %
Czech Republic	113	426	539	0.5 %	1.8 %	2.3 %
Denmark	1 615	4 636	6 251	5.2 %	14.9 %	20.1 %
Estonia	190	369	559	3.0 %	5.8 %	8.8 %
Finland	490	615	1 105	1.7 %	2.2 %	3.9 %
France	4 379	15 209	19 588	2.4 %	8.2 %	10.6 %
Germany	2 193	11 355	13 547	0.5 %	2.4 %	2.9 %
United Kingdom	800	8 171	8 972	0.5 %	4.9 %	5.3 %
Greece	1 072	788	1 860	7.2 %	5.3 %	12.5 %
Hungary	543	624	1 166	3.0 %	3.4 %	6.4 %
Ireland	118	3 080	3 198	0.2 %	6.5 %	6.7 %
Italy	1 568	9 266	10 834	0.9 %	5.1 %	5.9 %
Latvia	211	570	781	5.8 %	15.8 %	21.6 %
Lithuania	914	923	1 836	11.6 %	11.7 %	23.3 %
Malta	17	159	176	0.4 %	4.0 %	4.4 %
Netherlands	3 103	10 653	13 756	2.9 %	10.0 %	13.0 %
Poland	938	3 085	4 023	2.7 %	8.8 %	11.5 %
Portugal	188	1 520	1 708	1.2 %	9.6 %	10.7 %
Romania	1 117	176	1 293	7.3 %	1.1 %	8.4 %
Slovakia	52	69	120	0.5 %	0.6 %	1.1 %
Slovenia	30	172	201	0.5 %	3.1 %	3.6 %
Spain	2 223	6 885	9 109	2.7 %	8.3 %	11.0 %
Sweden	180	1 646	1 826	0.3 %	2.9 %	3.3 %
EU28	23 580	87 439	111 018	1.4 %	5.2 %	6.6 %

Source: BACI database of CEPII. Raw goods: sectors 0 to 14; processed goods: sectors 19 to 26. Extra EU28 trade.

Table 1.2.: The role of agriculture in EU28 imports (extra-EU trade), 2012

Country	Agricultural imports, EUR millions			Share of agricultural goods in total imports, %		
	Raw goods	Processed goods	Total	Raw goods	Processed goods	Total
	(1)	(2)	(3)	(4)	(5)	(6)
Austria	576	764	1 339	1.4 %	1.9 %	3.3 %
Belgium/Lux	4 264	2 953	7 217	3.8 %	2.6 %	6.4 %
Bulgaria	239	297	537	1.8 %	2.2 %	4.0 %
Croatia	174	410	585	2.9 %	6.9 %	9.8 %
Cyprus	68	267	335	1.5 %	5.9 %	7.4 %
Czech Republic	512	441	953	1.4 %	1.2 %	2.6 %
Denmark	597	2 157	2 754	2.7 %	9.8 %	12.5 %
Estonia	183	223	405	2.7 %	3.3 %	6.0 %
Finland	697	691	1 388	2.5 %	2.5 %	5.1 %
France	4 250	7 033	11 284	2.1 %	3.5 %	5.6 %
Germany	9 997	9 806	19 803	2.6 %	2.6 %	5.2 %
United Kingdom	5 544	8 049	13 592	2.4 %	3.5 %	5.8 %
Greece	673	644	1 317	2.7 %	2.6 %	5.2 %
Hungary	126	174	301	0.6 %	0.8 %	1.4 %
Ireland	275	730	1 005	1.4 %	3.8 %	5.2 %
Italy	4 822	5 498	10 320	2.8 %	3.2 %	5.9 %
Latvia	191	159	350	3.2 %	2.6 %	5.8 %
Lithuania	182	408	590	1.7 %	3.7 %	5.4 %
Malta	41	58	99	0.7 %	1.0 %	1.6 %
Netherlands	7 725	10 725	18 451	3.5 %	4.8 %	8.3 %
Poland	1 457	2 059	3 516	2.5 %	3.5 %	6.0 %
Portugal	1 142	1 181	2 322	5.9 %	6.1 %	12.0 %
Romania	603	605	1 208	4.1 %	4.1 %	8.2 %
Slovakia	365	770	1 136	1.3 %	2.8 %	4.1 %
Slovenia	171	246	417	2.5 %	3.5 %	6.0 %
Spain	5 488	6 462	11 950	4.5 %	5.3 %	9.8 %
Sweden	926	1 660	2 585	2.4 %	4.4 %	6.8 %
EU28	51 289	64 469	115 758	2.8 %	3.5 %	6.2 %

Source: BACI database of CEPII. Raw goods: sectors 0 to 14; processed goods: sectors 19 to 26. Extra EU28 trade.

Summary

In 2012, the EU28 had a trade surplus in agricultural goods of about EUR 6 billion with the US. Since 1992, exports of processed agricultural goods have grown more dynamically than imports. About 8 % of EU agri-food imports come from the US and about 13 % of EU agri-food exports go to the US. Compared to trade in the industrial sector, agriculture is quantitatively of limited importance in present EU-US trade relations. Member States are fairly heterogeneous as regards the relative importance of agri-food trade for their economies and will be affected differently by the TTIP.

2. CURRENT BARRIERS TO EU AGRICULTURAL EXPORTS TO THE US

2.1. Summary of facts

Tariffs

Tariff barriers affecting transatlantic trade have been significantly reduced over the last few decades, but are still present, especially in agriculture. According to Fontagné, Gourdon and Jean (2013), tariff duties on bilateral agricultural trade averaged 6.6 % in the US and 12.8 % in the EU in 2010, in *ad valorem* equivalent (AVE) terms (Table 2.1). By comparison, for industry the average duties are 1.7 % in the US and 2.3 % in the EU.

These figures, extracted from the MACMap database jointly developed by the CEPII and the International Trade Centre (ITC), are based on bilateral customs tariffs and include tariff preferences, tariff rate quotas (TRQs), and AVEs for all non-*ad valorem* duties.

In terms of sectors, **the three agricultural sectors most strongly affected by US import tariffs in 2010 were: tobacco (average protection of 21.8 %), dairy products (20.2 %) and sugar (18.7 %)**. Other agricultural sectors are much less affected, with a protection rate below 10 %: other food preparations (9.4 %), food preparations with vegetables (7.6 %) and food preparations with cereals (5.8 %). Finally, the protection on vegetables and meat is below 5 % (4.8 % and 4.7 % respectively).

Tariffs applied by the EU to its agricultural imports from the US are much higher than US tariffs. Protection on meat and dairy products is above 40 % (meat 45.1 % and dairy products 42.0 %). Protection on sugar (24.3 %) and tobacco (22.4 %) is slightly higher than the rate applied by the US. Food preparations are also subject to significant tariffs: preparations with meat (19.5 %), preparations with vegetables (18.4 %) and preparations with cereals (8.5 %). Some other American products also face significant tariffs at the EU borders: vegetables (10.6 %), oils and fats (8.5 %), cereals (6.7 %), beverages and alcohols (6.6 %), and coffee and tea (6.5 %).

Table 2.1 also shows the average protection rate on EU-US trade for 2004. Between 2004 and 2010, some reduction in protection can be observed, especially on agricultural products. The average protection rate applied by the US to EU agricultural imports fell from 9.9 % in 2004 to 6.6 % in 2010. Over the same period, EU protection on US imports of agricultural products declined from 19.1 % to 12.8 %.

In some agricultural sectors, US protection fell significantly between 2004 and 2010. The main reason for this decrease is, of course, a reduction in the applied protection (MFN tariffs applied in EU-US trade). It could also come from the methodology used in MACMap⁴ for the computation of tariffs (i.e. calculation of unit values, AVEs of non-*ad valorem* tariffs, TRQs). For example, US protection on EU dairy products dropped from 35.1 % to 20.2 %. Protection on sugar decreased from 29.1 % to 18.7 %, and protection on tobacco from 26.6 % to 21.8 %. Food preparations with vegetables registered a decrease of 1.6 percentage points (from 9.2 % to 7.6 %) and food preparations with cereals a decrease of 1.4 percentage points (from 7.2 % to 5.8 %).

Regarding EU protection on US imports, some tariff reductions can also be observed, but on a smaller scale. The following products can be taken as examples of

⁴ <http://www.macmap.org/SupportMaterials/Methodology.aspx>.

significant reductions: protection on meat decreased from 58.1 % to 45.1 %, on sugar from 29.0 % to 24.3 %, on food preparations with cereals from 13.3 % to 8.5 %, and on fats and oils from 9.4 % to 8.5 %.

Table 2.1.: Average tariff protection on transatlantic trade, in 2004 and 2010 (%)

	Agriculture		Industry		Overall	
	2004	2010	2004	2010	2004	2010
US tariffs applied to EU imports	9.9	6.6	2.3	1.7	3.0	2.2
EU tariffs applied to US imports	19.1	12.8	2.2	2.3	3.5	3.3

Sources: Fontagné, Gourdon and Jean (2013), Guimbard and Jean (2013) and CEPII.

NTMs

With the reduction in tariffs under successive GATT/WTO agreements and growing consumer concerns about food safety and quality, NTMs are playing an increasing role in international trade. NTMs are defined as policy interventions other than tariffs that affect the trade of goods. **Agricultural products are extensively affected by NTMs.**

The effects of **NTMs are ambiguous and politically sensitive**. The ambiguity is twofold. Firstly, regulations are often necessary to prevent market failures and correct negative externalities, but domestic regulations may also be imposed simply to impede imports by foreign competitors (Beghin, 2008). External effects arise when consumers' utility (or producers' production) is affected by decisions taken by other agents who do not include these externalities in their decision making. For example, pesticides used in production may affect consumers' health, and water pollution may affect fishery production (van Tongeren et al., 2009). Secondly, the implementation process required to comply with NTMs is costly and may exclude some producers from the market. However, NTMs can also help to improve market access by enhancing the reputation of foreign products. In such cases, NTMs may act as trade catalysts.

Two main types of NTMs are investigated in this report: **sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBT)**. In force since 1995, the SPS Agreement allows WTO member countries to adopt measures in order to protect human, animal and plant health as well as the environment, wildlife and human safety. Being an integral part of the Agreement Establishing the WTO, the TBT Agreement is a revised form of the same Agreement concluded in 1979. It includes the technical measures and norms as well as the testing and certification procedures not included in the SPS Agreement. These technical prescriptions may be implemented for health or safety reasons, but also to standardise products, guarantee their quality or notify consumers. Unlike the SPS Agreement, scientific elements are only one of the components to be taken into account when assessing risks prior to the adoption of measures. For instance, the planned processing techniques or end uses may also be taken into account.⁵

Precise and detailed information on NTMs is rather scarce. Although the SPS and TBT Agreements require the establishment of an enquiry point, the compilation of measures applied by countries is relatively difficult to obtain. This, of course, affects the result of any analysis on the trade or welfare impacts of NTMs. The main source of information is

⁵ For instance, if we consider the norms related to fruits, a measure on the treatment of imported fruits to prevent the spread of parasites will refer to the SPS Agreement. On the other hand, a measure defining the quality, grading or labelling of imported fruits will refer to the TBT Agreement.

the notification of measures by countries to the WTO. However, since 1995, WTO members have been required to notify only new or changed measures. Furthermore, the notification requirement only covers measures which differ from international standards, guidelines or recommendations, or situations where no standards exist, and which, in addition, may have a significant impact on trade.

Here, we will focus on these notifications.⁶ Each notification provides information on the notifying country (the importer), the affected product and the type of measure (SPS versus TBT). We cover all measures notified up to the end of 2012. Our dataset is therefore more up to date than the database developed by Kee, Nicita and Olarreaga (2009) and often used in literature.⁷ Kee, Nicita and Olarreaga's NTM data are for the year 2004 in the best case (and are likely to be older for some countries).

Before presenting descriptive statistics, it should be recalled that NTMs are unilateral measures in almost all cases, i.e. they apply to a given product regardless of its origin. Furthermore, mutual recognition is applied between EU Member States. According to the mutual recognition principle, goods and services can move freely across Member States, and national legislation does not need to be harmonised. A country cannot ban a good produced in another state even if the technical requirements are different from those applied to domestic products.

Table 2.2 provides some statistics on the share of HS6 lines affected by at least one NTM in the US and the EU. These statistics are further broken down between SPS and TBT measures. For comparison, statistics are reported for all OECD importers as a whole. According to Table 2.1, **almost all HS6 products are affected by at least one NTM in the OECD and EU markets** (share above 95 %). For the US, this share is slightly smaller (around 82 %). Most of the NTMs notified by countries are TBTs. Such measures affect almost all HS6 products imported into the OECD and into the EU. Interestingly, the US and the EU tend to notify fewer SPS measures than other OECD countries. **Less than one third of HS6⁸ products traded on the US and EU markets are subject to an SPS measure**, while this share reaches 65 % for all OECD markets taken as a whole.

Table 2.2.: Share of products affected by at least one NTM (OECD countries, %)

	NTM	of which SPS	of which TBT
In the US	81.6	31.3	77.8
In the EU25	96.4	31.1	96.3
In all OECD countries	99.1	65.4	99.0

Note: Data for year 2012, HS6 products.

Table 2.3. distinguishes between agricultural and non-agricultural products. The results suggest some differences between these two types of products. The EU, the US and, more generally, all OECD countries notify **SPS and TBT measures on almost all agricultural products**. For non-agricultural products, the picture is slightly different. Firstly, the US notifies fewer NTMs on non-agricultural products than the EU and other

⁶ These notifications are used by the WTO in its 2012 World Trade Report (WTO, 2012) and are available through the Integrated Trade Intelligence Portal (I-TIP). (http://www.wto.org/english/res_e/statis_e/itip_e.htm). Note that the product codes are often missing in the I-TIP database and were added by the Centre for WTO Studies of the Indian Institute of Foreign Trade (<http://wtocentre.iift.ac.in/>).

⁷ Explanations and data are available on the World Bank website <http://go.worldbank.org/FG1KHXP30>.

⁸ The international Harmonised System (HS) is administered by the World Customs Organization and is used for import and export classification. International HS codes are defined for the 4- and 6-digit headings and subheadings.

OECD countries (78.5 % vs more than 95 %). Secondly, NTMs on these products are mainly TBTs. The share of SPS measures notified by the US and the EU on non-agricultural products is below 20 % (around 60 % for all OECD countries).

Table 2.3.: Share of products affected by at least one NTM, in 2012 (%)

	NTM		of which SPS		of which TBT	
	Agri-cultural products	Non-agri-cultural products	Agri-cultural products	Non-agri-cultural products	Agri-cultural products	Non-agri-cultural products
In the US	99.2	78.5	98.0	19.4	87.6	76.1
In the EU25	100.0	95.8	97.6	19.2	100.0	95.6
In all OECD countries	100.0	98.9	99.5	59.3	100.0	98.8

Note: Agricultural products include products covered by the WTO Agreement on Agriculture (see Annex 1 to the Agreement) plus HS Chapter 3 (fish and fish products).

All sectors are affected by NTMs, with coverage ratios (i.e. the number of HS6 lines affected by at least one SPS or TBT measure within a sector) well above 50 %.⁹ **For the US, the coverage ratio is above 90 % for all but four sectors** and none of these four sectors is an agricultural sector (electronic products, machinery, metals, and other manufactured products). **For the EU, the coverage ratio of NTMs is below 90 % only for other manufactured products.** Interestingly, imports in these sectors are quite high (see Table A.2.2 for the share of each sector in total imports), suggesting a negative relationship between NTMs and imports. However, only a careful econometric analysis can disentangle all the effects at play and confirm a potential negative correlation and potential causality between NTMs and imports.

2.2. The trade impact of barriers

Cross-section gravity estimations

In this section, we tackle the impact of tariffs and NTMs on agricultural trade flows. The gravity equation offers an appropriate framework for this analysis, provided that the frequent misuses of this methodology are avoided. The gravity equation can be seen as a reduced form of the theoretical trade flow prediction. In its simplest form, this equation measures the expected bilateral trade, given the size of both partners and the bilateral transaction costs. By comparing expected and real trade, we can measure the effect of the NTM on trade.

In terms of samples, we have restricted our analysis to OECD countries, which allows us to obtain a sample of countries with relatively homogeneous characteristics and to measure precisely the quantitative impact of NTMs on exports. Furthermore, these econometric estimations focus on agricultural goods (i.e. products covered by the WTO Agreement on Agriculture plus fisheries).

To perform the estimation and obtain unbiased results, we **make use of the most recent advances in gravity equation estimation.** In particular, we try to avoid the most common misspecifications found in the literature relying on the traditional simplest gravity framework that have been clearly described by Baldwin and Taglioni (2006). The main issue here is the necessary control for unobserved relative prices when it comes to explaining bilateral trade. Baldwin and Taglioni (2006) refer to this as 'the gold medal of

⁹ See Table A.2.1 in the Annex.

classic gravity model mistakes', namely the fact that the bilateral trade costs used as regressors in the estimated equation are correlated with the omitted variable since trade costs enter into these unobserved prices. The solution generally adopted is to rely on country fixed effects. These fixed effects incorporate size effects but also the price and number of varieties of the exporting country, the size of demand and the price index of the importing country.

As previously, our tariff data come from the MACMap database, and NTMs are compiled up to 2012. Our data on trade are therefore for the year 2012 and are extracted from the BACI database developed by the CEPII. Transport costs are measured using the bilateral distance. These data stem from the CEPII database and are defined as the sum of the bilateral distances between the biggest cities of countries, weighted by the population living in those cities.¹⁰ We also include two dummy variables. Dummy variables are binary variables that take only two values (0 or 1). Our first dummy variable 'Common border' is set to 1 for pairs of countries that share a border (0 otherwise). We also control linguistic similarity by including a dummy, equal to one if both countries share an official language. Data is extracted from the abovementioned CEPII database.

Our econometric estimations consider NTMs' impacts on both the extensive and intensive margins of agricultural trade. Our margin definitions are similar to those usually applied in trade literature (see, for example, Besedeš and Prusa, 2011). The extensive margin refers to the emergence of new trade flows (i.e. the **probability of having strictly positive trade flows in 2012**), while the intensive margin refers to the **value of these positive flows** in 2012. In box A.2.1 in the Annex, we describe our estimated equations.

Columns (1) and (2) of Table 2.4 present the results for the extensive margin of trade, while the intensive margin is presented in columns (3) and (4). Columns (1) and (3) report basic regressions. In columns (2) and (4), we study the effects of tariffs and NTMs on different trade flows: i) US imports from EU countries (equivalent to EU exports to the US), ii) EU imports from the US (equivalent to US exports to the EU), and iii) other remaining flows between OECD countries.

Table 2.4.: Estimation of the impact of tariffs and NTMs on trade

Margin:	Extensive margin		Intensive margin	
Dependent variable:	Import probability		Value of imports	
Model	(1)	(2)	(3)	(4)
Tariffs	-0.04 ^a (0.003)		-0.37 ^a (0.03)	
Tariffs on US imports from EU (1)		0.03 (0.05)		-1.49 ^a (0.38)
Tariffs on EU imports from US (2)		-0.22 ^a (0.03)		-2.87 ^a (0.22)
Tariffs on other OECD flows		-0.04 ^a (0.003)		-0.34 ^a (0.03)
NTMs	-0.08 ^a (0.01)		-0.38 ^a (0.07)	
NTMs on US imports from EU (3)		-0.17 ^a (0.03)		-0.50 ^a (0.14)
NTMs on EU imports from US (4)		-0.15 ^a (0.03)		-0.52 ^a (0.18)

¹⁰ <http://www.cepii.fr/anglaisgraph/bdd/distances.htm>.

NTMs on other OECD flows		-0.07 ^a		-0.26 ^a
		(0.01)		(0.07)
Ln distance	-0.15 ^a	-0.15 ^a	-0.78 ^a	-0.77 ^a
	(0.01)	(0.01)	(0.04)	(0.04)
Common border	0.16 ^a	0.16 ^a	0.84 ^a	0.84 ^a
	(0.02)	(0.02)	(0.08)	(0.08)
Common language	0.03 ^a	0.03 ^a	0.07	0.06
	(0.01)	(0.01)	(0.08)	(0.08)
Observations	679 008	679 008	202 356	202 356
Adjusted R ²	0.379	0.380	0.311	0.313
Test on coefficients		(1)=(2) F = 22.22 ^a		(1)=(2) F = 9.97 ^a
		(3)=(4) F = 0.13		(3)=(4) F = 0.00

Note: Standard errors (clustered by importing country and exporting country) in parentheses with ^a denoting significance at the 1 % level. All regressions contain a full set of importer, exporter and product fixed effects. Constant and fixed effects not reported.

According to our results, trade flows are negatively and significantly affected by tariffs and NTMs at both the extensive and intensive margins of trade. In other words, **tariffs and NTMs reduce the probability of exports and the value of the export flows across OECD countries.** At the extensive margin, the trade-reducing effect of NTMs is larger than the one observed for tariffs. At the intensive margin, the magnitude of both effects is similar. In line with the rest of the gravity literature, our results also highlight a negative impact of distance on trade flows, while the sharing of a border and an official language raise bilateral exchanges.

More interestingly, our results emphasise differences in the impact of tariffs on EU exports to the US and US exports to the EU. Let us first focus on the impact of tariffs. **The probability of EU exports to the US is not affected by the tariffs implemented by the US** on these flows (column 2, estimated coefficient of 0.03, not significant). By contrast, **EU tariffs on US exports significantly reduce US agricultural exports to the EU** market (column 2, estimated coefficient of -0.22, statistically significant) and the effect is much higher than the one obtained on remaining OECD flows (estimated coefficient of -0.04). At the intensive margin of trade (intensity of trade), all flows across OECD countries are significantly impeded by tariffs. However, the magnitude of the impact differs: **US exports to the EU are more strongly affected by bilateral tariffs than EU exports to the US** and the difference between both effects is statistically significant (column 4). Furthermore, other OECD flows are less affected by tariffs than bilateral exchanges between the EU and the US.

All OECD flows are negatively impacted by NTMs. In terms of magnitude, no significant differences are observed between EU exports to the US and US exports to the EU. This result holds at the extensive and intensive margins of trade. Finally, we note that the negative impact of NTMs on EU-US bilateral exchanges is stronger than on other OECD flows and at both trade margins.

Table A.2.3. in the Annex presents separate estimations for SPS and TBT. Results for both measures are very similar. This similarity is largely explained by the fact that several goods are subject to both an SPS and a TBT measure.

Estimation of the impact of tariff cuts

In addition to the cross-section investigation, one could also examine whether bilateral tariff cuts granted over the last decade have had an impact on EU-US agricultural flows. Note that this investigation cannot be carried out for NTMs where new measures – sometimes replacing, completing or reinforcing older ones – are notified over time. Due to some restriction in the public use of the MACMap data for the year 2010, we compute here the variation of tariffs between 1996 and 2006 and investigate their effects on both trade margins. In other words, we analyse whether tariff cuts contributed to the scope of new bilateral agricultural trade relationships established between OECD countries in 2006 (extensive margin) and to changes in the value of existing export flows between 1996 and 2006 (intensive margin). As previously, our sample includes all OECD countries and we differentiate between the effects on: i) EU exports to the US, ii) US exports to the EU, and iii) remaining OECD flows.

Results are reported in Table 2.5. Columns (1) and (2) deal with the extensive margin, while the results for the intensive margin are presented in columns (3) and (4). Columns (1) and (3) present the overall impact on OECD flows, and columns (2) and (4) distinguish between EU exports to the US, US exports to the EU and other flows.

The reduction in tariffs between 1996 and 2006 had a statistically significant effect on both margins of trade. Furthermore, the tests on coefficients suggest a non-statistically different impact on the EU exports to the US and on the US exports to the EU.

Regarding the country-specific variables, changes in the population of each partner have no impact on the probability of emergence of a new trade flow, while this probability is negatively affected by changes in the GDP per capita. Therefore, variations in the countries' size (proxied by population) have no effect on new trade flows, while improvements in their productivity (proxied by GDP per capita) may impede new trade relationships. The last result may be explained by our sample of products (agricultural products and not manufactured ones). Results at the intensive trade margin suggest that the exporter's size has a negative impact and the importer's productivity a positive impact on changes in the value of trade.

Table 2.5.: Estimation of the impact of tariff cuts on trade

Margins:	Extensive margin		Intensive margin	
Dependent variable:	Probability of a new bilateral flow in 2006		$\Delta \ln(\text{imports})$	
Model	(1)	(2)	(3)	(4)
$\Delta \ln$ tariffs	-0.05 ^a (0.01)		-0.25 ^b (0.12)	
$\Delta \ln$ tariffs on US imports from EU (1)		-0.23 ^b (0.10)		-2.01 ^a (0.63)
$\Delta \ln$ tariffs on EU imports from US (2)		-0.12 ^a (0.04)		-1.22 ^a (0.37)
$\Delta \ln$ tariffs on other OECD flows		-0.05 ^a (0.01)		-0.32 ^b (0.13)
$\Delta \ln(\text{Population}_{\text{exporter}})$	0.01 (0.05)	0.01 (0.05)	-1.06 ^a (0.36)	-1.06 ^a (0.36)
$\Delta \ln(\text{GDP per capita}_{\text{exporter}})$	-0.13 ^a (0.01)	-0.13 ^a (0.01)	-0.05 (0.07)	-0.05 (0.07)
$\Delta \ln(\text{Population}_{\text{importer}})$	0.04	0.04	0.27	0.24

	(0.05)	(0.05)	(0.39)	(0.39)
$\Delta \ln(\text{GDP per capita}_{\text{importer}})$	-0.03 ^a	-0.03 ^a	0.40 ^a	0.40 ^a
	(0.01)	(0.01)	(0.07)	(0.07)
\ln distance	-0.06 ^a	-0.06 ^a	-0.10 ^a	-0.10 ^a
	(0.003)	(0.003)	(0.02)	(0.02)
Herfindahl Index _{importer} (in 1996)	-0.02 ^a	-0.02 ^a	0.51 ^a	0.51 ^a
	(0.004)	(0.004)	(0.05)	(0.05)
Initial level of tariffs (in 1996)	-0.11 ^a	-0.11 ^a	-0.43 ^a	-0.43 ^a
	(0.01)	(0.01)	(0.09)	(0.09)
Observations	514,230	514,230	116,122	116,122
Adjusted R ²	0.087	0.087	0.055	0.055
Test on coefficients		(1)=(2) F = 1.09		(1)=(2) F = 1.58

Note: Standard errors (importing country-exporting country clustered) in parentheses with ^a and ^b denoting significance at the 1 % and 5 % levels. All regressions contain product fixed effects. Constant and fixed effects not reported.

The importer's Herfindahl index is always negative and significant at the extensive margin. As this index measures the market concentration, this result indicates that the probability of recording a new bilateral export flow in 2006 is negatively influenced by the level of concentration of the importing country in 1996: the more concentrated the import market, the lower the probability of a new flow. At the intensive margin, the opposite result is obtained, suggesting that concentration on the destination markets mainly benefits exporters that were already active in these markets in 1996. Lastly, bilateral distance has a negative and significant impact on the probability of new exports and on the changes in the exported value.

Trade potentials

The gravity model can also be used to provide partial equilibrium insights into product categories and products in which the EU-US trade relationship is underexploited. This can be done by studying the residuals of the regression equation. **Unused potential is identified whenever observed trade flows lie below the so-called gravity norm.** In contrast, when they lie above the norm, there is the threat of trade flow reductions when the relationship converges closer to the gravity norm in the aftermath of trade liberalisation. Bilateral FDI often explains those types of discrepancies.

To obtain the trade potentials, we re-estimate equation (3) but without trade policy barriers, i.e. without tariffs and NTMs. As previously, our sample focuses on agricultural trade flows between the OECD countries. We then compute the residuals in relative terms

$$\text{Relative Residual} = \left[\frac{\hat{M}_{ijk} - M_{ijk}}{\hat{M}_{ijk} + M_{ijk}} \right] * 100$$

(5)

Average trade potentials are then computed on EU-US trade. These means are calculated at sector level (same sectors as in the simulations of Section 3 but with agricultural products).

Table 2.6.: Trade potentials in EU-US trade (%)

Sector	Trade potential (EU exports to US)	Trade potential (US exports to EU)
Animal products	10.13	7.80
Cattle	-3.03	-2.09
Dairy products	14.31	32.24
Meat	25.27	18.37
Other meat products	16.02	24.07
Cereals	19.70	2.97
Other crops	7.25	9.78
Sugar	17.56	19.82
Vegetables and fruits	19.70	4.56
Vegetable oils and fats	11.46	14.43
Oilseeds	23.19	-1.97
Fishing	12.12	14.35
Other food products	6.88	12.15
Beverages and tobacco	-1.66	9.01
Plant-based fibres	18.70	0.88
Forestry	5.80	8.58
Textile	14.75	8.71
Chemical, rubber, plastic products	-1.43	5.07
Other manufacturing	-17.88	0.99

Table 2.6 reports the results. Regarding EU exports to the US, the **largest trade potentials lie in the following sectors: meat and other meat products, oilseeds, cereals, vegetables and fruits, sugar and plant-based fibres**. In all these sectors, the trade potential is above 15 %. For US exports to the EU, trade potentials are more concentrated in a small number of sectors: dairy products (32.24 %), meat (18.37 %) and other meat products (24.07 %), and sugar (19.82 %).

Computation of AVEs of NTMs

Econometric estimations can also be applied for the computation of AVEs of NTMs. These AVEs are used further in the next section on market opportunities for the EU agri-food sector in a possible TTIP. As these simulations are based on a CGE model and cover the whole economy, our sample is now extended to non-agricultural activities.

To obtain these AVEs, we re-estimate equation (3). Estimations are performed sector by sector. These estimations provide a coefficient reflecting the trade effects of NTMs for each sector. These coefficients are then converted into AVEs using the import demand elasticities computed by Kee, Nicita and Olarreaga (2008).¹¹ AVEs are, as a final step, aggregated at sector level and used in the simulations (Section 3).

Tables 2.8-2.10 provide some statistics. According to Table 2.7, **average AVEs of NTMs are much higher in the EU and in the US than in the other OECD countries** (19.7 % in the EU and 17.1 % in the US versus 10.8 % for all OECD countries). The gap between the US and other OECD countries is, however, reduced if we look at the median

¹¹ These elasticities are available on the World Bank's website: <http://go.worldbank.org/FG1KHXP30>.

AVE instead of the average. By contrast, the gap persists for the EU, with a median AVE equal to almost twice the one observed for all OECD countries (8.7 % versus 4.5 %).

Table 2.7.: Estimation of AVEs of NTMs, summary statistics in 2012 (%)

	US	EU25	All OECD countries
Mean	17.1	19.7	10.8
Median	5.1	8.7	4.5

The breakdown into agricultural and non-agricultural products clearly shows that AVEs of NTMs are much higher in agriculture (Table 2.8). This (expected) result holds for the OECD countries as a whole, but also for the US and the EU. The mean AVEs for agricultural products are about four times larger than the mean AVEs for non-agricultural ones. For the median AVEs, the differences are even larger.

Table 2.8.: Estimation of AVEs of NTMs for agricultural and non-agricultural products, in 2012 (%)

	US		EU25		All OECD countries	
	Agri-cultural products	Non-agri-cultural products	Agri-cultural products	Non-agri-cultural products	Agri-cultural products	Non-agri-cultural products
Mean	47.8	11.4	53.6	13.4	31.0	7.1
Median	22.5	4.3	37.5	6.9	21.1	3.7

Note: Agricultural products include products covered by the WTO Agreement on Agriculture (see Annex 1 of the Agreement) plus HS Chapter 3 (fish and fish products).

Finally, Table 2.9. reports the mean sectoral AVEs. For almost all sectors, **EU AVEs are equal to or higher than US AVEs, and US AVEs are often higher than the ones obtained for all OECD countries.** In some sectors, AVEs are very high: dairy products, meat, other meat products, cereals, vegetables and fruits, vegetable oils and fats, fishing, other food products. All these sectors deal with agriculture. By contrast, AVEs for manufacturing sectors are much lower, especially for chemicals or machinery, or, to a lesser extent, for textiles.

Table 2.9.: Estimation of AVEs of NTMs, by sector in 2012 (%)

Sector	US	EU25	OECD countries
Animal products	12.6	15.7	8.6
Cattle	22.2	38.0	18.5
Dairy products	68.1	92.2	54.5
Meat	94.5	102.7	59.2
Other meat products	75.7	81.8	45.7
Cereals	62.6	89.5	50.8
Other crops	13.3	13.4	8.8
Sugar	21.1	32.5	17.6
Vegetables and fruits	78.7	77.0	44.3
Vegetable oils and fats	40.5	57.4	34.1
Oilseeds	13.3	19.9	11.7
Fishing	54.4	60.1	34.2
Other food products	53.4	59.4	34.7
Beverages and tobacco	18.3	25.0	14.4
Plant-based fibres	27.5	52.9	27.3
Forestry	16.0	17.2	9.7
Energy (coal, oil, gas, etc.)	17.0	7.0	3.8
Other primary products	23.0	29.2	14.0
Textile	13.4	17.2	8.9
Chemical, rubber, plastic products	5.1	4.8	2.7
Metals	21.0	25.2	11.5
Machinery	3.8	7.3	4.1
Electronic equipment	32.2	42.1	26.3
Transport equipment	22.1	25.3	13.4
Other manufacturing	10.6	10.4	5.7

2.3. Specific trade concerns

Rather than focusing on the occurrence of NTMs, one can examine data on specific trade concerns raised at the WTO by certain member countries. These concerns pertain to issues raised by one (or more) WTO members concerning SPS and TBT measures put in place by other members and deemed to restrict trade. However, not all concerns raised relate to perceived trade restrictions, as countries are sometimes only seeking clarification on a measure put in place by a trading partner or reminding a trading partner of notifications that need to be made to the SPS committee. One potential caveat to this approach based on available data is that it will not take into account cases where trade tensions on standards are settled bilaterally without raising the issue at the WTO.

Our analysis is based on data provided by the WTO and used in the 2012 World Trade Report (WTO, 2012). These data provide a summary description of cases as well as pointers to relevant documents. The data include a record of which member raised a

concern and when, which countries, if any, supported the concern, which countries maintained measures deemed to restrict the exports of the country raising the concern, and which products were involved.

312 concerns were raised in the SPS Committee between 1995 and 2010, and 317 were raised in the TBT Committee between 1995 and 2011 (WTO, 2012). If we examine in more detail the concerns between the US and the EU, we observe that:

- For the EU: 62 concerns related to SPS measures were raised against the EU, and 26 of them were raised or supported by the US; 63 concerns related to TBTs were raised against the EU, and 30 of them were raised or supported by the US;
- For the US: 35 concerns related to SPS measures were raised against the US, and 14 of them were raised or supported by the EU; 35 concerns related to TBTs were raised against the US, and 13 of them were raised or supported by the EU.

Tables A.2.4 and A.2.5 in the Annex summarise specific trade concerns raised or supported by the EU against the US and vice versa between 1995 and 2010 in the area of SPS.

In terms of agricultural products covered by EU-US specific trade concerns:

- For TBT concerns, the coverage is very large and almost all agricultural products have been subject to at least one concern raised by the US against the EU or by the EU against the US.
- For SPS concerns, the coverage is more focused on raw agricultural products, as highlighted in Tables A.2.4 and A.2.5.

For examples of trade concerns see the discussion in Section 4 of this report.

Summary

Transatlantic trade in the agri-food sector is still significantly affected by trade barriers. They affect whether a product is actually traded or not, and, if it is traded, how large the trade volume in the product line is. We find that tariffs affect EU imports from the US more strongly than EU exports to the US. NTMs reduce the likelihood of trade at product level and its volume. The quantitative effect is similar for EU exports to the US and for EU imports from the US. The negative impacts of tariffs and NTMs are more pronounced in EU-US bilateral trade as compared to other trade flows.

3. QUANTITATIVE ANALYSIS OF ECONOMIC EFFECTS IN THE EU AGRIFOOD SECTOR

3.1. Introductory remarks

The variety and complexity of issues at stake, combined with the differences across sectors in trade patterns as well as tariffs and NTMs, make it difficult to get a sense of what the resulting economic impact might be. While it is impossible to carry out a detailed and accurate analysis of all issues and all sectors in the same framework, the aim of this section is to use a consistent model to propose a **summary assessment of the trade and economic impacts** of a possible agreement. The assessment, covering tariff provisions as well as obstacles to trade in services and NTMs, is carried out using MIRAGE,¹² a CGE model of the world economy developed by CEPII.

CGE models are widely regarded to be the most appropriate tools to conduct ex-ante assessments of trade agreements. Their reliance on sound microeconomic modelling of agents' behaviour makes it possible to analyse, in a consistent way, how they might react to the new environment following a policy shock, given their respective objectives and constraints. Meanwhile, the general equilibrium framework ensures that the analysis takes due account of the **feedback from income effects and labour or capital markets**, and the interdependencies across economies.¹³

The benefits of such an approach thus lie in its consistency and exhaustiveness, with all sectors and countries represented, following the chosen classification. From the outset, it should be clear that the disadvantage of such a wide-ranging modelling exercise is that it needs to rely on systematic approaches, and therefore on rather strong assumptions. Based on the econometric assessment of their trade-restrictive impact presented in the previous section, NTMs are taken into account in the model through their AVEs, with alternative assumptions made about what the corresponding price wedge means in practice. This is a limitation, since non-economic objectives of NTMs cannot be incorporated in the model. In addition, even though products are assumed to be differentiated, the prohibitive nature of some measures cannot be explicitly modelled when they only concern part of the production within a given sector. For instance, our model does not take into account the specific distinction between hormone-fed and hormone-free beef supply chains. On this important topic, the results presented here should thus be interpreted with caution, and the reader is referred to Section 4 for an analysis of the corresponding stakes. Another example of the model's limitations is sugar and biofuels: policies in these sectors are so complex in practice that they cannot be accurately modelled in a general-purpose framework. Here again, the **simulation results should be read with this limitation in mind**, and an analysis of the corresponding issues is proposed in the next section.

After a quick overview of the modelling framework and scenarios, this section describes the simulation results for a central scenario, before presenting robustness checks.

¹² For a technical presentation of the model, see Bhir et al. (2002), Decreux and Valin (2007) and Fontagné, Fouré and Ramos (2013). See also <http://www.mirage-model.eu>.

¹³ The TTIP has been analysed by Francois et al. (2013) and by Felbermayr et al. (2013), without offering a detailed perspective on the agri-food sectors.

3.2. Modelling framework and scenarios

The MIRAGE model is a flexible tool that can be tailored to the specific needs of different policy questions. In the present case, we **model the agricultural sectors with as much detail as possible**. 31 distinct sectors (17 agri-food industries, 7 manufacturing sectors, 6 services sectors and one energy sector)¹⁴ and 23 geographical areas (the US, 14 sub-areas within the EU, and 8 in the rest of the world)¹⁵ are considered.

MIRAGE relies on the Global Trade Analysis Project (GTAP) database for social accounting matrices, while tariff protections are taken from the MAcMap-HS6 database (Guimbard et al, 2012), and from additional data for TRQs applied to transatlantic trade, taken from legal sources.¹⁶

The estimated impacts of NTMs on import value presented in the previous section are converted into price effects using product-level import demand elasticities, as computed by Kee et al. (2008). The corresponding AVEs are then aggregated by sector, using WTO notifications to identify which products are concerned by such measures. For services sectors, estimates from Fontagné et al. (2011) are used.

NTMs have three types of effects (see, for instance, Walkenhorst and Yasui, 2005, or Fugazza, 2013). We cannot account for supply and demand shifting effects – although they may be large in the case of the TTIP, where mutual recognition of standards represents a signal that may shift consumer preferences or where trade of hormone beef is simply forbidden by the EU – and thus only consider the protection effect of NTMs through AVEs. In the present context, the protection effect of NTMs can be represented either as a **pure efficiency loss** ('sand in the wheels') or as a **tax**, which may affect the importer and/or the exporter. A mixed approach is followed here, whereby the protection effect of NTMs is represented through equal-sized mechanisms: an efficiency loss, an export tax and an import tax, assuming the proceeds of these taxes to be redistributed as a lump-sum to the representative agent.

Before considering counterfactual scenarios, a **business-as-usual growth path** for the world economy, referred to as the 'baseline' simulation, is simulated up to 2025. The economic impact of the agreement is then computed as the difference between a growth path incorporating the agreement enforcement, and this baseline. While the baseline simulation is supposed to reflect a status quo scenario for trade barriers, three foreseeable changes are taken into account. One is the implementation in 2015 of the **'100 % scanning' requirement**, initially due to be applied as of July 2012 and effectively delayed, requiring that any container entering the US territory must be scanned.¹⁷ According to recent estimates, this requirement would entail a 10 % increase in trade costs on all US imports.¹⁸ The second change is the expected progress over the

¹⁴ Cereals, fruit and vegetables, oilseeds, sugar, fibre crops, other crops, cattle, animal products, dairy, forestry, fishing, other primary products, red meat, white meat, vegetable oil, other foods, beverages and tobacco, energy, textile, machinery, chemicals, metals, transport equipment, electronic, other manufacturing, business, transport, finance, recreation, public administration, other services. See Table A.4.1. in the Annex for a detailed description.

¹⁵ US, Austria, Benelux, Balkans, Visegrad countries, Nordic states, Baltic states, France, Germany, Ireland, Italy, Poland, Portugal, Spain, UK, Canada, Mexico, Mercosur, Maghreb, European Free Trade Association (EFTA), Community of Independent States (CIS), Turkey, Rest of World. See Table A.4.2. in the Annex for a detailed description.

¹⁶ This update is based upon detailed information for 2013. It mainly concerns the beef sector (corresponding to HS4 0201, 0202 and 0206), which benefits from an increase in the volume of TRQ and a reduction of the inside tariff rate in 2012.

¹⁷ See i) European Commission, DG TAXUD, Comments on 100 % Scanning, sent to US Customs and Border Protection (CNP) in April 2008; ii) Ecorys (2009), and iii) European Commission (2013). The measure has been delayed until July 2014.

¹⁸ See European Commission (2010). This cost is the evaluated additional variable direct transport cost. It is topped by initial sunk costs (EUR 430 million) in infrastructure, and 2 200 extra staff employed at EU ports.

next 15 years in the **completion of the internal European market for services**, which we assume will entail a 20 % cut in intra-EU protection in services. The third modification is the complete removal, in 2012, of tariffs between **Croatia** and the rest of the EU.

The five scenarios considered are the following:

- The '**reference scenario**' includes an **across-the-board 25 % cut in the level of trade restrictiveness of NTMs** for both the product and service sectors, with the exception of public and audiovisual services and energy. We assume a **progressive but full phasing-out of tariff protection** between the partners, starting in 2015. Based on EU-Canada negotiations, this tariff removal is assumed to be immediate for most products, with a transition period of three or five years for the most sensitive products.¹⁹ We assume in addition that an agreement would **exempt European exporters to the US from the '100 % scanning requirement'**, thus cancelling the corresponding cost increase.
- The '**Tariffs Only**' scenario only includes tariff liberalisation and the exemption from 100 % scanning for European exporters. This is not meant to be understood as a realistic assumption, but rather as a way to isolate the specific economic impact of bilateral liberalisation in this area.
- The '**Excluding meat and dairy**' scenario includes an across-the-board 25 % cut in the level of trade restrictiveness of NTMs for all the sectors, with the exception of public and audiovisual services, energy, meat and dairy. European exporters are supposed to be exempt from 100 % scanning to export to the US. Tariffs are phased out as in the reference scenario.
- '**Targeted NTM Cuts**' assumes that liberalisation commitments will be progressive, i.e. more stringent for those NTMs that are initially more restrictive, as might result from negotiations targeting the most protected sectors. We assume for agriculture, industry and services separately that the AVE protection provided by the NTMs will be cut by 30 % for the upper half of the sectors (i.e. those with initial protection beyond the median sector level)²⁰, and by 15 % for the lower half. European exporters are supposed to be exempt from 100 % scanning to export to the US. Tariffs are phased out as in the reference scenario.
- A transatlantic agreement might also render both signing parties' NTMs less restrictive for third country exporters: the greater compatibility between the standards and norms on each side of the Atlantic might make it less costly to cope with the requirements of both markets, and the standards and norms agreed upon by the EU and the US might be adopted by third countries, which would increase international compatibility beyond the agreement's signing parties. These effects are taken into account in the '**Harmonisation Spillovers**' scenario, where NTMs' trade restrictiveness with regard to third country exporters is assumed to be cut by 5 % (i.e., one-fifth of the cut achieved bilaterally in the reference scenario). As in the previous scenarios, European exporters are supposed to be exempt from 100 % scanning to export to the US. Tariffs are phased out as in the reference scenario.

EU ports unable to comply with the new regulation will lose access to the US market, increasing congestion in the largest European ports.

¹⁹ We assume that the highest tariff (above the median) will not be removed immediately but with a transition period of 3 years for tariffs between the median and the 3rd quartile, and with a 5-year transition for tariffs above the 3rd quartile.

²⁰ The median NTM AVE protection is defined by large sectors: in agriculture 40 % for the EU and 31 % for the US, in manufacturing 11 % and 13 %, and in services 31 % and 43 %.

3.3. Aggregate bilateral trade impacts

While the reference scenario leads to an **increase of approximately 40 % in overall bilateral trade** between both partners, trade creation is much stronger and asymmetric in the agri-food sector (Table 3.1): **EU agri-food exports to the US would increase by 56 %, while flows in the opposite direction would more than double (+116 %)**. Such effects are rather large, but lie at the lower end of common estimates of the trade impacts of RTAs.²¹

The fact that the proportional increase in trade flows is larger in agriculture than in other sectors is related to a higher initial level of protection. As a matter of fact, the increase in bilateral trade is also significant for manufacturing products (41 % to 42 % in both directions), and far from negligible for services (one quarter for European exports, one sixth for American ones).

Table 3.1: Change in bilateral trade by broad sector, 2025, volume (%), 'Reference' and 'Tariff only' scenarios

Exporter	Importer	Total		Agri-food		Industry		Services	
		Tariff only	Ref.	Tariff only	Ref.	Tariff only	Ref.	Tariff only	Ref.
EU	US	10.8	37.3	18.5	56.4	16.3	41.8	0.4	26.8
US	EU	11.1	36.6	30.7	116.3	15.5	41.2	-0.5	15.6
EU	EU	-0.5	-1.4	-0.6	-2.1	-0.7	-1.7	0.0	-0.4
EU	RoW	0.0	-0.4	-0.1	0.0	0.0	-0.3	-0.1	-0.7
RoW	EU	-0.3	-0.9	-0.4	-1.5	-0.5	-1.4	0.2	0.4
US	RoW	-0.7	-1.7	-0.5	-1.5	-0.7	-1.8	-0.7	-1.7
RoW	US	-0.4	-1.2	-0.6	-1.7	-0.5	-1.2	0.6	-0.8

The aggregate impacts on bilateral trade are comparable to the ones found in Francois et al. (2013), i.e. +28 % for EU exports and +37 % for US exports for the 'ambitious experiment', the most directly comparable to our reference scenario. They are somewhat lower than those found in Gourdon et al. (2013), which were +49 % and +52 % respectively. The corresponding differences mainly have to do with different assessments of the trade restrictiveness of NTMs. It should be noted that the more detailed modelling of agricultural sectors used here also leads, in some sectors, to factors limiting the agreement's impact being taken into account, as is the case with the modelling of TRQs in the red meat sector.²²

Although significant, **tariff liberalisation would only explain about one quarter of total impacts**: an increase in bilateral exports of agri-food products of 19 % for the EU and of 31 % for the US. Other trade flows are also affected but only to a limited extent. For these products, intra-EU trade declines by 2 %, while EU exports to third countries and US exports to and imports from third countries decrease by close to 1.5 %, and EU

²¹ See Cipollinia and Salvatici (2010) for a meta analysis of the early literature, and Egger et al. (2011) for more advanced econometric modelling.

²² Felbermayr et al. (2013) find larger trade creation effects (about 90 %). Their top-down analysis assumes that the TTIP would lower trade costs by the same amount that other agreements have, taking account of indirect effects of lower trade policy induced costs (e.g. through increased investment).

exports to third countries remain unchanged. This suggests that trade **diversion effects remain limited at this aggregate level.**

3.4. Trade impacts by sector

The expected trade effects of the TTIP are strongly heterogeneous at sector level (Table 3.2). From the outset, it is worth emphasising that agri-food products, the focus of this study, only account for a minor part of the agreement's assessed trade impacts: only **8 % of new exports from the EU to the US due to the TTIP belong to the agri-food sector**, either in the reference or in the tariff-only scenario. On the US side, it constitutes a larger, but still relatively small, proportion of new bilateral exports, 15 % in the reference scenario and 12 % in the 'Tariffs only' scenario.

The bulk of gains in bilateral exports naturally originates from manufacturing sectors (42 % from the EU and 41 % from the US in the reference scenario, 16 % in each case as a result of tariff liberalisation alone). The share of services in bilateral export creation, comparable to what it is in agriculture for the US in the reference scenario (13 %), is far larger in the EU (25 %).

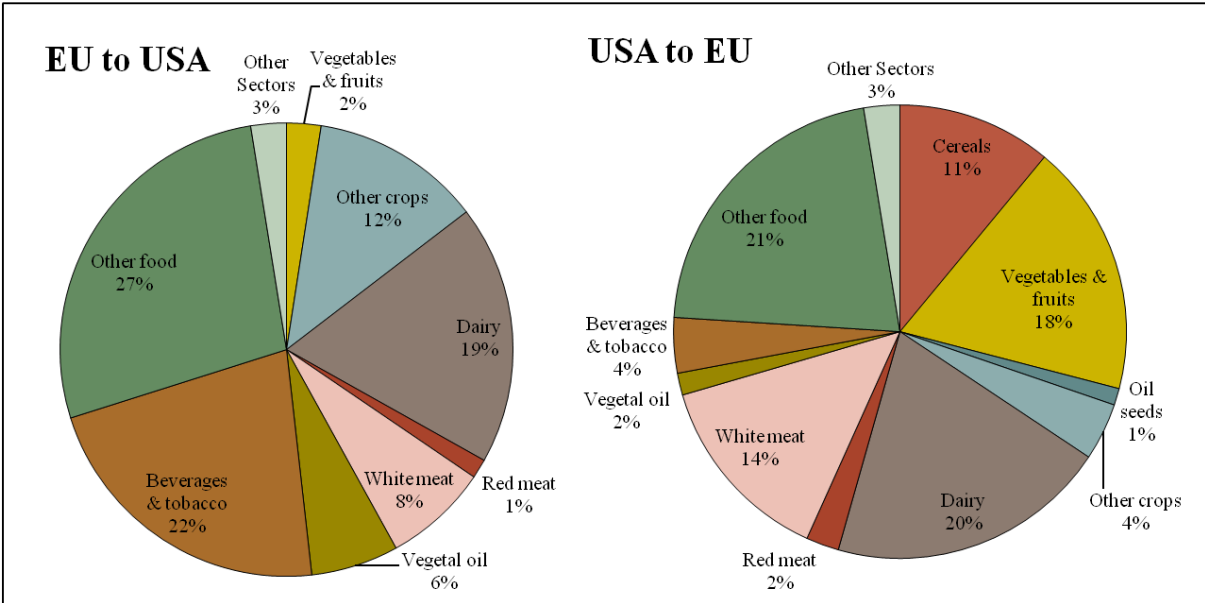
Focusing on agricultural and food products, the **proportional increase in EU exports to the US is spectacular in several sectors**: red meat (+404 %), white meat (+289 %), sugar (+297 %), dairy products (239 %), cereals (+168 %), other crops (+152 %), and fruits and vegetables (+90 %). However, initial exports are small and not necessarily representative in some of these sectors, making the corresponding figure of limited interest and reliability. This is the case, for instance, for red meat, cereals or sugar.

As a matter of fact, new EU agri-food exports to the US (worth USD 13 billion in total) are **concentrated on a few sectors**, with three of them accounting for two thirds of the total, as depicted in Figure 3.1: **other food products** (+USD 3.5 billion; which include, for instance, prepared fish and vegetables, flour and juices), **beverages and tobacco** (+2.8 billion), and **dairy products** (+2.4 billion). For the first two sectors, even tariff removal alone would spur large export creation. For dairy products, only a limited part of this potential is linked to tariff liberalisation; most of the gains would stem from lowered NTBs. As a matter of fact, actual export creation in this sector is likely to depend strongly, in practice, on the disciplines agreed upon in relation to geographical indications, as well as the sanitary measures concerning products made out of unpasteurised milk.

Other sectors where EU exports to the US would increase substantially are **other crops** (USD 1.3 billion, mainly as a result of tariff cuts), **white meat** (+1 billion), **vegetable oil** (+0.8 billion, a large increase given the size of the corresponding market), and fruits and vegetables (+0.3 billion). The sugar sector deserves a caveat, though, because this is a sector where policies are complex, products highly substitutable and initial flows not necessarily representative, as commented on in the next section.

US agri-food exports to the EU would increase almost twice as much as EU exports, amounting to almost USD 27 billion. Although a bit more diversified than European export gains, they also concentrated on a few products, namely **other food products** (5.7 billion), **dairy products** (5.4 billion), **fruits and vegetables** (4.8 billion), **white meat products** (3.7 billion), cereals (3.0 billion), other crops (1.1 billion, almost entirely due to tariff cuts), and beverages and tobacco (1.1 billion, also essentially linked to tariff cuts).

Figure 3.1. Share of agricultural sectors in increases in transatlantic trade, p.p., 2025, volume, 'Reference' scenario



Note: Sectors representing less than 1 % of the total variation in exports have been gathered under the 'Other sectors' category.

The dairy products sector is striking because a very strong proportional increase is found (+2 090 %), out of a pretty small initial market share and almost exclusively as a result of liberalisation of NTMs. This result is subject to caution given the limited representativeness of initial trade flows and the questions surrounding the actual impacts of NTMs.

Table 3.2. Transatlantic trade in agricultural goods, market shares and variation (p.p.), 2025, volume, 'Reference' and 'Tariff Only' scenarios

		EU to US					US to EU				
		Initial market share	Initial trade (mn \$)	Increase in trade (mn \$)	<i>of which tariffs</i>	Increase in trade (%)	Initial market share	Initial trade (mn \$)	Increase in trade (mn \$)	<i>of which tariffs</i>	Increase in trade (%)
Agri-food	Cereals	0.1	33	56	5	167.9	2.8	2 421	2 954	251	122.0
	VegFruit	0.6	354	318	42	90.0	4.7	5 000	4 840	1 149	96.8
	OilSeeds	0.1	15	5	2	31.8	5.9	2 144	321	-7	15.0
	Sugar	0.1	15	44	28	297.2	0.1	31	194	62	624.7
	FibreCrops	0.4	8	2	1	25.3	4.2	95	56	0	58.9
	OthCrops	4.2	1 043	1 581	1 291	151.6	1.5	1 888	1 096	815	58.1
	Cattle	0.6	342	105	11	30.8	1.1	533	258	97	48.4
	AnimProd	0.2	129	21	4	16.5	0.5	466	85	6	18.3
	Dairy	0.8	1 009	2 407	403	238.6	0.1	258	5 386	1 443	2 089.5
	Forestry	0.8	201	1	2	0.7	0.6	440	0	0	0.1
	Fishing	4.6	262	83	4	31.7	0.8	243	109	42	44.9
	OthPrim	1.7	994	12	11	1.2	1.8	2 641	-11	-5	-0.4
	Red Meat	0.0	44	179	9	404.0	0.3	172	629	15	365.0
	White meat	0.4	336	972	76	289.0	0.3	356	3 690	119	1 037.0
	VegOil	6.2	1 397	813	176	58.2	0.5	273	421	86	154.4
	OthFood	1.1	4 459	3 554	1 041	79.7	0.7	4 169	5 747	2 181	137.8
	BevTob	6.8	12 411	2 848	1 162	22.9	0.5	1 937	1 059	822	54.6
Energy	Energy	0.8	17 439	3 779	3 824	21.7	1.0	21 526	3 260	3432	15.1

Industry	Textile	1.4	6 507	8 996	6 070	138.3	0.5	3761	3 699	2 361	98.4
	Machinery	4.7	61 852	14 539	8 393	23.5	4.1	82 125	18 887	7 704	23.0
	Chemicals	6.3	80 780	20 547	12 475	25.4	5.1	93 590	21 357	15 317	22.8
	Metals	2.3	19 921	13 673	2 472	68.6	1.5	22 688	12 389	2 345	54.6
	TransEquip	5.4	57 682	32 888	9 826	57.0	4.7	73 093	47 902	18 848	65.5
	Electronic	1.6	11 239	11 338	769	100.9	2.7	15 971	20 967	623	131.3
	OthManuf	2.0	26 762	8 691	3 225	32.5	1.2	24 181	4 750	1 568	19.6
Services	Business	0.7	46 808	17 764	199	38.0	0.6	58 705	11 965	-337	20.4
	Transport	3.3	37 906	6 828	124	18.0	1.6	31 081	4 528	-144	14.6
	FinIns	1.8	47 525	15 495	200	32.6	1.9	32 450	7 203	-193	22.2
	Recreation	0.3	4 933	25	17	0.5	0.9	10 397	-56	-46	-0.5
	PublicAdm	0.3	19 393	1 548	82	8.0	0.4	20 363	-132	-98	-0.6
	OthServ	0.0	1 074	654	5	60.9	0.1	2 544	732	-12	28.8

For cereals, it is worth emphasising that simulations are based upon initial protection data for 2007. The high level of cereal prices at the time means that tariff protection was low then (the assessed mean AVE tariff is 8 %), mainly for two reasons:²³ one is that tariff duties in this sector are determined as an increasing function of the difference between the intervention price and prices on world markets, thus automatically lowering when world prices are high; the second reason is that, given the context of especially high world prices, the EU suspended (i.e. temporarily removed) tariff duties on imports of a number of cereals, and even on all of them at the end of 2007. Should cereal prices fall significantly, European protection may become far higher. The corresponding simulated impact should thus be considered a lower bound.

It might come as a surprise that **red meat**, widely considered as one of the most sensitive sectors in the negotiation, does not exhibit larger export creation (+USD 630 million). However, this is another case where initial exports are very limited and can hardly be considered as representative of possible changes as a result of an agreement. The ban on hormone-fed beef has largely prevented US producers from exporting to the EU, in a context where they did not consider the conditions to be met for a profitable development of hormone-free supply chains. In addition, the existence of unfilled TRQs in the initial situation leads, in the present context, to a low assessed initial protection level. No doubt real stakes are much higher in practice, as commented on in the next section.

3.5. Consequences for agricultural value added

Even though the above-described trade impacts at sector level are rather large in several instances, initial shares of bilateral exports in total domestic consumption are fairly limited, reaching more than 3 % in only a few cases, namely beverages and tobacco (6.8 %), vegetable oils (6.2 %), fishing (4.6 %), and other crops (4.2 %) in the US, and oilseeds (5.9 %), fruits and vegetables (4.7 %), and fibre crops (4.2 %) in the EU (see Table 3.2, first column of each panel).

As a result, the **impact on domestic value added remains limited in most agri-food sectors**, in proportional terms (Table 3.3). For agri-food sectors as a whole, the reference scenario results in a 0.4 % increase in the US and a 0.5 % fall in the EU. In the EU, with the only exception being the Balkan countries (+0.2 %), a negative impact on agri-food value added is registered in all countries, although it tends to be lesser in central and eastern Europe (Poland: -0.1 %, Visegrad countries: -0.2 %), mainly because their trade relationships with the US are less intense in this sector. The Baltic States are the most strongly impacted (-1.3 %), while a number of countries experience a fall between -0.6 % and -0.8 %. Most of these impacts are linked to NTM liberalisation: while the direction of changes is the same, impacts are minimal when liberalisation is assumed to be limited to tariffs.

Even at the detailed level, **only a limited number of sectors face value-added changes worth more than 1 % in absolute value** (Table 3.4). In the US, the positive impact mainly benefits, in proportional terms, fruits and vegetables (+1.7 %), cereals (+1.3 %), and dairy products (+1.1 %).

²³ A third, less important reason, is that the AVE of specific tariffs, widely used for cereals, is lower when prices are higher.

Table 3.3: Variation in agricultural value added in EU and US, 2025, volume (%), 'Reference' and 'Tariff Only' scenarios

	Tariff Only	Reference
US	0.1	0.4
Austria	-0.1	-0.6
Benelux	-0.2	-0.8
Balkan	0.3	0.2
Visegrad	-0.1	-0.2
Nordic	-0.1	-0.4
Baltic	-0.2	-1.3
France	-0.1	-0.6
Germany	-0.2	-0.7
Ireland	0.1	-0.8
Italy	-0.1	-0.4
Poland	0.0	-0.1
Portugal	-0.2	-0.6
Spain	-0.2	-0.7
UK	-0.3	-0.8
total EU	-0.1	-0.5

In the EU, dairy products, cereals, and fruits and vegetables are the most frequently concerned sectors, followed by white meat products and other crops. The most relevant cases are those where significant impacts are faced in sectors accounting for a relatively large share of domestic agri-food value added. This is distinctly the case of the white meat sector in the Baltic countries (-9.6 %, in a sector worth 12.4 % of agri-food value added). To a lesser extent, cases worth singling out include fruits and vegetables in Spain (-3.0 %, for a 16.0 % initial share) and Italy (-2.1 % for a 13.6 % share), cereals in Spain (-6.4 % for a 6.4 % initial share) and France (-2.1 % for a 7.4 % share), dairy produce in Benelux (-2.7 %, for a 15.2 % initial share), Austria (-3.5 % for a 8.7 % share), Germany (-1.9 %, for a 13.9 % share), and the UK (-2.6 % for a 9.9 % share).

Table 3.4: Variation in agricultural value added in EU and US, 2025, volume, selected sectors, 'Reference' scenario (%)

		Share in agricultural VA (%)	Variation in agricultural VA (%)
US	Cereals	8.1	1.3
	VegFruit	10.2	1.7
	Dairy	6.1	1.1
Austria	Cereals	4.7	-2.3
	VegFruit	3.0	-1.1
	OilSeeds	0.6	-1.1
	Dairy	8.7	-3.5
	White meat	2.7	-1.2
	VegOil	0.1	1.7
Benelux	Cereals	1.2	-3.5
	VegFruit	7.7	-3.1
	OilSeeds	0.6	-2.0
	Sugar	1.9	-1.1
	FibreCrops	0.0	-1.9
	Dairy	15.2	-2.7
	White	3.0	-1.4
	BevTob	15.4	1.2
Balkan	Sugar	2.8	-1.9
	OthCrops	8.9	4.6
Visegrad	VegFruit	2.0	-1.0
Nordic	Cereals	4.8	-1.5
	VegFruit	2.2	-2.3
	AnimProd	6.0	-1.2
	White	3.2	-2.1
Baltic	VegFruit	1.2	-2.2
	FibreCrops	0.1	-3.6
	Cattle	0.1	-1.9
	AnimProd	2.4	-4.0
	White	12.4	-9.6
Spain	Cereals	6.4	-6.4
	VegFruit	16.0	-3.0
France	Cereals	7.4	-2.1
	VegFruit	5.4	-2.4
	AnimProd	3.0	-2.7
	Dairy	6.8	-1.2
	White	1.7	-4.5
Germany	Cereals	4.5	-1.6
	VegFruit	3.6	-3.1
	OilSeeds	1.1	-1.2
	FibreCrops	0.1	-2.0
	AnimProd	3.0	-1.5
	Dairy	13.9	-1.9

	White	2.5	-2.0
Ireland	Cereals	1.5	-4.2
	VegFruit	3.1	-3.0
	OilSeeds	0.3	-2.4
	Sugar	0.9	-2.5
	OthCrops	3.4	-1.9
	Cattle	10.5	-2.3
	AnimProd	3.4	-1.4
	Dairy	11.9	-1.4
	Red meat	5.2	-1.1
	White	4.8	-2.7
	VegOil	0.1	-5.5
	BevTob	12.7	2.5
Italy	Cereals	5.5	-2.4
	VegFruit	13.6	-2.1
	OilSeeds	2.4	1.7
	FibreCrops	0.0	-3.9
	White	13.6	-1.0
	VegOil	1.6	3.6
Portugal	Cereals	1.8	-6.2
	VegFruit	8.9	-1.8
	FibreCrops	0.1	-3.8
	OthCrops	14.4	-1.0
	VegOil	0.3	2.6
UK	Cereals	1.5	-4.1
	VegFruit	2.7	-3.1
	OilSeeds	0.6	-1.8
	Sugar	0.8	-2.5
	FibreCrops	0.1	-1.5
	Cattle	3.1	-1.3
	AnimProd	2.8	-1.3
	Dairy	9.9	-2.6
	White	2.3	-2.0
	VegOil	0.2	-1.5

Note: Threshold at 1 % variation.

3.6. Consequences for third countries

Regional agreements often give rise to concerns about their potentially detrimental effects on third countries. This concern is particularly relevant in the case of the TTIP for two reasons: the size of the trading partners and the preferential relationships they currently have with neighbouring countries. Detrimental effects, if any, are expected to appear for the latter group. Results reported in Table 3.1 suggest that overall the **rest of the world is not significantly affected by the agreement**, with changes in trade flows in the range of 0 % to 2 %. These are negligible effects which depend, however, on the precise definition of scenarios. We will see later what the positive impact of the agreement could be by taking into account externalities in terms of regulation reforms.

Table 3.5: Variation in agricultural value added in partner countries, 2025, volume, selected sectors, 'Reference' scenario (%)

		Share in agricultural VA	Variation in VA
Canada	OthCrops	3.0	-0.6
	Cattle	1.9	0.3
	VegOil	2.1	-1.0
Mexico	Cereals	6.5	0.5
	VegFruit	9.3	0.3
	OilSeeds	0.1	0.3
	Meat	2.0	0.4
	BevTob	8.8	-0.3
Mercosur	Cereals	9.2	-0.5
	VegFruit	3.5	-0.3
Maghreb	VegFruit	29.5	-0.3
	VegOil	0.2	-0.3

Note: Threshold at 0.25 % variation.

Although limited at the aggregate level, **effects on third countries could be significant in specific sectors and for specific partners.** Table 3.5 shows such concentration for Canada (other crops, cattle, vegetable oil), Mexico (cereals, vegetables and fruits, oilseeds, red meat, beverages and tobacco), Mercosur (cereals, vegetables and fruits), and Maghreb (vegetable oil, vegetables and fruits). These effects, however, are limited in size and do not produce macroeconomically sizeable impacts. Neither trade nor GDP in these countries is significantly affected. Specific issues may thus be raised during the negotiations concerning certain third-country products: these sectoral and detailed effects, conditioned by initial complex policies (e.g. olive oil in Europe), deserve more detailed modelling than a global, general-purpose model can deliver.

3.7. Alternative scenarios

We have already mentioned that the final impact of a potential agreement is subject to the specific achievements of the negotiators for some sensitive sectors. Also, effects on third countries might be more positive than generally expected due to the presence of positive externalities in terms of regulation. Table 3.6 summarises the impact on bilateral trade of corresponding additional alternative scenarios. Changes in agricultural value added in the EU and the US in these alternative scenarios are reported in Table 3.7.

In the **'Excluding meat and dairy'** scenario, the 25 % cut in the level of trade restrictiveness of NTMs will exclude meat and dairy. We make the assumption that differences in preferences on both sides of the Atlantic are irreducible. The rest of the scenario is identical to our reference scenario. The importance of stakes associated with NTM reform in meat and dairy products is confirmed by this scenario. The impact on bilateral trade of an agreement is significantly lower when these two sectors are excluded from the NTM negotiation. US exports to the EU increase by 82 % instead of 116 %. EU exports to the US increase by 43 % instead of 56 %. Italy and France are the two most affected exporters, with a 31 % and 23 % drop in their export gains respectively. The

impact is much more limited for Germany (-11 %). This also significantly reduces the drop in agricultural value added in Europe and the increase to be expected in the US.

In contrast with the conservative approach to negotiations envisaged in the previous scenario, ambition among negotiators could well lead them to authorise targeting NTM cuts in the most protected sectors. In the spirit of the non-linear formulae used for manufacturing in the multilateral arena, as well as the 'bands' envisaged to reduce tariffs on agricultural products, '**Targeted NTM Cuts**' assumes that liberalisation commitments will be more stringent for those NTMs that are initially more restrictive. In this scenario the AVE protection provided by the NTMs will be cut by 30 % for the upper half of the sectors, and by 15 % for the lower half. This is applied to agriculture, industry and services separately. Such a scenario would boost bilateral trade. US exports to the EU would record a 137 % increase, and EU exports to the US a 63 % increase. This approach to NTM reduction would also significantly increase the drop in agricultural value added in Europe and the increase in the US.

Finally, a transatlantic agreement might also render both signing parties' NTMs less restrictive for third country exporters. These effects are taken into account in the '**Harmonisation Spillovers**' scenario, where NTMs' trade restrictiveness with regard to third country exporters is assumed to be cut by 5 %. Interestingly, bilateral trade between the US and the EU, in both directions, will increase less than in the reference scenario under this assumption. This means that part of the additional trade is now beneficial to third countries as a result of this positive externality. The effect is not huge (up to 3 percentage points of the increase in bilateral trade) but remains significant. We also observe that all EU exporters considered here would be affected by this slight reorientation of trade flows towards non-signing parties. Such an outcome is certainly highly desirable as it leads to some of the benefits of the agreement being shared with other trading partners of the new regional block. A side-effect of this positive externality is, however, to increase the access of third country exporters to the EU and US agricultural markets: US benefits in terms of agricultural value added are cut by half, while the decrease in EU agricultural value added is roughly doubled.

Table 3.6.: Changes in transatlantic bilateral agricultural trade in alternative scenarios, 2025, volume (%)

Exporter	Importer	Tariff Only	Reference	Excl. meat and dairy	Targeted cuts	Spillover
US	EU	30.7	116.3	81.5	137.3	113.3
EU	US	18.5	56.4	42.9	62.9	54.7
<i>France</i>	US	8.6	35.6	27.5	39.8	34.7
<i>Germany</i>	US	18.2	55.7	49.8	62.4	53.9
<i>UK</i>	US	10.4	34.9	27.5	37.8	33.8
<i>Italy</i>	US	11.9	59.3	40.9	67.9	56.8

Table 3.7: Changes in agricultural value added in EU and US in alternative scenarios, 2025, volume (%)

Region	Reference	Excl. meat and dairy	Targeted cuts	Spillover
US	0.4	0.3	0.5	0.2
EU	-0.5	-0.3	-0.7	-0.9

Summary

Our quantitative analysis suggests that (in the preferred scenario) the TTIP would increase EU agri-food exports to the US by about 60 % and EU imports from the US by about 120 % by 2025. The elimination of tariffs alone would have very low effects. The largest potential EU export gains are found in the red meat (+404 %), sugar (+297 %), white meat (289 %), and dairy (+240 %) industries. The largest predicted increases in EU imports from the US involve the same industries, but the magnitude of the effects is substantially greater. Agricultural value added is predicted to fall by 0.5 % in the EU and to rise by 0.4 % in the US.

4. OPPORTUNITIES AND RISKS OF THE TTIP

The simulation-based analysis in Section 3 is informative and can yield insights into quantitative effects. However, it is limited by numerous intricacies that are present in the agri-food sectors on both sides of the Atlantic and that are hard or impossible to model in a quantitative framework. For this reason, we have complemented the model-based investigation with a detailed analysis of policy issues at product level.

4.1. Overview

The TTIP involves both opportunities and risks for the EU agricultural sector. The most **important opportunities** are:

- **The prospect of market access gains.** The EU has (a few) offensive interests, in particular in gaining access to some markets that are heavily protected by tariffs, but even more by regulatory barriers that sometimes keep foreign producers out (e.g. dairy products) or that involve significant compliance costs for EU exporters (e.g. inspection procedures for fresh products and for meat preparations, obligation to go through intermediaries in the wine sector).
- **Possible gains from regulatory convergence.** There are areas where legislation could be harmonised or mutually recognised so as to reduce transaction costs to the potential benefit of consumers. For instance, this is the case for sanitary regulations and pathogen reduction techniques. The TTIP could offer the opportunity to resolve long-term disagreements that have persisted in spite of a variety of sectoral bilateral agreements (e.g. geographical indications, biotechnology).
- **The opportunity to harmonise costly and inefficient policies.** Public policies and regulations have artificially shaped production and demand structures on both sides of the Atlantic. In the biofuel sector, for example, different regulations have induced inefficient trade flows in identical products. EU and US farm support and export promotion policies lead to high levels of public expenditure which tend to offset each other. Should the TTIP lead to more cooperation, this could benefit EU taxpayers.

The TTIP also involves **several risks** for the EU agricultural sector and EU consumers, the consequences of which should be carefully assessed. The issues at stake are as follows:

- **Market disruption.** Several EU production sectors would face considerable competition from lower-cost US producers. This is a potentially severe problem in the beef sector, with potentially far-reaching social and environmental consequences for some EU regions specialised in suckler cows and grass-fed veal production.
- **Trading on an unlevel playing field.** EU and US legislation differs. In particular, there are areas where EU producers and processors are subject to more severe restrictions than their US counterparts (biotechnology, chemicals, environmental and animal welfare rules). Should tariffs be eliminated without further convergence, there would be a risk of distorted competition. The uneven level of farm support is also a source of worry for producers, even though both sides of the Atlantic differ on who benefits more from public support.

- **The risk of lowering EU standards.** A corollary of the previous issue is the need to find more common ground on standards and regulations. Because there is divergence between the EU and the US on fundamental issues, such as the concept of risk management, the level of protection demanded by consumers or the role of the state, there are fears that harmonisation or mutual recognition could lower the current EU standards or undermine the fundamentals of EU consumer protection and of environment policy.

In the following sections we discuss these opportunities and risks in more detail and describe the issues at stake.

4.2. Potential interests for the EU agricultural sector

As shown by our analysis in Section 3, the EU can probably **expect more gains from the TTIP in the non-tariff area than from US tariff cuts**. US tariffs are already low, and high tariffs are concentrated in a few sectors such as dairy products and sugar. For most commodities, the US agricultural sector is highly competitive. Over the last decade, the EU has lost international market shares in agricultural commodities, to the benefit of emerging countries, while US agricultural exports of bulk commodities have held their ground (Daviron and Douillet, 2013). In some areas such as sugar or beef, the EU shifted from the position of one of the top exporters to one of the top importers within five years (this largely reflects the progressive dismantling of 'export refunds' that boosted EU exports).

The EU nevertheless has several interests in accessing the US market in sectors where tariffs have remained high, provided that tariff cuts are accompanied by the removal of discriminatory practices that hamper the sales of its products.

Dairy products

The EU has a strong dairy product industry. Recent reforms have led to a reduction in the cost of milk, reducing the burden faced by would-be exporters of processed products. EU dairy products face high tariffs that limit their entry into the US market, and preferential access under the **TTIP could provide a cost advantage** compared to competitors such as New Zealand or Argentina. The recent completion of the Comprehensive Economic Trade Agreement (CETA) between the EU and Canada, together with the North American Free Trade Agreement (NAFTA), could lead to a more global market in which the EU industry would have some opportunities, even though dairy trade liberalisation is restricted in both the NAFTA and the CETA.²⁴

A condition for a possible tariff cut to result in higher EU exports is the **removal of US non-tariff barriers**, which currently generate considerable obstacles for European products. Imports of pasteurised milk and milk products ('Grade A') face administrative barriers. They must come from establishments on a special list, or must show that they have adopted US rules or come from an origin whose rules have been recognised as equivalent. In practice, possibilities are very limited for EU exporters since no federal state accepts applications from foreign companies or countries (historically, only two European companies have been approved); and because full compliance with the 'US Pasteurised Milk Ordinance' is almost impossible for an EU company. The European Commission has repeatedly complained about the protectionist nature of these measures, making export of dairy products to the US 'extremely difficult' (DG Trade, 2011). The TTIP could provide an

²⁴ Under the CETA, EU exports to Canada will be limited by quantitative ceilings (e.g. 29 000 MT of cheese).

opportunity for discussions on equivalences to move forward, as they have made little progress since their launch in 2005.

Meat products

The EU is unlikely to ship large quantities of beef and other meat products to the US, a particularly low-cost producer, even if, as shown in Section 3, proportional gains from the low status quo basis could be substantial. However, it could benefit from **easier access to markets for some specialty meat or meat preparations**. Here, too, cuts in US tariffs will not be sufficient given the considerable non-tariff barriers faced by EU would-be exporters.

Sales of EU beef have been restricted in the US due to fears of risks related to **bovine spongiform encephalopathy** (BSE, or 'mad cow' disease). As part of the process to show a willingness to address market access issues in the TTIP dialogue, the US Department of Agriculture (USDA) recently permitted the import of beef from countries determined by the World Organisation for Animal Health as posing a 'negligible' risk of BSE, meeting a long-lasting demand from EU authorities.²⁵ However, EU exporters are still a long way from actually being able to ship meat to the US market, according to the European Commission's DG Trade. They must secure a determination that their **national inspection systems for beef processing facilities provide an 'equivalent' level of protection** when it comes to human health. The administrative burden is a particular deterrent.

Wine

Wine and spirits are the **main explanation for the EU agricultural trade surplus** with the US. The US is the leading export market for the EU, representing 24 % of the total volume exported and 28 % of the total value in 2012. It is also the largest extra-EU export partner for France (USD 1.3 billion), Italy (USD 1.2 billion), and Spain (USD 0.3 billion).²⁶

However, EU exports of wine to the US face **duties and taxes** that are seen as discriminatory by EU exporters. Wine imported into the US is subject to a 'gallonage tax' with different tax bands according to the alcoholic content. By contrast, a large number of US producers (for example those producing less than 125 000 bottles) are eligible for a tax rebate. In addition, fiscal measures and excise duties are levied on wine at state level, while these states provide for tax breaks or tax credits for local producers. No similar exemptions are granted to imported wine, which is also excluded from some distribution channels.²⁷ EU authorities have long claimed that these were discriminatory measures. In spite of a 1992 GATT panel, the federal law providing for the scheme was never repealed or modified and remains in application.²⁸

Sugar

The European Commission has recently pressed for inclusion of sugar in the TTIP, expecting a larger access to the EU market.²⁹ Both EU and US sugar producers, by contrast, have

²⁵ A decision in that sense was published in the Federal Register in December 2013 and was due to take effect on 4 March 2014 (Inside US Trade, 6 December 2013).

²⁶ Source: House, 2014, USDA data. Note that sales of US wine in the EU are progressing and have reached USD 0.5 billion.

²⁷ Some state legislation prohibits EU exporters from distributing, rebottling or retailing their own wine; requires duplicate label approvals; levies fees and charges; and provides for other procedures. While the market share of direct distribution is increasing, foreign wines are not allowed to be distributed directly to retailers and consumers, permits being reserved to domestic wineries.

²⁸ Identified as barriers #075091 and #060043 by the European Commission, DG Trade.

²⁹ See Inside US Trade 11/15/2013.

called for exclusion of sugar from the TTIP. The possibility for the EU to export large quantities of sugar to the US is uncertain and depends heavily on the level of world prices. Clearly, the EU sugar sector has undergone a significant reform. A considerable consolidation of the sector following the 2006 reform has increased its competitiveness. There has also been impressive technological change in the beet sector, as testified by the rapid increase in EU beet yields. Over recent years, there have been many periods where the EU price of sugar was lower than the US price. Provided that world market prices remain high and that trade is liberalised, it may be possible for EU production to find a market in the US. Unpublished ongoing work carried out at INRA suggests that in the case of a TTIP, the **EU could export several million MT (metric tons) of white sugar to the US**, displacing imports of raw sugar from other origins and part of the US beet sugar production.³⁰

While there might be opportunities for EU sugar to enter the US market under particular price conditions, the situation would be different under more adverse price and exchange-rate conditions. The US is progressively opening its sugar market to imports from cane sugar producers. So far, trade has mostly been liberalised with Mexico and Caribbean countries (the latter facing quotas), and these sources have so far been able to supply only limited quantities of sugar. However, in the longer run, one should not forget that cane sugar still has a significant cost advantage over beet sugar, and should the US open its market to more competitors the **EU might face tough competition from low-cost cane-producing countries**.³¹

Carousel trade, i.e. re-export to the EU of cane sugar imported by the US under preferential agreements, may not be such a danger for EU producers. The EU and the US have granted preferential access to different cane-producing countries. However, the few US free trade agreements that include sugar have a safety clause, specifying that partner countries can export to the US only the difference between their own production and consumption (by contrast, EU agreements with developing countries tend to allow them to export their entire sugar production to the EU, and to import their consumption from low-cost producers). However, the carousel scenario should take into account possible substitution with interrelated markets, in particular ethanol and raw sugar for refining. In the case of trade liberalisation, an increase of EU exports of sugar to the US could go hand-in-hand with extra EU imports of cane sugar, ethanol or high fructose corn syrup (see the issue of isoglucose below).

Olive oil

The EU supplies more than 95 % of US olive oil consumption, suggesting that the market is largely open to EU exporters. With such levels of exports, there are clearly few extra gains to be hoped for from the TTIP. However, EU producers complain about costs generated by the need to go through local intermediaries to access local retailers, a problem already mentioned in the case of wine. EU producers also worry about government projects to revise the classification of different qualities of oil, which could lead to quality standards different from those used internationally and result in a possible devaluation of EU products. The (very small but expanding) US production sector argues that there is a

³⁰ A specific study on this topic is ongoing, which is a joint effort by researchers from Iowa State University and INRA Rennes, France (work in progress, still unpublished).

³¹ Cane sugar prices depend heavily on the Brazilian biofuel policy, but the fundamentals are that sugar cane is a very efficient photosynthesis machine, which can be harvested and processed for a longer period than beets. It also provides roughly three times more energy than is needed for the refining process because of use of biogas, while extracting and refining beet sugar requires an external source of energy. Currently, fossil natural gas is used in most cases for this purpose in the EU.

significant degree of fraud in exports of EU olive oil to the US, with some mislabelled, of a lower grade than indicated, or whose origin is actually not European but North African under forged appellations. They are pushing the federal government to give more scrutiny to imported varieties, which could lead to **new forms of administrative requirements which may be easier to contain under the TTIP** than without it.

Products with geographical indications

The importance of the current market for products with geographical indications in the US should not be underestimated. For example, more than one half of France's agricultural exports to the US were in wine and beer (USD 1.4 billion), followed by exports of French cheese (USD 166 million); two items largely protected under the geographical indications scheme.³² However, the fact that cheese and meat products not originating in the EU can be sold in the US under EU protected geographical indications is seen as a major issue in the EU. In spite of the 2006 agreement on wine and spirits, the **US still considers a number of European wine names as 'semi-generic'**.³³ Indeed, wine labels which were already in existence prior to March 2006 are still allowed to use EU geographical indications. Bilateral negotiations have not enabled progress to be made regarding the 'semi-generic' appellations so far. Producers of wine, cheese and ham believe that a stronger protection of geographical indications under the TTIP could lead to an increase in exports.

SPS obstacles to EU exports

The EU livestock, food, and horticulture sectors consider that there are gains to be expected if the TTIP helps conclude **equivalence agreements on SPS legislation**. According to them, EU exporters face compliance costs in sectors where the US maintains veterinary procedures regarding import controls that do not match those agreed upon in the multilateral arena. In particular, EU producers consider that these SPS requirements make it very difficult to export meat products and particular dairy products to the US. The issue of unpasteurised cheese has long been a source of controversy between the EU and the US, including in the *Codex Alimentarius*. It is nevertheless unlikely that the US will ease imports, due to the fears of consumer organisations which have gathered solid scientific evidence to support mandatory pasteurisation (Bureau and Doussin, 1999). EU exporters also complain that the US does not comply with the relevant *Codex* standards for *Listeria monocytogenes* and imposes tolerance thresholds that they find excessive. Another example is the need to test the water (rather than flesh) in which bivalve molluscs such as mussels and clams are cultivated (even though imports have temporarily been allowed on a provisional basis by the US).

EU producers would like to see **burdensome, specific approval procedures for horticulture products** removed. Currently, new types of plants and plant products cannot be imported into the US until the phytosanitary requirements are decided on by the US plant health authorities and afterwards included in US import legislation. This is required for every type of fruit or vegetable, and for many plants for planting – a procedure that may take several years.³⁴ US requirements for pest risk analysis (using a genus by genus

³² Source House, 2014, USDA.

³³ The EU wants to ban the use of names such as Parmesan, Feta, Munster and Gruyère for cheese made in the US, while the US National Milk Producers Association, the US Dairy Export Council, the US American Farm Bureau Federation and companies such as Kraft consider that there is no rationale for changing 'common names for cheeses Americans enjoy every day'. They are supported by some US senators in this area. In the wine sector, the US considers 16 names of wine as 'semi-generic', meaning that the US prohibits new brands from using these names on non-EU wine, but a 'grandfather' clause allows for pre-existing uses of these names on US wine.

³⁴ Identified as barrier #105334 by the European Commission, DG Trade.

approach) can lead to decades of administrative approval even when other products with the same risks coming from the same production area are permitted. The issue is nevertheless complex and **phytosanitary restrictions are unlikely to be removed easily**, given that within the US there are also many restrictions on trade in live plants and related material between states.

Administrative requirements

Should the TTIP contribute to easing administrative constraints, it would benefit EU exporters who sometimes have little choice but to set up production chains in the US in order to bypass complex administrative barriers to imports. Many countries have long protested against the **complexity of US food safety regulations**, involving 15 federal agencies and more at state level. Cases were reported where the vegetarian version of a prepared food had to be inspected by a different agency than the version containing meat, for example. The balkanisation of the US system has been criticised internally by the Government Accountability Office for its costs, but has experienced little rationalisation over time. EU exporters claim that this situation generates extra costs that would be avoided through greater cooperation on inspection, if not by a simplification of US procedures. The European Commission has also relayed some of their complaints regarding various elements of border control, including import inspection fees and mandatory certification of 'high-risk foods'. The **US Merchandise Processing Fee** is also seen as an extra duty by EU exporters.

US rules of origin requirements also impose additional costs that penalise EU products. An example is that US Customs does not recognise the EU as a country of origin, nor does it accept EU certificates of origin. In order to justify EU country-of-origin status, EU firms are required to furnish supplementary documentation and follow further procedures, which can be a source of additional costs. 'Made in the EU' marks are not accepted, and products must be re-labelled in order to be shipped to the US.

Agricultural exports are also affected by **global US legislation that tends to discriminate against foreign suppliers**. Exporters quote the case of the 1933 Buy American Act, still imposing domestic preference in US procurement, as well as the 'buy American' provisions in the 2009 American Economic Recovery and Reinvestment Act, and the Small Business Act, which sets aside the purchase of goods or services for US businesses. The 2002 US Container Security Initiative to counter potential terrorist threats requires screening procedures that *de facto* make it difficult for small and medium-sized European companies to comply with requirements.

In all these areas, the TTIP might bring benefits for the EU agricultural sector. We now turn to issues which could be less favourable for EU producers.

4.3. Potential adverse consequences in selected EU agricultural sectors

A potential EU-US trade agreement may create some **serious imbalances in particular EU agricultural markets where the current EU tariff protection is high and where US production has a cost advantage**. The degree of pressure on EU sectors depends a lot on the world market situation and the exchange rate between the euro and the dollar. While there are sectors where EU agriculture could absorb the consequences of a free trade agreement, some other sectors might find adaptation more difficult.

Beef

Potential liberalisation of EU-US trade might have very significant consequences for the EU sector. Clearly, the TTIP is not the only negotiation involving such risks. Disruption in the EU **suckler cows sector** has been identified as the major risk in the case of an ambitious agricultural agreement under the WTO by an independent academic commission (McAleese et al., 2006). It has long been seen as the main threat for EU agriculture in the case of an EU-Mercosur agreement. In most bilateral trade agreements (for example with Chile, South Africa, Canada) the EU has negotiated quantitative ceilings on beef imports as a response.

Indeed, most **EU beef production can hardly be seen as being competitive** on international markets. In the 1980s, the EU was among the top world exporters, but this was mostly a result of the combined effect of high intervention prices, public purchases and export refunds. Since the early 2000s, these instruments have gradually been eliminated, and EU beef production has contracted while imports have increased. The average size of a beef production unit is small compared to what can be observed in most large beef-producing countries, including the US, making it difficult to recover fixed costs. Land and labour (at least in some Member States) are also more expensive. EU government payments typically make up most, if not all, of the value of beef producers' incomes. Also, the slaughtering sector faces low returns, which have led to limited investment in new technology along the supply chain.

So far, imports of beef from the US have been limited by high EU tariffs and by the ban on hormone-treated beef. Indeed, **most of the US production uses such growth promoters**, while the EU does not allow them. The US has long refused to segregate a hormone-free supply chain, given that high EU tariffs make the operation largely uneconomical. Recent developments have nevertheless shown that the **US could supply the EU market with hormone-free beef**. Indeed, in addition to traditional exports of some 20 000 MT of 'high-quality' (hormone-free) beef under a TRQ, the US set up such a segregation to fill the quotas recently opened to end the WTO dispute on hormones.³⁵ The elasticity of US supply to further development of the EU outlet is likely to be very large.

If beef is not treated as a sensitive product, the consequences on the EU sector could be considerable. They are nevertheless difficult to quantify. Beef is a product for which standard general as well as partial equilibrium models hardly provide reliable results. Indeed, as described by Ramos et al. (2010), **beef trade has peculiar characteristics**. The sector is characterised by heterogeneous products (from frozen carcasses to fresh boneless cuts); by quality differences according to origin but also to types of animals and processing and transport; by fixed tariffs that change the composition of imports relative to *ad valorem* tariffs; and the fact that there is joint production with dairy products for a large section of the domestic market. As a result, CGE models often underestimate the import elasticity, which was estimated to be around -5 by simulations from DG Agri (i.e. a tariff cut of 20 % leading to an increase of imports by 100 %, see McAleese et al., 2006). On the other hand, partial equilibrium models often cope poorly with product differentiation.

One characteristic of the EU beef market is that two thirds of EU beef consumption comes from dairy herds. The supply of such meat is inelastic. This means that **in the case of higher imports, the suckler cows sector (which produces only meat) would bear all the adjustment costs**. With no import barrier from a competitive and elastic source of

³⁵ Under a Memorandum of Understanding, the EU opened a 45 000 MT import quota for US (hormone-free) beef and the US suspended all trade sanctions on EU products resulting from the Hormones Dispute. The agreement is temporary, but should lead to a more permanent agreement in the third phase of the discussions.

supply such as that of the US, it is conceivable that imports could reach several million MT.³⁶ This would dent considerably the production of suckler cow-based beef left in the EU.

All this suggests that results from econometric models should be interpreted with caution. In practice, the removal of tariffs on US beef could lead to trade flows that far exceed what can be extrapolated from the current flows; because of the inelastic supply coming from the dairy herd, the **consequences on the suckler cow sector could be considerable**. The suckler cow sector is perhaps the one sector in agriculture where there are genuine positive externalities. Permanent pasture and extensive grazing have been identified as providing many ecosystem services (for example biodiversity, water management, carbon storage). From a social standpoint, suckler cow production is concentrated in some particular regions and Member States (e.g. Ireland, France), in areas with limited production alternatives, and where the local economy depends a great deal on the livestock sector and the related industry.

Cereals

With large farms, good soils in the Corn Belt, vast and cheap land in the Wheat Belt, highly mechanised agriculture and an efficient transportation network, the US is highly competitive in both wheat and corn. Estimates of differences in production costs with the EU have always raised methodological difficulties, in particular because prices of primary inputs are endogenous to output prices (rents tend to capitalise on land prices for example) and because of the distortions in returns to labour brought about by the various forms of public support. Nevertheless, they have consistently shown that **EU corn production is less cost-competitive than that of the US**. In practice, US corn production is almost six times higher than that of the EU. Moreover, the US is a net exporter and the EU a net importer.

Estimates of relative competitiveness have been more controversial in the wheat sector. Most efficient EU production areas rely intensively on chemical inputs, while most of the wheat belt is a more land-based, extensive production. This makes comparisons difficult. However, compared to the detailed analyses carried out in the 1990s and 2000s, the combination of the slowdown in yield growth in the EU relative to the US and the sharp increase in the price of petroleum and fertiliser products suggest that the **gap has also widened between EU and US cost efficiency** (Butault, 2011). Indeed, while US wheat production is less than half of that of the EU, the US exports more wheat than the EU.³⁷

The consequences of a free trade agreement between the EU and the US might lead to **trade flows that are difficult to predict in the cereals market**, due to possible substitutions between cereals on both the supply and the demand side. Current EU border protection for cereals is complex. In recent years the actual duties have been limited, but

³⁶ Ramos et al. (2010) show that the various estimates of the impact of a cut in EU tariffs differ a great deal according to the assumptions made. Simulations from different models examined by McAleese et al. (2006) suggest that scenarios where the entire suckler cow production would be wiped out are not completely out of the range of possibilities in the case of a large cut in EU tariffs for North and South American beef, depending on world prices and exchange rates. In any case, the impact of any large-scale agreement with a competitive beef-producing country such as the US could be large in the suckler cow sector, unless ceilings are set with import quotas or TRQs.

³⁷ In the wheat sector EU-27 production is estimated to be 143 million MT against a US production of 59 million MT in 2013, but US exports (29 million MT) exceeded EU exports (25 million MT). Annual EU imports of wheat (including durum) reached 7.4 million MT in 2011, and amounted to 4.5 million MT in 2013. In the corn sector US production is estimated to reach 355 million MT against 65 million MT for the EU. In spite of channelling almost 40 % of its production into the energy sector (ethanol), the US remains the top world exporter with 37 million tons exported in 2013, while the EU is a net importer of 6 million MT of corn. Sources: USDA, preliminary estimates.

this was due to high world prices.³⁸ When prices are low, the EU tariff structure provides a high level of protection for EU farmers. In particular, tariffs protect EU producers from US exports for medium and low-quality wheat, used mostly in the animal feed sector, beyond a 2.9 million MT quota (including 592 000 MT allocated to the US). In this sector, a trade agreement may lead to large EU imports from the US. This is also the case in the corn sector, even though the **situation depends a great deal on the future of the US ethanol policy**. Indeed, the considerable share of US corn production has been diverted to the bioenergy sector, thanks to a biofuel mandate that is currently being reassessed by the US Environmental Protection Agency.

Poultry

Poultry products face different tariffs when entering the EU, depending on whether the product is cut into pieces or not, whether offal is included or not, and whether it is fresh or frozen (for example, standard chicken faces an *erga omnes* tariff of EUR 299/MT). In spite of this significant protection, the EU imports significant quantities of poultry from Brazil and Thailand. The US benefits from a 16 600 MT quota with reduced tariffs. Currently, because of a **ban on pathogen reduction treatments**, US exports of poultry to the EU are limited, and a large part of US poultry imported into the EU seems to be re-exported. Should the EU decide to allow pathogen reduction treatments which are currently banned (i.e. chlorine rinsing at the end of the processing chain or equivalent treatments), the US estimates that it would export between USD 200 and 300 million of poultry to the EU.

The volume of sales would probably be higher if, in addition, tariffs were lowered or TRQs expanded within the TTIP. The **US would probably take a share of the current million MT of imports from Brazil and Thailand**. The market is sensitive to exchange-rate fluctuations, but should the US have access to the EU market duty free, this may lead to significant extra imports and to new economic difficulties for EU producers, in particular because the export refund measures that were used to clear markets during the recent crises are no longer available.

Isoglucose

An issue often overlooked is that the planned dismantling of EU sugar production quotas in 2017 will also eliminate many of the provisions restricting the use of isoglucose (high fructose syrup). The consequences are not clear, especially in the case of an EU-US agreement, given the **competitiveness of US high fructose corn syrup (HFCS)**. It is hard to see why considerable sections of the EU food industry (e.g. soft drinks) would not shift from EU beet sugar to HFCS. Indeed, HFCS is the main sweetener used for soft drinks as well as other food preparations in the US. The consequences for the EU sugar sector need to be assessed more thoroughly, but they are potentially significant. At this stage, there do not seem to be large price differences between US HFCS and EU high fructose syrup (most of it wheat-based), according to OECD data. Should the soft drink sector absorb much larger quantities of isoglucose, it is nevertheless possible that the large-scale US industry could become a tough competitor for both EU sugar and isoglucose producers.

Biofuels

There are **both risks and opportunities** for the EU in the case of transatlantic trade liberalisation in the biofuel sector. While it is probably an unrealistic prospect in view of the vested interests at present, the TTIP could also be an opportunity to end some differences

³⁸ The low level of EU tariffs in the cereal sectors in recent years results from two effects. The tariff depends on world prices, and the European Commission has temporarily removed border duties in times of high world prices, so as to protect the livestock sector.

in policy instruments that generate wasteful trade as well as costs for both taxpayers and consumers.

There are several ongoing disputes between the EU and the US. In 2009 and 2011 the EU imposed anti-dumping and countervailing duty measures on imports of biodiesel from the US. In 2013 the EU imposed anti-dumping tariffs on imports of US ethanol.³⁹ In May 2013, the US fuel ethanol industry groups (Renewable Fuel Association and Growth Energy) filed a complaint with the Court of Justice of the European Union, challenging the European Commission's anti-dumping decision. Clearly, **if the TTIP led to smoother relations, both parties would benefit.**

However, the lifting of EU anti-dumping tariffs may lead to a resumption of large US exports of ethanol and potentially biodiesel, especially if the US maintains its biofuel subsidies and tax credits. In particular, an EU-US agreement involves risks for EU ethanol production. Currently, the EU *erga omnes* tariff on ethanol for fuel is EUR 19.20/hl for undenatured ethanol to be used for fuel. While many developing countries can export ethanol duty free, the US faces such a tariff, which, in addition to anti-dumping duty, is currently set at EUR 63.3 per MT, and is applicable in proportion by weight of the total content of pure ethyl alcohol produced from agricultural products (ethanol for uses other than fuel is exempt from the anti-dumping duty). This provides a **large degree of protection from US imports**. A removal of tariffs would require tough adaptation for an industry that already operates at roughly 60 % of its production capacity. Potential trade flows are nevertheless difficult to predict, given that **current trade has little to do with comparative advantage** but is largely the result of tax breaks, subsidies and mandates in the EU, the US, and also in Brazil.

Trade **liberalisation could benefit the EU biodiesel sector**, at least under particular circumstances. Indeed, in the US, biodiesel is subject to the 'advanced biofuel mandate' (see Box A.4 in the Annex). The latter was originally designed to boost demand, and therefore promote technical progress and supply of cellulosic ethanol and other non-food-based biofuels. However, the supply of cellulosic biofuel has so far been far below expectations, and biodiesel is used to match the compulsory mandate by refiners and distributors. At the same time, the EU has developed considerable production capacities in biodiesel that are currently largely unused, due to poorly designed public incentives and optimistic demand forecasts. There is a theoretical possibility of greater EU biodiesel exports to the US under this 'advanced' mandate, as has already been the case very recently. This is nevertheless conditional upon possible revisions of this mandate by the US Environmental Protection Agency.

The TTIP could provide the opportunity to harmonise policies that are particularly distorting on both sides of the Atlantic and end 'artificial trade' (i.e. trade flows that are only driven by regulatory loopholes or poorly designed public policies). For example, the surge in US exports to the EU of both biodiesel and bioethanol observed in the late 2000s that led to anti-dumping measures was largely the result of a set of mandates and subsidies. They included, for example, the infamous 'splash and dash' trade, which led to cargoes of Asian biodiesel stopping in US ports to have minimal quantities of US diesel fuel added so as to

³⁹ In February 2013, the Council approved Regulation 157/2013 (OJEU 22.2.2013) imposing an anti-dumping import tariff on imports of US ethanol. This duty arises from the EU anti-dumping inquiry, and will be in force for five years as from 23 February 2013. In May 2013, the US fuel ethanol industry groups (Renewable Fuel Association and Growth Energy) filed a complaint with the Court of Justice of the European Union, challenging the European Commission's decision. On 12 March 2009, the Commission published Regulation 193/2009 and Regulation 194/2009, imposing provisional anti-dumping and countervailing duty measures on imports of biodiesel from the US containing 20 % or more of biofuels. On 5 May 2011, the European Commission extended the definitive countervailing and anti-dumping duties imposed on all biodiesel originating in the US.

benefit from a US blending subsidy, before continuing their journey to Europe (Carriquiry and Babcock, 2008). More generally, while this remains a remote possibility, given the heavy political weight of the biofuel industry in both the US and the EU, the **TTIP could be an opportunity to reconsider and simplify these complex and often inefficient policies** that are costly for taxpayers and consumers on both sides of the Atlantic (see Box A.4.1. in the Annex).

4.4. Risks of unfair competition

Different levels of standards

If TTIP negotiations lead to liberalised trade without an effort to harmonise regulations, producers faced with different regulations would sell their products on a single market. This is a particular source of worry for EU producers. They fear they would have to compete while facing not only higher energy costs and higher labour standards, but also more regulatory constraints.

There are several areas in which the regulations impose different costs for producers, and where the playing field might be uneven in the case of a TTIP agreement.

- **GMOs.** EU farmers fear a situation where they would not have the right to use biotechnology but US products entering the EU market freely would (as is currently the case for goods such as soybeans). In most sectors, **GMOs result in lower production costs**, through easier control of weeds, labour savings, and in some cases higher yields. The rapid adoption of GMOs in the soybean and corn sectors, where producers have been allowed to use them, suggests that, in any case, there is a genuine cost advantage for producers.

In the TTIP negotiations, easing both approval and trade in GMOs is an important demand made by US farms and businesses. They are backed by US authorities, which complain about the slow and limited approval of genetically modified crops for sale and cultivation in the EU. The US government would also like to see a greater tolerance threshold for traces of genetically modified material in food and feed. It also considers that compulsory labelling of GMOs unfairly discriminates against these products.

- **Hormone-treated beef and BST/rBGH (recombinant bovine growth hormone).** Farmers' organisations (in particular through the American Farm Bureau Federation) and US authorities complain about regulatory barriers that limit US exports of beef and pork. There has long been a dispute on the use of hormone-based growth promoters for beef production, which led to a formal WTO case.⁴⁰ There have also been recurrent disagreements within the *Codex Alimentarius* on the use of bovine somatotropin (or rBGH or BST) in dairy production. On these issues, the US considers that the EU has not provided clear scientific evidence of negative impacts on consumers and that EU regulations are not scientifically based. However, doubts as to the consequences for animal metabolism, concerns for animal welfare

⁴⁰ The EU ban on hormone-based growth promoters in beef production dates back to the late 1980s. It has never been accepted by the US, which uses such techniques in most of its beef production. The issue was formally brought to the WTO. The EU was found to be in violation of its WTO obligations, even though some aspects of the Appellate Body ruling backed the EU position, in particular on the right for a country to set standards that differed from those of the *Codex Alimentarius*. The EU refused to comply with the WTO ruling and instead accepted retaliatory measures. The dispute was settled in 2009 (memorandum on beef hormones) and ended in 2012, the US agreeing to segregate hormone-free beef to be shipped to the EU under a TRQ. However, there is still a disagreement on the safety of these methods.

and the fear of a decline in dairy and beef sales if hormones were allowed have led the EU authorities to ban the use of hormones in beef production, to ban imports of hormone-treated beef and to ban the use of somatotropin in dairy production.

Authorising the use of such hormones is not on the EU agenda. However, if imports of hormone-treated beef were allowed in the EU without local producers being able to access the sector, **foreign products would benefit from a significant cost advantage**. Indeed, hormones used in beef production accelerate the gain in weight and lower the percentage of fat. A distortion (currently hidden by high tariffs in the EU) already exists in the dairy sector, given that the EU prohibits the use of rBGH/BST but not imports of dairy products that have made use of it (one reason being that residues of this artificial hormone are difficult to distinguish from those of natural hormones). While the gain in milk production differs a lot according to the production system, it is estimated to exceed 10 % in most intensive farming systems.⁴¹ This would therefore provide a significant cost advantage for US producers.

- **Ractopamin.** Non-hormonal growth promoters are also used in US beef production and banned in the EU. This is the case of ractopamin, a former drug to cure asthma, which has been used for more than 20 years to increase beef weight. The *Codex Alimentarius* classified this drug as safe if precautions were taken when using it, but the decision was highly controversial and obtained through a very narrow vote involving countries that were apparently responding to diplomatic pressures rather than taking a genuine interest in the issue (approval through voting is a rare procedure in *Codex*, and a sign of major disagreement). The EU quotes the lack of scientific evidence and the risk of interference with human medication as reasons to ban the use of ractopamin in the EU. It also bans imports of meat using this chemical. The North American Meat Association finds this ban unsubstantiated given the approval of the *Codex* standard. Again, should there be an agreement to import such ractopamin-treated beef, **the EU producers facing more stringent regulations would be at a cost disadvantage**.
- **Pathogen reduction treatments.** Lactic acid is a way to clean carcasses and get rid of pathogens such as *Salmonella* or *E. Coli*. US slaughterhouses rely on the wash in order to make sure their beef meets federal food safety regulations. By contrast, **the EU has prohibited the use of anything other than water to remove surface contamination of meat** since 1997.

The use of chlorine and other antimicrobial rinses, known as 'pathogen reduction treatments' is also prohibited for poultry in the EU, while it is standard practice in the US. In 2008, following bilateral discussions, the Commission proposed EU regulatory changes that would permit imports and production of pathogen reduction-treated meat, but this proposal was rejected subsequently by the EU's Food Hygiene Regulation, by the European Parliament and by the Council. US producers as well as US authorities see the ban as scientifically unfounded and generating barriers to US exports. The dispute led to the establishment of a WTO panel in 2009 (see Johnson, 2010, for details).

⁴¹ See Cordonnier (1989). Monsanto, the company that sells rBGH, claimed this would increase yields by more than 20 % when its authorisation in the EU was debated in the 1990s. Recent studies find that the gains are more limited but significant in some particular types of livestock production, including large farms (Gillespie et al., 2010).

Recently (2013), the US reopened a similar issue by asking the EU to approve peroxyacid for the cleaning of raw poultry after slaughter, which is one of the four chemicals used in the US. The EU currently only allows hot water as an antimicrobial treatment for poultry.

In this area too, **trade liberalisation without further convergence of legislation might generate trade distortions**. While the risk for consumers is hardly an issue, EU legislation imposes testing for pathogens all along the processing chains, and the use of clear water. US legislation allows less stringent procedures and an end-of-chain treatment, resulting in lower operational costs. The fact that in February 2013, the European Commission temporarily lifted the ban on imports of US beef that was based on differing hygiene and husbandry methods in meat production (allowing entry of lactic acid-rinsed beef) was considered as a potential source of distortion of competition by beef producers.

- **Pesticides and additives**. US producers, supported by a group of US senators, complain that barriers resulting from different regulatory standards on pesticides and food additives unduly restrict US exports of fruits and vegetables, quoting pears and apples in particular. Should trade be liberalised, the **risk is that producers would compete on a single market while not being able to use the same chemicals**, both in agriculture (pesticides) and food (additives). Here too, differences in production costs may be an issue, even though they are difficult to estimate, given the different degree of pest control needed across regions.

Different levels of support

Producers on both sides of the Atlantic also worry about a possible uneven playing field due to government support. American farmers and policymakers have complained over the years that US sales were adversely affected not only by EU restrictions on market access but also by EU domestic income support programmes that have kept non-competitive European farmers in business (Ahearn, 2006). The end of export refunds by the EU and the Uruguay Round implementation have eased tensions. However, some **US interests would like to see EU farm subsidies disciplined under the TTIP**. They argue that the amount of public transfers made to farmers far exceeds the US amount.

On the other hand, EU farm groups claim that the EU Single Farm Payment, now the main source of government support, is much less trade-distorting than the US layers of farm support. EU agricultural organisations have developed estimates in order to back their claim that US farm subsidies are larger than those granted by the EU, even though that meant using questionable methodology and data (see the estimates by Momagri, 2012, as an example).

It is difficult to see how farm programmes may be modified under the influence of a bilateral agreement. The TTIP is unlikely to be the arena where domestic support is reformed. Thus, should the TTIP result in ambitious trade liberalisation, **differences in farm support policies might provide some competitive advantages** to a particular party.

Comprehensive work carried out for the European Parliament has shed light on the degree of government support granted by the EU and US authorities to their agricultural sectors (Butault et al., 2012). The main conclusions of this work are that the **EU has provided more support than the US to its farmers over recent years**. Studies that find opposite results use questionable methodology implying that US welfare programmes (e.g. 'food

stamps') act as direct subsidies to US farmers. In reality, they actually benefit producers from other countries through indirect price effects. However, the work carried out for the European Parliament also showed that **US instruments were potentially far more market distorting** (Bureau, 2012; Butault et al., 2012). Indeed, while the EU has maintained a high level of direct payments, it has largely reinforced and maintained the decoupled orientation of these payments in the 2003, 2008 and 2013 reforms. As a result, EU single farm payments have little impact on production and trade.

By contrast, the 2003, 2008 and 2013 **Farm Bills have expanded the multiple layers of trade-distorting payments**, i.e. the marketing loans and various other countercyclical payments. The recent Farm Bill has even suppressed the production-neutral payments, and has led to the development of several 'shallow loss' payments (triggered by a small fall in income), as well as a larger set of insurance payments. This leads to a multi-layer policy that protects US farmers against any possible adverse condition affecting either yields or prices. The 2013 Farm Bill has *de facto* reinstalled a direct linkage between most US farm payments and production, creating the potential for market-distorting supply behaviour (Bureau, 2013). In the prospect of freer EU-US trade, the US policy provides considerable incentive to produce. The (larger) decoupled payments strongly support EU farmers' income, but do not grant as much incentive to produce in periods of low prices.

A recurrent criticism of the Common Agricultural Policy (CAP) by US authorities has been the issue of **export subsidies**. The use of export refunds by the EU led to the setting up of retaliatory programmes in the 1980s. Neither the EU nor the US make extensive use of their export enhancement programmes anymore. However, neither of the parties has formally dismantled its arsenal. The US has kept its Export Enhancement Program (albeit inactive since 2001), its Dairy Export Incentive, one of its export credit programmes (known as GSM-102), and still subsidises promotion of its foreign products through the Market Access Program. The EU has set limitations on its export refunds, but the refunds can still be used in case of disruptions in its domestic market.

4.5. The risk of a race to the bottom

As discussed previously, liberalising trade without addressing the issue of regulatory differences and government support discrepancies would lead to EU and US producers having to compete on an uneven field. However, regulatory convergence also involves risks.

Many US interest groups consider that the negotiation should include all SPS barriers in a single undertaking, an approach that the US is following in the ongoing Trans-Pacific Partnership (TPP) negotiations.⁴² By contrast, most EU interest groups would like to see some trade barriers remain to keep the EU from being flooded by lower-standard imports from the US, or exclude some sectors from the TTIP altogether, unless there is more regulatory convergence.

There is a risk with regulatory convergence, as well as mutual recognition, that the TTIP could align common standards with the lower level ones. **This is not always a major problem**: in some sanitary areas, it is likely that EU consumers would not suffer even if US methods were used to clean their food.⁴³ Here, the problem probably lies more in the

⁴² In contrast, the approach that is foreseen by the Working Group on the TTIP involves a global agreement on tariff issues, but only a mechanism to deal with regulatory issues on a case-by-case basis (see Borovikov et al., 2013).

⁴³ For example, few EU scientists consider that the pathogen reduction treatment proposed by the US (i.e. the chlorine treatment) poses a risk to the health of consumers per se (see two European Food Safety Agency

current distortion of competition between producers than in a real threat to consumer safety. But in other cases, the whole EU conception of consumer and environmental protection could be at stake. A few illustrations follow.

EU regulations based on the precautionary principle

The EU has put the precautionary principle at the core of its risk management policy. One interpretation is that in the absence of a clear understanding of whether something is safe, caution should be exercised. By contrast, the US requires 'scientific evidence' to justify restrictions on the use of a particular technique. This is at the core of **major differences between EU and US regulations** that will be difficult to harmonise, or even mutually recognise.

As an illustration, the EU passed framework legislation that puts the burden of proof on companies to prove that the chemicals they use are safe, in line with the precautionary principle (for example the EU Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals or REACH [EU regulation governing the placement on the market of chemical substances – Registration, Evaluation and Authorisation of Chemicals]). By contrast, US law (for example the 1976 Toxic Substances Control Act) tends to require that government agencies prove that a chemical is unsafe, rather than requiring producers to prove that it is safe before it enters the market. The USTR has been opposed to REACH since its inception, citing its approach as a technical barrier to trade, at odds with the WTO TBT agreement.

Clearly, regulatory convergence in pesticides, additives or other chemicals is required for trade to take place under fair conditions. However, such convergence runs the risk of weakening, if not eliminating, a conception of consumer and environmental protection that was adopted by a long and complex but fully democratic process when the REACH directive was passed by both the European Parliament and the Council.

GMOs

US companies, most US farmers, and US authorities say that genetically modified products have been proven safe by scientific studies and are being excluded based on irrational fears. Finding a **common ground on biotechnology issues is likely to be difficult** in bilateral discussions.

Disagreements between both sides of the Atlantic refer to **genuine differences in citizens' concerns**. As Bureau and Marette (2000) have explained, differences in the perception of risks are rooted in fundamental differences in both cultural and institutional frameworks. As a result, consumers see biotechnology (but also nanotechnology) as a major potential hazard in Europe. In contrast, **bacterial contamination is the number-one focus of US consumer organisations**; working on food safety and GMOs are hardly an issue. US authorities tend to see EU biotechnology regulations as a simple non-tariff barrier. The claim of European observers that they are trying to help their own farmers by keeping out American products ignores the fact that regulations stem from consumer and environmentalist pressure (Graff et al., 2009). Many Europeans consider that the risk assessments habitually carried out by the US or the European Food Safety Agency are incomplete, if not irrelevant, since they focus on short-term health effects and ignore, for example, risks such as the rise of pesticide-resistant 'superweeds'. Those Member States

opinions in 2005 and 2008). Nevertheless, many consider that the EU approach, i.e. controls along the processing chain to reduce microbiological contamination, rather than simply washing products at the end of the process, is superior.

that have invested heavily in organic agriculture also fear that their investments might be endangered by possible genetic contamination.

Recent development suggests that **there is some ground for convergence**. While the US has always rejected GMO labelling, including in trade agreements (e.g. the agreement with Australia), the US soybean industry has recently appeared more open to such labelling provided that the EU changes its rules from labelling food that contains GMOs to labelling food that does not contain GMOs. In the EU, Member States are divided on adoption of new genetically modified crops.⁴⁴ However, regulatory convergence seems particularly difficult in this area, and moves to water down the regulations could provoke a backlash in Europe.

Could the TTIP change the whole EU food safety approach?

Should the TTIP lead the EU to accept that a large part of US food legislation provides a satisfactory degree of protection to consumers and the environment, this might eventually lead to a change in many EU regulations. While this would not necessarily be detrimental to food safety, the chain reaction in EU laws that might be triggered needs to be fully assessed. As an example, the fact that the EU recently lifted the ban on imports of US beef that was based on differing hygiene and husbandry methods in meat production meant *de facto* that the EU modified its own standards. Indeed, the EU prohibited the use of anything other than water to remove surface contamination of meat in 1997, and the Council explicitly rejected the adoption of lactic acid rinses in 2012. While the spraying of lactic acid can hardly be considered as harmful *per se* by the EU authorities, such **gradual changes could undermine the current EU strategy to ensure safe food**, which is based on controlling every step of the food chain.

Instrumentation of the TTIP negotiations to fight domestic regulations

Unsurprisingly, the TTIP may be used by parties with vested interests willing to pass their own regulatory agenda. There are already several examples of cases where a particular lobby uses the fact that regulations are different on the other side of the Atlantic to support its opposition or resistance to a domestic regulation.

One example is the **chemicals sector**. EU chemical companies which have long opposed the REACH regulation point out that the TTIP would generate distortions of competition unless EU rules are weakened. Their interests converge with US agricultural producers as well as with the chemical industry. For example, both American and EU suppliers of pesticides are fighting against a proposed EU ban on chemicals that affect the endocrine system. The proposal is that endocrinian perturbators be banned based on that property alone, instead of restricting them only if they produce discernible adverse effects.⁴⁵ Under the banner of CropLife America, opponents to this ban invoke its inconsistency with a trade discipline under the TTIP. They argue that the EU proposal precludes a science-based risk assessment and runs counter to the risk-based regulation of pesticides by the US Environmental Protection Agency. The position of CropLife America has been supported by several US senators within the TTIP dialogue, illustrating the linkages between domestic lobbyism and trade negotiations.

⁴⁴ In February 2014, 19 states opposed approval of the genetically modified insect-resistant maize known as Pioneer 1507, while 9 others were in support of it or abstained.

⁴⁵ CropLife refers to provisions for regulating endocrine disruptors within EU Regulation 1107/2009 on plant protection products. In a letter to the USTR (13 November 2013), CropLife America claims that the EU proposal being considered to regulate pesticides could, if implemented, prevent 40 % of current US agricultural commodity exports from entering the EU.

The need for regulatory convergence under the TTIP is also likely to be used by interest groups resisting **environmental regulations**. There are many examples, but consider the biofuel issue. In the US, special interest groups have managed to pass rather lenient environmental conditions for public support to biofuels, largely protecting the corn-based ethanol industry. In the EU, revisions of the environmental requirements for biofuels are still being debated and remain a controversial issue.⁴⁶ In this context, the TTIP provides timely support for groups wishing to delay or weaken proposals that would impose more **environmental constraints on EU biofuels**. Clearly, the current inconsistency in biofuel regulations that exists in the EU and the US makes little sense. Vegetable oil-based biodiesel qualifies as 'advanced' in the US mandates, and is therefore encouraged by a specific blending target aimed at boosting its use. At the same time, the EU is adopting stricter environmental criteria that *de facto* ban products that are directly encouraged by the US Renewable Fuel Standard mandate for advanced biofuel based on their environmental benefits. Some degree of harmonisation of the regulations is necessary to end such inconsistencies. However, one may think that there is some self-interest when EU producers point out that the strengthening of EU rules proposed by the European Parliament (i.e. a cap on land using first generation biofuel and the reporting of emissions caused by ILUCs) conflicts with the prospect of a TTIP agreement.

Animal welfare groups also fear that regulatory convergence will be used to resist the strengthening of EU standards and the possible change in the legal status of animals called for by such organisations. However, the issue is complex, in particular because US legislation is not always less animal-friendly than that of the EU (Vesilind, 2011). It also differs across US states. Californian legislation bans small-sized cages for hens, applying standards that are more animal-friendly than the ones adopted in most EU Member States. Interestingly, California requires out-of-state farmers who sell eggs in California to comply with Californian standards for hens' welfare, and the Missouri Attorney General has recently filed a lawsuit to block the California egg rules, echoing some potential TTIP disputes.

Investor-State Dispute Settlement (ISDS)

While the issue is much broader than agriculture, the sector might also be affected by the much discussed dispute settlement mechanism currently under consideration within the TTIP.⁴⁷ A large number of NGOs have protested against the ISDS on both sides of the Atlantic.⁴⁸ They claim that the provisions could allow foreign investors to challenge government through arbitral panels that are seen as being undemocratic and unaccountable to the public. This issue is beyond the scope of this report. However, because some environmental (and potentially food safety) regulations might be challenged,

⁴⁶ In order to reduce competition between fuel and food, and to limit the expansion of those biofuels that were found to result in relatively low savings in greenhouse gas emissions, the European Commission proposed a revision of the Renewable Energy Directive at the end of 2012. In particular, it proposed a 5 % cap on total biofuel consumption in 2020 for the first generation biofuels (defined as those produced from cereals and other starch-rich crops, sugar and oil crops); that a 60 % minimum required greenhouse threshold for biofuels from installations in operation be imposed after 1 January 2017; and that greenhouse gases caused by Indirect Land Use Changes (ILUCs) be accounted for, albeit for reporting purposes only. The Commission's proposals would have dramatically limited the expansion of rapeseed-based biodiesel in particular. The industry rejected the cap and the mere idea of reporting ILUCs, pointing out that these calculations are surrounded by uncertainty. On 11 September 2013, the European Parliament voted for a 6 % cap on the incorporation of first generation land-based biofuels. The EU Presidency proposed a 7 % cap. Due to tough interinstitutional negotiations, final revision of the Renewable Energy Directive is unlikely to take place before 2015.

⁴⁷ The European Parliament has commissioned a study which discusses ISDS issues; see Gerstetter et al (2013).

⁴⁸ See the letter of 28 February 2014 to US Trade Representative (USTR) Michael Froman, signed by 46 organisations and academics (http://www.etuc.org/sites/www.etuc.org/files/press-release/files/letter_to_amb_froman_requesting_public_consultation_on_investment_2014.pdf), or the letter of 16 December 2013 to Commissioner De Gucht and Ambassador Froman, signed by 200 NGOs (http://corporateeurope.org/sites/default/files/attachments/ttip_investment_letter_final.pdf). The NGOs' point of view is well described in Corporate Europe (2013).

the agriculture and food sectors may be affected. It should be noted that there are some agricultural organisations among the organisations that have urged the USTR to exclude ISDS from trade deals.

Summary

Our issue-driven analysis confirms that the main areas where the EU can expect additional exports to the US are dairy products, processed products including wine and spirits, and possibly sugar and biodiesel. The TTIP could have serious adverse consequences for the suckler cows sector. Ethanol, poultry and cereals (corn and low-quality wheat) could also be affected by imports. If trade is liberalised without regulatory convergence, EU producers may face adverse competitive effects due to existing EU constraints on the use of GMOs, on pesticide use and on food safety measures in the meat sector.

5. CONCLUSIONS

Ambitions for the TTIP

In the past, some apparently intractable agricultural disputes between the EU and the US were bundled up in a global settlement in the so-called Blair House agreement (1992). While both parties are still unhappy with some of the arrangements, this procedure healed some of the major disagreements and built the foundation for a multilateral deal under the Uruguay Round. Because it is supported at the highest level, the TTIP might be an opportunity to resolve several ongoing disagreements and to foster regulatory cooperation.

At the EU-US Summit on 30 April 2007, the EU and the US signed the 'Framework for Advancing Transatlantic Economic Integration between the US and the EU'. The goal was to foster cooperation and to reduce trade and investment barriers through a multi-year work programme. In spite of this transatlantic dialogue, enhanced cooperation among regulators has not prevented bitter disputes from arising, and the transatlantic political conflicts have burdened the trade relationship (see Andrews et al., 2006).

The idea that the TTIP could be a global forum that makes it possible to resolve or put aside a large set of ongoing disagreements is somewhat optimistic. Indeed, the current disputes are not of a nature to be resolved through trade-offs, unlike those that were bundled in the Blair House agreement (Johnson, 1998). In many cases, the roots of the disputes are much deeper, and refer to fundamental divergences in the role of the state, the conception of risk, and the overall legal and institutional framework of each party. For example, there is a fundamental divergence in the understanding of scientific evidence, scientifically proven risk and the precautionary principle between the US and the EU. In multilateral instances (e.g. WTO, *Codex Alimentarius*) and in bilateral discussions, the US has emphasised specific issues (e.g. science-based risk assessments, brand-based intellectual property recognition), while the EU has emphasised others (e.g. respect for traditional denominations, animal welfare, etc.). Similarly, the EU and the US stress different issues in their bilateral cooperation and association agreements signed with third parties.

Some first steps to build on

Over recent years, the transatlantic dialogue has nevertheless led to some progress. In the agricultural sector, the recent agreements include:

- Agreements which led to mutual recognition of wine-making practices and recognition of geographic indications for wine and spirits (2006). This has not resolved all disagreements, however, and the US still considers important European wine names as 'semi-generic' and allows their use in the US.⁴⁹
- An agreement on sanitary measures to protect public and animal health in trade in live animals and animal products, including the progressive recognition of the equivalence of sanitary measures, the recognition of animal health status, the application of regionalisation, and the improvement of communication and cooperation (2003). The cooperation has not managed to overcome any of the issues that involved fundamental conceptions in risk analysis. Neither has it resolved

⁴⁹ Agreement between the European Community and the United States of America on trade in wine – Declarations (OJ L 87R, 24.3.2006, p. 2–74) and Agreement in the form of an Exchange of Letters between the European Community and the United States of America on matters related to Trade in Wine (OJ L 301R, 18.11.2005, p. 16–19). Available at <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2005:301:TOC>.

the divergence regarding decontamination at the end of the processing chain (meat), rather than control at each stage.⁵⁰

- A mutual recognition agreement on organic products (2012). As a result, organic products certified in either the EU or the US can be sold as organic in either region since 1 June 2012.⁵¹
- The EU-US banana agreement (entered into force in January 2013)⁵². In this agreement, which complements the Geneva Agreement on Trade in Bananas between the EU and several Latin American banana-supplying countries, the EU undertakes to maintain a non-discriminatory, tariff-only regime for the importation of bananas.
- After disagreements following EU changes in its tariff schedule, the husked rice agreement between the US and the EU was signed in 2005. It states that the applied tariff for husked rice is a function of total imports of husked rice (excluding Basmati).⁵³
- Reciprocal signs of a willingness to progress within the TTIP discussion, which led, from the US side, to greater acceptance of regionalisation for recognition of the low risk of dissemination of the BSE status, and from the EU side to acceptance of lactic acid-based methods of pathogen control in beef.

All these efforts are steps on which the TTIP can build. It is also worth recalling that both parties have agreed, by signing the WTO SPS Agreement, that all measures aimed at protecting human, animal and plant health must be based on scientific principles. Importantly, in all EU and US free trade agreements concluded with third parties, both entities have made explicit references to WTO rules in the sections dealing with SPS and TBT standards, suggesting that they intend to comply with a common set of standards. Compliance with this global framework is important to ensure that bilateral agreements remain consistent. It should also ease the bilateral negotiations on these issues.

On the optimistic side, one may also argue that regulatory divergence is sometimes overestimated. For example, in terms of food safety, one often stresses the differences between the EU and US philosophies regarding risk management. The EU philosophy is said to rely on the idea that the whole process is monitored and traceable at each stage. In contrast, the US system is seen mostly as verifying safety of the end product. While there is some truth in this comparison (see the various issues above), it ignores the fact that both the EU and the US have adopted a compulsory Hazard Analysis at Critical Control Point (HACCP) approach in several food sectors, including meat.⁵⁴

⁵⁰ Agreement in the Form of an Exchange of Letters concerning amendments to the annexes to the Agreement between the European Community and the United States of America on sanitary measures to protect public and animal health in trade in live animals and animal products (OJ L 71R, 10.3.2006, p. 12–16) available at <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2006:071:TOC>.

⁵¹ See Commission Implementing Regulation (EU) No 126/2012, Official Journal of the European Union L 41/5, 15.2.2012. Available at <http://ec.europa.eu/agriculture/organic/documents/eu-policy/letter-eu-us.pdf>.

⁵² Agreement on trade in bananas between the European Union and the United States of America (OJ L 141, 9.6.2010, p. 6–7). Available at <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2010:141:TOC>.

⁵³ Agreement in the form of an Exchange of Letters between the European Community and the United States of America relating to the method of calculation of applied duties for husked rice (Official Journal of the European Union, L 170, 1.7.2005, p. 69–74. Available at <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2005:170:TOC>). Note that there is still some dissatisfaction from the US side regarding the import reference volume and the tariff adjustment mechanism. The USTR seeks a significant increase in the import quantity and, overall, a large market access for US rice at a tariff well below the WTO bound tariff of EUR 65 per MT.

⁵⁴ HACCP is a system designed to ensure food safety, first developed in the US. Its principles have been codified and adopted by the Codex Alimentarius Commission and guidelines to its application are provided in the FAO and WHO General Principles of Food Hygiene. Since the late 1990s, the USDA has required meat and poultry facilities, and subsequently seafood and juice industries, to operate under HACCP risk-prevention systems. As of late 2010, Congress enacted legislation that mandates HACCP for all (domestic and foreign) firms processing

Putting agriculture in context

The TTIP presents several opportunities for the EU agricultural sector. It also involves several risks. In this sector, a number of issues explored above raise particular difficulties that may also hamper the conclusion of an agreement. Beyond the potentially negative impact for particular sectors, the main risks are the distortions that would result if trade were liberalised without regulatory convergence, and the risk that regulatory convergence would undermine significant sections of EU policy, in particular in terms of risk management and precaution, but also of consumer information and dispute settlement.

The stakes in agriculture should nevertheless be put in perspective with those in other sectors and with the more global challenges raised by the TTIP. As shown in Section 1, the sum of all EU exports in the 24 statistical chapters corresponding to agricultural, food and fish products amounts to only 28 % of overall EU exports to the US in a single industrial sector, i.e. Chapter 83.⁵⁵ This suggests that the main stakes of a TTIP are unlikely to lie in the agricultural sector.

More generally, the costs of a non-agreement are likely to be larger in non-agricultural sectors. Indeed, a failure to find an agreement would mean that EU industrial exports would face tougher competition from those countries that have concluded FTAs with the US. In manufacturing goods, a tariff of a few percentage points often makes a large difference. Beyond trade issues, the setting of international standards might be left to the Pacific zone, in particular if the parallel negotiation of the TPP succeeds. The long-term consequences for European industry and services could be enormous. A failure would also mean that the EU and the US would miss an historic opportunity for the development of globally relevant rule-based trade discipline as well as social, environmental and ethical standards in future multilateral trade negotiations.

food for the United States. HACCP is regulated in the meat and poultry industry by the Department of Agriculture (USDA) and in the seafood and juice industry by the Food and Drug Administration (FDA). The USDA and the Food Safety and Inspection Service have regulations requiring that all meat and poultry establishments develop and implement a HACCP system. See <http://www.gpo.gov/fdsys/pkg/CFR-2009-title9-vol1/content-detail.html>.

⁵⁵ Chapter 83 in the Harmonised System stands for 'nuclear reactors, boilers, machinery and mechanical appliances; parts thereof'.

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ANNEX I: ADDITIONAL RESULTS AND AUXILIARY TABLES

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Table A.2.1.: Share of NTMs in OECD countries, by sector in 2012 (% of products affected by at least one NTM within the sector)

Sector	US	EU25	OECD countries
Animal products	95.5	100	100
Cattle	100	100	100
Dairy products	100	100	100
Meat	100	100	100
Other meat products	100	100	100
Cereals	100	100	100
Other crops	100	100	100
Sugar	100	100	100
Vegetables and fruits	100	100	100
Vegetable oils and fats	100	100	100
Oilseeds	100	100	100
Fishing	100	95.1	100
Other food products	99.2	100	100
Beverages and tobacco	100	100	100
Plant-based fibres	100	100	100
Forestry	95	100	100
Energy (coal, oil, gas, etc.)	74.1	96.3	100
Other primary products	97.8	96.6	100
Textile	99.3	99.7	100
Chemical, rubber, plastic products	90.2	96.5	100
Metals	74.5	91.0	98.1
Machinery	52.4	99.9	99.9
Electronic equipment	87.5	100	100
Transport equipment	94.1	100	100
Other manufacturing	64.4	86.2	94.1

Table A.2.2.: Share of each sector in total imports, in 2012 (%)

Sector	US	EU25	OECD countries
Animal products	0.09	0.31	0.22
Cattle	0.11	0.09	0.08
Dairy products	0.11	0.76	0.48
Meat	0.21	0.39	0.35
Other meat products	0.12	0.76	0.59
Cereals	0.15	0.38	0.43
Other crops	0.37	0.51	0.43
Sugar	0.09	0.12	0.12
Vegetables and fruits	0.69	1.01	0.81
Vegetable oils and fats	0.30	0.70	0.53
Oilseeds	0.05	0.30	0.25
Fishing	0.09	0.18	0.14
Other food products	1.85	2.95	2.57
Beverages and tobacco	0.99	1.07	0.95
Plant-based fibres	0.00	0.01	0.03
Forestry	0.02	0.10	0.08
Energy (coal, oil, gas, etc.)	16.17	14.05	15.68
Other primary products	0.28	1.16	1.24
Textile	4.60	4.96	4.65
Chemical, rubber, plastic products	11.72	17.81	15.38
Metals	7.23	9.73	9.48
Machinery	18.00	15.72	16.67
Electronic equipment	13.80	7.93	9.76
Transport equipment	15.75	12.40	12.55
Other manufacturing	7.22	6.61	6.55
Total	100.00	100.00	100.00

Table A.2.3.: Gravity estimations on SPS and TBT measures

Dependent variable	SPS				TBT			
	Extensive margin Import probability		Intensive margin Value of imports		Extensive margin Import probability		Intensive margin Value of imports	
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tariffs	-0.04 ^a (0.003)		-0.37 ^a (0.03)		-0.04 ^a (0.003)		-0.38 ^a (0.03)	
Tariffs on US imports from EU (1)		0.03 (0.05)		-1.54 ^a (0.38)		0.04 (0.05)		-1.50 ^a (0.36)
Tariffs on EU imports from US (2)		-0.22 ^a (0.03)		-2.87 ^a (0.23)		-0.22 ^a (0.03)		-2.87 ^a (0.23)
Tariffs on other OECD flows		-0.04 ^a (0.003)		-0.34 ^a (0.03)		-0.04 ^a (0.003)		-0.34 ^a (0.03)
NTMs	-0.07 ^a (0.01)		-0.31 ^a (0.06)		-0.06 ^a (0.01)		-0.23 ^a (0.05)	
NTMs on US imports from EU (3)		-0.17 ^a (0.03)		-0.47 ^a (0.14)		-0.16 ^a (0.02)		-0.47 ^a (0.14)
NTMs on EU imports from US (4)		-0.14 ^a (0.03)		-0.50 ^a (0.18)		-0.15 ^a (0.03)		-0.51 ^a (0.17)
NTMs on other OECD flows		-0.07 ^a (0.01)		-0.26 ^a (0.07)		-0.07 ^a (0.01)		-0.26 ^a (0.07)
Ln distance	-0.16 ^a (0.01)	-0.15 ^a (0.01)	-0.80 ^a (0.04)	-0.77 ^a (0.04)	-0.16 ^a (0.01)	-0.15 ^a (0.01)	-0.81 ^a (0.04)	-0.78 ^a (0.04)
Common border	0.16 ^a (0.02)	0.16 ^a (0.02)	0.84 ^a (0.08)	0.84 ^a (0.08)	0.17 ^a (0.02)	0.16 ^a (0.02)	0.83 ^a (0.08)	0.84 ^a (0.08)
Common language	0.03 ^a (0.01)	0.03 ^a (0.01)	0.06 (0.08)	0.06 (0.08)	0.03 ^a (0.01)	0.03 ^a (0.01)	0.06 (0.08)	0.06 (0.08)
Observations	679,008	679,008	202,356	202,356	679,008	679,008	202,356	202,356
Adjusted R ²	0.379	0.380	0.310	0.312	0.379	0.380	0.311	0.312
Test on coefficients		(1)=(2) F(1,1055)=23.1 ^a (3)=(4) F(1,1055)=0.33		(1)=(2) F(1,1055)=9.2 ^a (3)=(4) F(1,1055)=0.02		(1)=(2) F(1,1055)=22.3 ^a (3)=(4) F(1,1055)=0.02		(1)=(2) F(1,1055)=10.6 ^a (3)=(4) F(1,1055)=0.03

Note: Standard errors (importing country-exporting country clustered) in parentheses with ^a denoting significance at the 1 % level. All regressions include importer, exporter and product fixed effects. Constant and fixed effects not reported.

Table A.2.4: SPS-specific trade concerns raised or supported by the EU against the US (1995-2010)

Year	Relevant documents	Products covered	Document title	Primary subject keyword
1996	G/SPS/N/USA/37	N.A.	Regionalisation in relation to animal health	Animal health
1998	G/SPS/GEN/66, G/SPS/N/USA/106	HS 02 - Meat and edible meat offal	Measures related to BSE	Animal health
1998	G/SPS/N/USA/133	HS 0407 - Birds' eggs, in shell, fresh, preserved or cooked	Notification on refrigeration and labelling requirements for shell eggs	Food safety
1998	G/SPS/GEN/107, G/SPS/N/USA/137, G/SPS/N/CAN/44	HS 44 - Wood and articles of wood, wood charcoal	Interim rule affecting solid wood packaging material	Plant health
1999	G/SPS/N/USA/121	HS 0603 - Cut flowers and flower buds of a kind suitable for bouquets or for ornamental purposes, fresh, dried, dyed, bleached, impregnated or otherwise prepared; HS 060390 - Other	Import restrictions on rhododendrons in growing medium	Plant health
2001	G/SPS/GEN/247, G/SPS/N/ARG/59, G/SPS/N/AUS/125, G/SPS/N/CAN/94, G/SPS/N/KOR/83, G/SPS/N/NZL/77, G/SPS/N/USA/379	HS 0201 - Meat of bovine animals, fresh or chilled; HS 0202 - Meat of bovine animals, frozen; HS 0401 - Milk and cream, not concentrated nor containing added sugar or other sweetening matter; HS 0402 - Milk and cream, concentrated or containing added sugar or other sweetening matter; HS 0403 - Buttermilk, curdled milk and cream, yogurt, kephir and other fermented or acidified milk and cream, whether or not concentrated or containing added sugar or other sweetening matter or flavoured or containing added fruit, nuts or cocoa; HS 0405 - Butter and other fats and oils derived from milk; dairy spreads; HS 0406 - Cheese and curd; HS 0410 - Edible products of animal origin (nes)	Import restrictions affecting BSE-free countries	Animal health
2001	G/SPS/N/USA/1059	HS 06 - Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage	Import restrictions on potted plants from the European Communities	Plant health

2002	G/SPS/N/USA/214/Add.1	HS 0203 - Meat of swine, fresh, chilled or frozen	Restrictions on pigmeat	Animal health
2002	Raised orally	HS 0805 - Citrus fruit, fresh or dried	Imports of clementines	Plant health
2002	G/SPS/N/USA/431 and addendum	HS 06 - Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage; HS 0602 - Other live plants (including their roots), cuttings and slips; mushroom spawn	Restrictions on imports of Chinese potted plants in growing medium	Plant health
2004	Raised orally	HS 02 - Meat and edible meat offal; HS 1601 - Sausages and similar products, of meat, meat offal or blood; food preparations based on these products; HS 1602 - Other prepared or preserved meat, meat offal or blood	Delisting of France from countries authorised to export certain meat and meat products to the US	Food safety
2005	Raised orally	HS 0808 - Apples, pears and quinces, fresh	Restrictions on Ya pears imports	Plant health
2005	Raised orally	HS 07 - Edible vegetables and certain roots and tubers HS 08 - Edible fruit and nuts; peel of citrus fruit or melons	Import procedures for fruits and vegetables	Plant health
2008	Raised orally	HS 04 - Dairy produce; birds' eggs; natural honey; edible products of animal origin (nes)	Import restrictions on EC dairy products	Food safety

Source: Based on data provided by the WTO and used in the 2012 WTO World Trade Report; Note: nes: not elsewhere specified or included.

Table A.2.5: SPS-specific trade concerns raised or supported by the US against the EU (1995-2010)

Year	Relevant documents	Products covered	Document title	Primary subject keyword
1996	G/SPS/GEN/265	HS 03 - Fish and crustaceans, molluscs and other aquatic invertebrates; HS 0307 - Molluscs, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; aquatic invertebrates other than crustaceans and molluscs, live, fresh, chilled, frozen, dried, salted or in brine; flours, meals and pellets of aquatic invertebrates other than crustaceans, fit for human consumption	Restriction on levels of copper and cadmium in imported squid	Food safety
1997	G/SPS/GEN/20, G/SPS/N/EEC/43	HS 33 - Essential oils and resinoids; perfumery, cosmetic or toilet preparations	Cosmetics and BSE	Animal health
1997	G/SPS/GEN/18, G/SPS/GEN/265	HS 0511 - Animal products (nes); dead animals of Chapter 1 or 3, unfit for human consumption	Certification requirements for pet food	Animal health
1997	G/SPS/GEN/36, G/SPS/GEN/45, G/SPS/GEN/67, G/SPS/GEN/265	HS 30 - Pharmaceutical products; HS 0511 - Animal products (nes); dead animals of Chapter 1 or 3, unfit for human consumption; HS 1516 - Animal or vegetable fats and oils and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	Rules on 'specified risk materials' in products of animal origin	Animal health
1997	G/SPS/GEN/133, G/SPS/N/EEC/74	HS 15 - Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes	Gelatin imports	Animal health
1998	G/SPS/N/EEC/51, G/SPS/GEN/50, G/SPS/GEN/52, G/SPS/GEN/54, G/SPS/GEN/55, G/SPS/GEN/56, G/SPS/GEN/57, G/SPS/GEN/58, G/SPS/GEN/61, G/SPS/GEN/62, G/SPS/GEN/63, G/SPS/GEN/93, G/SPS/R/28	N/A	Maximum levels for certain contaminants (aflatoxins) in foodstuffs	Food safety

1998	G/SPS/N/EEC/58, G/SPS/GEN/88, G/SPS/GEN/265	HS 23 - Residues and waste from the food industries; prepared animal fodder; HS 2302 - Bran, sharps and other residues, whether or not in the form of pellets, derived from the sifting, milling or other working of cereals or of leguminous plants; HS 2303 - Residues of starch manufacture and similar residues, beet-pulp, bagasse and other waste of sugar manufacture, brewing or distilling dregs and waste, whether or not in the form of pellets; HS 2308 - Vegetable materials and vegetable waste, vegetable residues and by-products, whether or not in the form of pellets, of a kind used in animal feeding (nes)	Measure on establishments operating in the animal feed sector	Food safety
1998	G/SPS/N/EEC/61, G/SPS/GEN/265	N/A	Measures on food treated with ionising radiation	Food safety
1999	Raised orally	HS 0511 - Animal products (nes); dead animals of Chapter 1 or 3, unfit for human consumption	Ban on antibiotics in feed	Animal health
2000	G/SPS/N/EEC/93	HS 44 - Wood and articles of wood; wood charcoal; HS 4415 - Packing cases, boxes, crates, drums and similar packings, of wood; cable-drums of wood; pallets, box pallets and other load boards, of wood; pallet collars of wood	Wood packing material	Plant health
2001	Raised orally	HS 0201 - Meat of bovine animals, fresh or chilled; HS 0202 - Meat of bovine animals, frozen	Geographical BSE risk assessment	Animal health
2001	G/SPS/GEN/256, G/SPS/GEN/264	HS 0511 - Animal products (nes); dead animals of Chapter 1 or 3, unfit for human consumption	Restrictions on the use of fishmeal	Animal health
2001	G/TBT/N/EEC/6 and 7, G/SPS/N/EEC/149, G/SPS/N/EEC/150, G/SPS/GEN/397, G/SPS/GEN/398, G/SPS/GEN/399	N/A	Regulations on genetically modified food and feed	Food safety
2001	Raised orally	HS 0102 - Live bovine animals; HS 0511 - Animal products (nes); dead animals of Chapter 1 or 3, unfit for human consumption; HS 2309 - Preparations of a kind used in animal feeding	Transitional TSE measures	Animal health

2001	Raised orally	HS 02 - Meat and edible meat offal; HS 03 - Fish and crustaceans, molluscs and other aquatic invertebrates; HS 04 - Dairy produce; birds' eggs; natural honey; edible products of animal origin (nes); HS05 - products of animal origin (nes); HS 06 - live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage; HS 07 - Edible vegetables and certain roots and tubers; HS 08 - Edible fruit and nuts; peel of citrus fruit or melons	Agricultural biotechnology approval process	Other concerns
2002	G/SPS/N/EEC/150, G/SPS/N/EEC/149, G/SPS/GEN/354, G/SPS/GEN/337 and 338		Traceability and labelling of GMOs and food and feed	Food safety
2003	G/SPS/N/EEC/103	HS 0511 -Animal products (nes); dead animals of Chapter 1 or 3, unfit for human consumption.	Proposal on animal by-products	Animal health
2003	G/SPS/N/EEC/192	HS 05 - Products of animal origin (nes); HS 0106 - Other live animals	Transitional BSE measures	Animal health
2003	Raised orally	HS 0409 - Natural honey	Restrictions on honey imports	Food safety
2003	G/SPS/N/EEC/191 and Add.1	HS 2309 - Preparations of a kind used in animal feeding	Notification on food and feed controls	Food safety
2003	G/SPS/N/EEC/208 and Add.1, G/SPS/N/ARG/71	HS 0106 - Other live animals	Sanitary conditions for the importation of live material for apiculture	Animal health
2004	G/SPS/N/EEC/221 and Add.1-3, G/SPS/GEN/556	HS 44 - Wood and articles of wood; wood charcoal; HS 4415 - Packing cases, boxes, crates, drums and similar packings, of wood; cable-drums of wood; pallets, box pallets and other load boards, of wood; pallet collars of wood	Deviation from international standard for wood packing material	Plant health
2005	G/SPS/GEN/539	N/A	Food and feed hygiene rules	Food safety
2005	Raised orally	N/A	Plant health directive	Plant health
2006	Raised orally	HS 0207 - Meat and edible offal, of the poultry of heading 01.05, fresh, chilled or frozen	Restrictions on US poultry exports	Food safety

2010	Raised orally. G/SPS/N/EEC/291 + Add.1	HS 1704 - Sugar confectionery (including white chocolate), not containing cocoa; HS 2009 - Fruit juices (including grape must) and vegetable juices, unfermented and not containing added spirit, whether or not containing added sugar or other sweetening matter; HS 2106 - Food preparations (nes); HS 2202 - Waters, including mineral waters and aerated waters, containing added sugar or other sweetening matter or flavoured, and other non-alcoholic beverages, not including fruit or vegetable juices of heading 20.09; HS 170410 - Chewing gum, whether or not sugar-coated; HS 170490 - Other	Artificial colour warning labels	Food safety
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Source: Based on data provided by the WTO and used in the 2012 WTO World Trade Report; Note: nes: not elsewhere specified or included.

Table A.4.1. Description of sectors

Sector	Sector description
Animprod	Other Animal Products: swine, poultry and other live animals; eggs, in shell (fresh or cooked), natural honey, snails (fresh or preserved) except sea snails; frogs' legs, edible products of animal origin n.e.c., hides, skins and furskins, raw insect waxes and spermaceti, whether or not refined or coloured, Wool: wool, silk, and other raw animal materials used in textile, Wool: wool, silk, and other raw animal materials used in textile
BevTob	Beverages and Tobacco products
Business	Trade: all retail sales; wholesale trade and commission trade; hotels and restaurants; repairs of motor vehicles and personal and household goods; retail sale of automotive fuel, Communications: post and telecommunications, Other Business Services: real estate, renting and business activities
Cattle	Cattle: cattle, sheep, goats, horses, asses, mules, and hinnies; and semen thereof
Cereals	Processed Rice: rice, semi- or wholly milled, Other Grains: maize (corn), barley, rye, oats, other cereals, Wheat: wheat and meslin, Paddy Rice: rice, husked and unhusked
Chemicals	Chemical Rubber Products: basic chemicals, other chemical products, rubber and plastics products
Dairy	Milk: dairy products
Electronic	Electronic Equipment: office, accounting and computing machinery, radio, television and communication equipment and apparatus
Energy	Gas Distribution: distribution of gaseous fuels through mains; steam and hot water supply, Electricity: production, collection and distribution, Petroleum & Coke: coke oven products, refined petroleum products, processing of nuclear fuel, Gas: extraction of crude petroleum and natural gas (part), service activities incidental to oil and gas extraction excluding surveying (part), Oil: extraction of crude petroleum and natural gas (part), service activities incidental to oil and gas extraction excluding surveying (part), Coal: mining and agglomeration of hard coal, lignite and peat
Fibrecrops	Plant Fibres: cotton, flax, hemp, sisal and other raw vegetable materials used in textiles
Finins	Insurance: includes pension funding, except compulsory social security
Finins	Other Financial Intermediation: includes auxiliary activities but not insurance and pension funding (see next)
Fishing	Fishing: hunting, trapping and game propagation including related service activities, fishing, fish farms; service activities incidental to fishing
Forestry	Forestry: forestry, logging and related service activities
Machinery	Other Machinery & Equipment: electrical machinery and apparatus n.e.c., medical, precision and optical instruments, watches and clocks
Red meat	Cattle Meat: fresh or chilled meat and edible offal of cattle, sheep, goats, horses, asses, mules, and hinnies. Raw fats or grease from any animal or bird.

Metals	Fabricated Metal Products: Sheet metal products, but not machinery and equipment, Non-Ferrous Metals: production and casting of copper, aluminium, zinc, lead, gold, and silver, Iron & Steel: basic production and casting
Oilseeds	Oil Seeds: oil seeds and oleaginous fruit; soy beans, copra
othcrops	Other Crops: live plants; cut flowers and flower buds; flower seeds and fruit seeds; vegetable seeds, beverage and spice crops, unmanufactured tobacco, cereal straw and husks, unprepared, whether or not chopped, ground, pressed or in the form of pellets; swedes, mangolds, fodder roots, hay, lucerne (alfalfa), clover, sainfoin, forage kale, lupines, vetches and similar forage products, whether or not in the form of pellets, plants and parts of plants used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal or similar purposes, sugar beet seed and seeds of forage plants, other raw vegetable materials
OthFood	Other Food: prepared and preserved fish or vegetables, fruit juices and vegetable juices, prepared and preserved fruit and nuts, all cereal flours, groats, meal and pellets of wheat, cereal groats, meal and pellets n.e.c., other cereal grain products (including corn flakes), other vegetable flours and meals, mixes and doughs for the preparation of bakers' wares, starches and starch products; sugars and sugar syrups n.e.c., preparations used in animal feeding, bakery products, cocoa, chocolate and sugar confectionery, macaroni, noodles, couscous and similar farinaceous products, food products n.e.c.
Othmanuf	Non-Metallic Minerals: cement, plaster, lime, gravel, concrete, Paper & Paper Products: includes publishing, printing and reproduction of recorded media, Lumber: wood and products of wood and cork, except furniture; articles of straw and plaiting materials, Other Manufacturing: includes recycling
White Meat	Other Meat: pig meat and offal. Preserves and preparations of meat, meat offal or blood, flours, meals and pellets of meat or inedible meat offal; greaves
OthPrim	Other Mining: mining of metal ores, uranium, gems. Other mining and quarrying
OthServ	Dwellings: ownership of dwellings (imputed rents of houses occupied by owners), Recreation & Other Services: recreational, cultural and sporting activities, other service activities; private households with employed persons (servants), Construction: building houses, factories, offices and roads, Water: collection, purification and distribution
PubServ	Other Services (Government): public administration and defence; compulsory social security, education, health and social work, sewage and refuse disposal, sanitation and similar activities, activities of membership organisations n.e.c., extra-territorial organisations and bodies
Sugar	Sugar, Cane & Beet: sugar cane and sugar beet
Textile	Textiles: textiles and man-made fibres, Wearing Apparel: Clothing, dressing and dyeing of fur, Leather: tanning and dressing of leather; luggage, handbags, saddlery, harness and footwear
Transequip	Motor vehicles and parts: cars, lorries, trailers and semi-trailers, Other Transport Equipment: Manufacture of other transport equipment
Transport	Air transport, Water transport, Other Transport: road, rail; pipelines,

	auxiliary transport activities; travel agencies
VegFruit	Veg & Fruit: vegetables, fruit vegetables, fruit and nuts, potatoes, truffles, ...
Vegoil	Vegetable Oils: crude and refined oils of soya-bean, maize (corn), olive, sesame, ground-nut, olive, sunflower-seed, safflower, cotton-seed, rape, colza and canola, mustard, coconut palm, palm kernel, castor, tung jojoba, babassu and linseed, perhaps partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised. Also margarine and similar preparations, animal or vegetable waxes, fats and oils and their fractions, cotton linters, oil-cake and other solid residues resulting from the extraction of vegetable fats or oils; flours and meals of oil seeds or oleaginous fruits, except those of mustard; degreas and other residues resulting from the treatment of fatty substances or animal or vegetable waxes.

Table A.4.2: Regional disaggregation

EU		Other countries	
Austria		US	
France		Canada	
Germany		Mexico	
Ireland		EFTA	Switzerland
Italy			Norway
Poland			Iceland
Portugal		MERCOSUR	Argentina
Spain			Brazil
UK			Uruguay
Benelux	Belgium	CIS	Paraguay
	Luxembourg		Venezuela
	Netherlands		Russia
Balkan	Greece		Ukraine
	Romania		Kazakhstan
	Bulgaria		Belarus
	Croatia		Azerbaijan
	Slovenia		Uzbekistan
	Cyprus		Turkmenistan
Visegrad	Malta		Georgia
	Czech Republic	Armenia	
	Slovakia	Tajikistan	
	Hungary	Kyrgyzstan	
Baltic	Latvia	Moldova	
	Estonia	Turkey	
	Lithuania		Morocco
Nordic	Sweden Denmark Finland	Maghreb	Algeria
			Tunisia
			Libya
			Egypt
		RoW	

Box A.2.1: The margins of trade**Extensive margin of trade**

Our dependent variable, y_{ijk} , is the probability of having a strictly positive bilateral trade flow between countries i and j for product k in 2012. y_{ijk} is a binary variable equal to 1 if the good is bilaterally traded in 2012 and 0 otherwise:

$$y_{ijk} = 1 [y_{ijk}^* > 0] \quad (1)$$

where y_{ijk}^* is a latent variable. Its value determines whether or not a strictly positive trade flow is observed. The value of the latent variable is influenced by several variables. Here we assume that tariffs, NTMs and usual gravity variables may affect the latent variable. We can therefore rewrite our estimated equation as follows:

$$y_{ijk}^* = a_0 + a_1 \text{tariff}_{ijk} + a_2 \text{NTM}_{jk} + a_3 \ln \text{dist}_{ij} + a_4 \text{cbord}_{ij} + a_5 \text{clang}_{ij} + \text{FE}_i + \text{FE}_j + \text{FE}_k + \varepsilon_{ijk} \quad (2)$$

where FE_i , FE_j and FE_k are respectively exporter, importer, and product fixed effects. dist_{ij} is the bilateral distance; cbord_{ij} and clang_{ij} are dummies to control for common border and common language. tariff_{ij} measures the bilateral applied protection on product k , while NTM is a dummy set to one if the importing country notifies at least one SPS or one TBT measure on the product k (0 otherwise). ε_{ij}^k is the error term.

Intensive margin of trade

We focus on the deepening of trade relations and consider only trade flows that are strictly positive in 2012. The explanatory variables are the same as those in equation (2). The estimated equation can therefore be written as:

$$\ln M_{ijk} = b_0 + b_1 \text{tariff}_{ijk} + b_2 \text{NTM}_{jk} + b_3 \ln \text{dist}_{ij} + b_4 \text{cbord}_{ij} + b_5 \text{clang}_{ij} + \text{FE}_i + \text{FE}_j + \text{FE}_k + \varepsilon_{ijk} \quad (3)$$

where M_{ijk} is the dollar value of country j 's imports of good k from country i .

Box A.2.2: Estimating the effects of policy changes on agricultural trade

The extensive margin of trade

We follow the approach developed by Debaere and Mostashari (2010). Our dependent variable, y_{ijk} , is the probability of having a new bilateral trade flow in 2006 between countries i and j , i.e. the probability that good k (not bilaterally traded in 1996) is exported by the emerging country i to the partner j in 2006. Note that this is equivalent to the probability of a switch from 0 to a new existing flow. y_{ijk} is a binary variable equal to 1 if the good is bilaterally traded in 2006 but not in 1996 and 0 otherwise:

$$y_{ijk} = 1 [y_{ijk}^* > 0] \tag{4}$$

As in equation (1), y_{ijk}^* is a latent variable and its value is determined by different variables. We retain the following explanatory variables: $\Delta \ln \tau_{ijk}$ measures the variation in the logarithm of bilateral tariffs applied by country j on imports of good k from country i between 1996 and 2006; X_i , X_j , and X_{ij} are vectors of exporter-specific, importer-specific and country-pair specific explanatory variables.

The changes in the scope of agricultural exports across OECD countries may be related to changes in the productivity of countries. We proxy these productivity changes with the changes in GDP per capita. Size is another potential explanation for the increased scope of exports of a country. In a Krugman-like world, countries export more products just because they become bigger and offer more varieties. The variables capturing the impact of changes in the sizes of both trading partners are their current populations.⁵⁶ The country-pair specific characteristics capture bilateral trade resistance. We control for bilateral distance.⁵⁷ We also include product-specific fixed effects defined at the HS 6-digit level. These product fixed effects capture product characteristics that are constant over time and not observable.

Furthermore, we control for the competition faced by exporters and compute a Herfindahl-Hirschman index measuring the concentration of country j 's imports in 1996. This index is calculated by squaring the market share of each exporter j competing on the import market of good k in country i , and summing the resulting numbers $H_{jk}^{96} = \sum s_{ijk}^2$, (with $s_{ijk} = M_{ijk} / M_{jk}$ where s is the share and M the value of imports). It is bounded between zero and one: the closer to zero, the more diversified the import basket. Finally, we control for the initial level of tariffs, i.e. the protection applied in 1996.

Using these variables, we can rewrite the estimated equation as follows:

$$y_{ijk}^* = \beta_0 + \beta_1 \Delta \ln \tau_{ijk} + \beta_2 H_{jk}^{96} + \beta_3 \tau_{ijk}^{96} + \mathbf{X}'_i \lambda + \mathbf{X}'_j \mu + \mathbf{X}'_{ij} \zeta + FE_k + \varepsilon_{ijk} \tag{5}$$

We estimate the equation using a linear probability model. The inclusion of fixed effects in a probit model would give rise to the incidental parameter problem.

⁵⁶ GDP per capita and population are taken from the World Development Indicators computed by the World Bank.

⁵⁷ We tested additional gravity variables such as common language, common border. However, the estimated coefficients of these variables were often non-significant and the results were unaffected by their inclusion.

Box A.4: Diverging but equally questionable biofuel policies

Blending mandates and incorporation targets are now the main instruments used to support biofuel production and consumption in both the US and the EU. They have largely replaced direct subsidies and tax breaks, de facto shifting the cost away from the taxpayers to consumers of both transport fuels and food products (see Bureau et al, 2010).

In practice, the US Renewable Fuel Standard mandates that refiners blend increasing volumes of ethanol into gasoline each year. By 2013, the target rose to 16.6 billion gallons and it is supposed to be 36 billion gallons in 2022. In addition, US legislation states that a certain portion has to come from cellulosic materials or other sources qualifying for 'advanced' biofuels. However, the supply of cellulosic material is still a tiny fraction of what was expected when this measure was passed, and the 'advanced biofuel' mandate is currently filled by imports of cane-based ethanol (which qualifies given its capacity to reduce greenhouse gas emissions).

The 2009 EU Renewable Energy Directive also sets a compulsory target, imposing that in 2020, 10 % of fuel used in terrestrial transportation should be renewable. While this potentially includes some other sources of energy (green electricity, hydrogen), it has led to a considerable development of production and imports of biodiesel, which represents close to 80 % of EU biofuel consumption.

These policies have many unwanted and sometimes wasteful effects. In the US, they led to almost 40 % of corn production being channelled into ethanol, driving up prices for maize. Public incentives have created a very large industry based on tax breaks and government-induced rents, while most lifecycle analyses conclude that corn-based ethanol has a poor environmental record. The US mandate rigidifies demand, resulting in greater price fluctuations worldwide (Wright, 2011). A particular wasteful effect of these policies is that, because Brazil set quantitative objectives for ethanol as a whole, the differences in policies result in reciprocal trade, i.e. Brazil shipping cane-based ethanol to the US so as to match the 'advanced biofuel' mandate, while importing US corn-based ethanol (Mayer et al, 2013).

The EU policy also has many unwanted effects. It has led to most of the EU's production of rapeseed being channelled into the bioenergy market, driving up prices. As a result the EU food and detergent industries have shifted to palm oil as a raw material, resulting in considerable imports of a commodity that is well known for its negative environmental consequences. The quantitative targets set up by Member States to match the Renewable Energy Directive's objectives also led to imports of rapeseed, palm and soybean oil. Costly public policies promoted the use of biofuels whose greenhouse gas emission balance is questioned for rapeseed and sunflower-based biodiesel as well as wheat and corn ethanol (Edwards et al., 2010; De Cara et al., 2012). In order to encourage the use of waste (e.g. used cooking oil) and animal fat (e.g. rendered fat and tallow), the EU set 'double counting' mandates, i.e. one unit of biodiesel made from these materials counted double against the incorporation target, for example. This has resulted in a lower demand for overall biodiesel, large production capacities unused and, overall, a displacement of the use of animal fats: while they were largely used in the lipoidustry, the latter is shifting to importing (non-certified) palm oil, while fats are artificially channelled into the bioenergy market.

ANNEX II: DETAILED DATA ON AGRICULTURAL TRADE FOR EACH EU MEMBER STATE

This Annex contains detailed data on agricultural trade at Member State level. For each country (Belgium and Luxembourg are combined), the graphs show the **evolution of total agricultural exports and imports** (intra-trade included) for raw and processed goods from 1992 to 2012 (starting from a later year when 1992 is not available).

Furthermore, the **share of agricultural goods in total trade** (again, intra-trade included) over time is depicted.

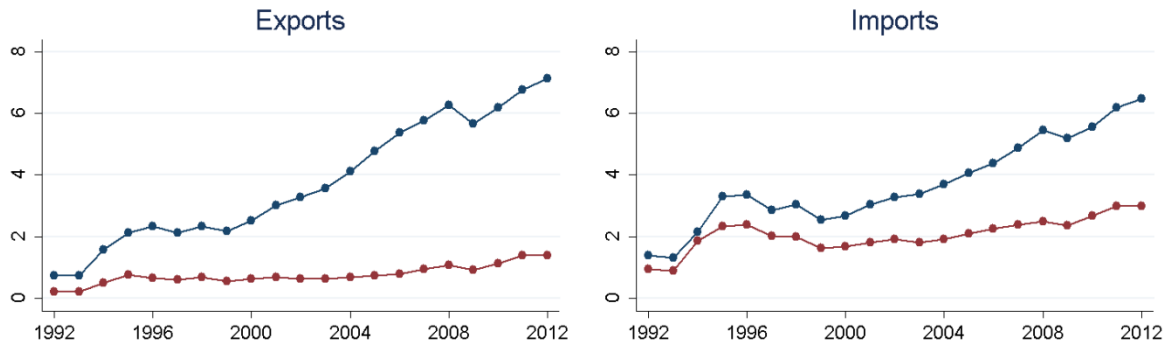
The pie charts present information on **export destination and import sources for agricultural goods**, again distinguishing between raw and processed goods, and comparing the year 1992 to the most recently available data from 2012.

The tables present the **top 10 products exported to and imported from the US, in the area of raw and processed agricultural goods**, for the year 2012. In particular, the tables show the cumulated shares of these top 10 products as regards total raw/processed agricultural imports/exports. This enables the proportion of total trade for each of the top 10 products to be identified. The tables also contain the value in euro per unit of the product. Units are measured in kilograms, tons or litres, depending on the product. To specify the product classification, the tables also include the HS6 codes⁵⁸ of every product.

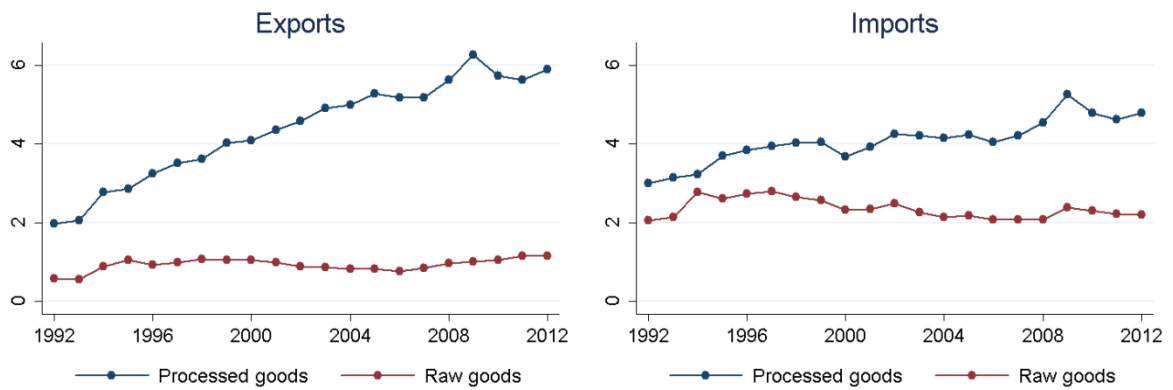
⁵⁸ Detailed descriptions of the HS6 codes can be found at: <http://www.wcoomd.org/en/fag/~/link.aspx?id=3F9BB5F791484D45810FE0A5B9782E4C&z=z>.

AUSTRIA

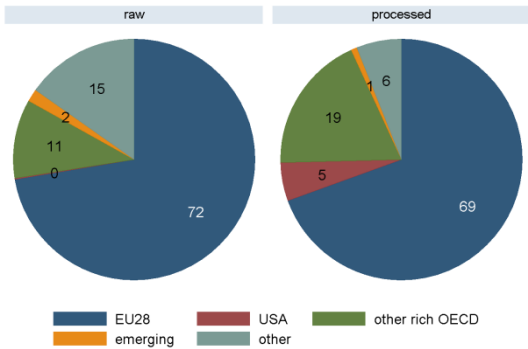
Agricultural trade, EUR billions



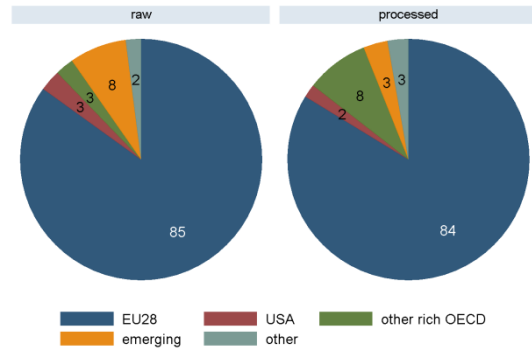
Share of agricultural goods in total trade, %



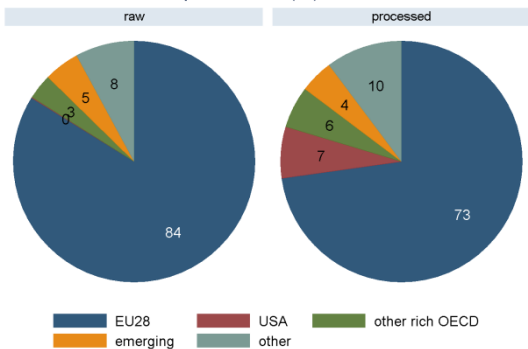
Export shares (%), 1992



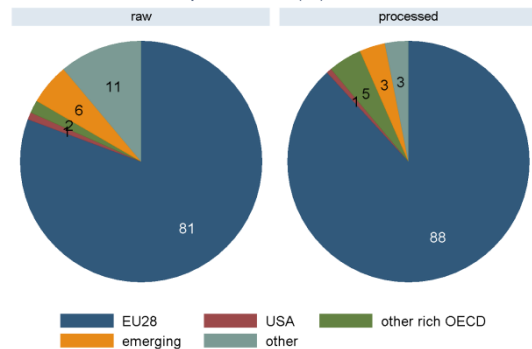
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Maize (corn) seed	100510	0.45	31%	n.a.
2	Honey, natural	40900	0.29	51%	1.30
3	Fruits, dried nes	81340	0.21	65%	0.80
4	Walnuts, fresh or dried, shelled	80232	0.11	73%	1.06
5	Seed, vegetable, nes for sowing	120991	0.06	77%	1.23
6	Vegetable products nes for human consumption	121299	0.04	79%	0.46
7	Plants & parts, pharmacy, perfume, insecticide use ne	121190	0.03	82%	1.52
8	Oil seeds and oleaginous fruits, nes	120799	0.03	84%	1.59
9	Spices nes	91099	0.02	85%	1.18
10	Hazelnuts and filberts, fresh or dried, shelled	80222	0.02	86%	0.75

Top export goods, processed agricultural goods

1	Beverage waters, sweetened or flavoured	220210	363.80	88%	1.37
2	Grape wines nes, fortified wine or must, pack < 2l	220421	8.35	90%	1.53
3	Chocolate, cocoa prep, block/slab/bar, not filled,>2k	180632	5.65	92%	1.26
4	Cheese except fresh, grated, processed or blue-veined	40690	4.85	93%	1.43
5	Animal feed preparations nes	230990	4.55	94%	3.18
6	Food preparations nes	210690	3.82	95%	2.14
7	Alcoholic liqueurs nes	220890	3.17	96%	0.68
8	Chocolate/cocoa food preparations nes	180690	2.91	96%	1.16
9	Dextrins and other modified starches	350510	2.64	97%	1.12
10	Glucose, glucose syrup < 20% fructose	170230	1.87	97%	1.73

Top import goods, raw agricultural goods

1	Sunflower seeds	120600	6.38	27%	n.a.
2	Almonds, fresh or dried, shelled	80212	5.07	49%	0.82
3	Cotton, not carded or combed	520100	2.84	61%	1.13
4	Walnuts, fresh or dried, shelled	80232	1.76	69%	0.49
5	Prunes, dried	81320	1.09	73%	0.92
6	Pistachios, fresh or dried	80250	0.69	76%	0.80
7	Grapes, dried	80620	0.62	79%	1.04
8	Maize (corn) seed	100510	0.57	81%	1.99
9	Logs, non-coniferous nes	440399	0.47	83%	2.61
10	Tobacco, unmanufactured, stemmed or stripped	240120	0.35	85%	1.47

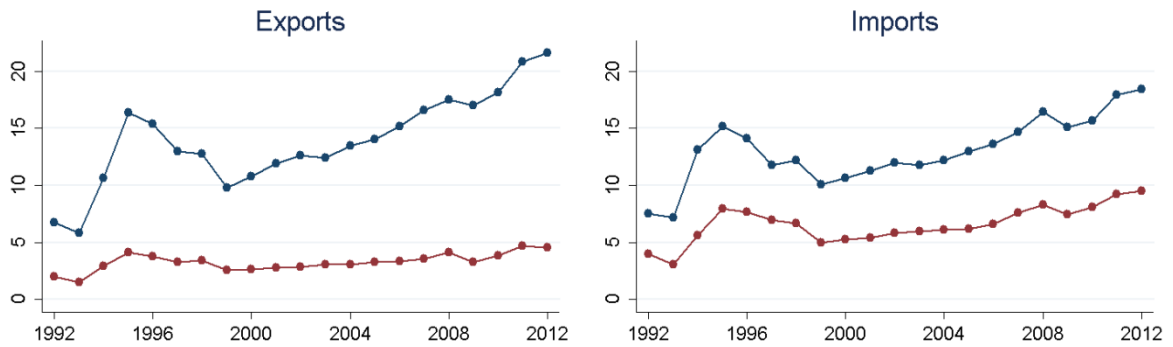
Top import goods, processed agricultural goods

1	Food preparations nes	210690	7.85	18%	n.a.
2	Whiskies	220830	7.09	35%	1.10
3	Rum and tafia	220840	4.83	46%	1.06
4	Grape wines nes, fortified wine or must, pack < 2l	220421	2.92	53%	0.97
5	Bovine cuts boneless, fresh or chilled	20130	2.71	59%	1.68
6	Dog or cat food (retail)	230910	1.61	63%	2.15
7	Mixtures of juices not fermented or spirited	200990	1.59	66%	n.a.
8	Rice, semi-milled or wholly milled	100630	1.52	70%	0.84
9	Sauces nes, mixed condiments, mixed seasoning	210390	0.98	72%	1.13
10	Fish fillets, frozen	30420	0.98	74%	0.88

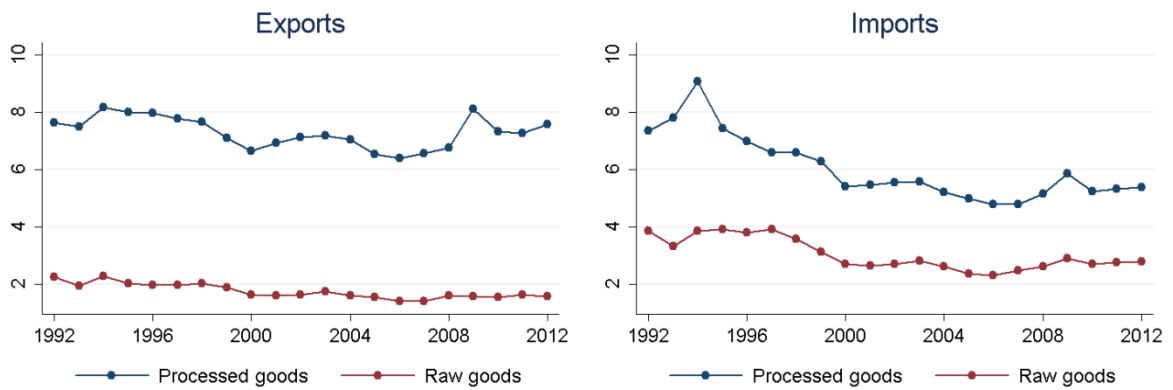
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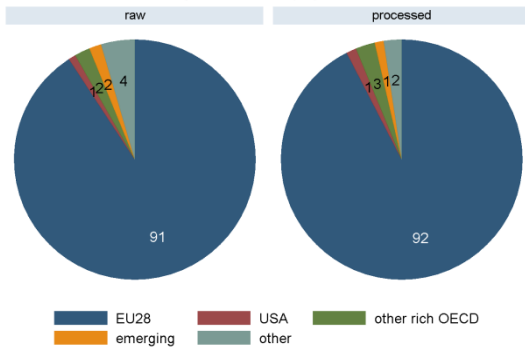
Agricultural trade, EUR billions



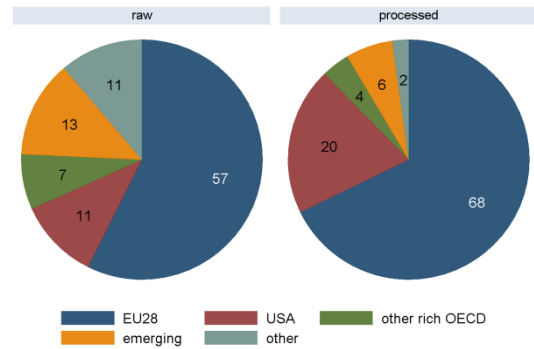
Share of agricultural goods in total trade, %



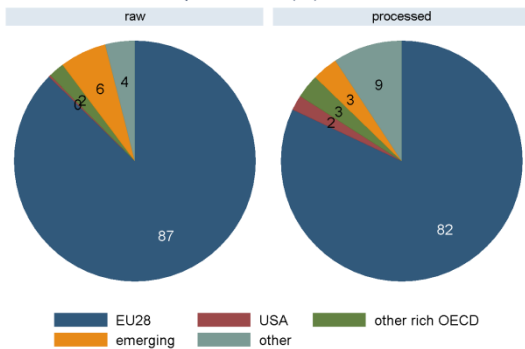
Export shares (%), 1992



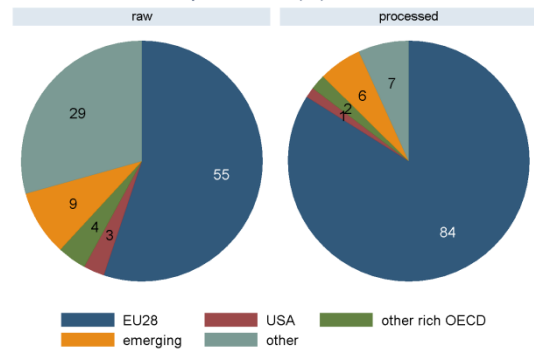
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Witloof chicory, fresh or chilled	70521	3,03	26%	1,63
2	Coffee, not roasted, not decaffeinated	90111	2,37	46%	0,69
3	Raw mink furskins, whole	430110	1,03	54%	0,69
4	Lucerne (alfalfa) meal and pellets	121410	0,80	61%	1,15
5	Cuttings and slips, not rooted	60210	0,56	66%	n.a.
6	Peppers (Capsicum, Pimenta) fresh or chilled	70960	0,51	70%	2,48
7	Maize except seed corn	100590	0,38	73%	2,14
8	Honey, natural	40900	0,29	76%	0,77
9	Gum arabic	130120	0,28	78%	1,11
10	Cocoa beans, whole or broken, raw or roasted	180100	0,20	80%	1,77

Top export goods, processed agricultural goods

1	Beer made from malt	220300	156,70	41%	1,35
2	Chocolate/cocoa food preparations nes	180690	37,95	51%	1,39
3	Chocolate and other food preps containing cocoa > 2 k	180620	34,57	60%	1,47
4	Inulin	110820	17,24	65%	0,95
5	Chocolate, cocoa prep, block/slab/bar, not filled,>2k	180632	10,48	68%	0,88
6	Wheat gluten	110900	10,35	70%	1,19
7	Food preparations nes	210690	8,96	73%	1,84
8	Vegetables, frozen nes, uncooked steamed or boiled	71080	8,96	75%	1,03
9	Sugar nes, invert sugar, caramel and artificial honey	170290	8,93	77%	2,21
10	Animal feed preparations nes	230990	6,37	79%	2,49

Top import goods, raw agricultural goods

1	Pistachios, fresh or dried	80250	105,26	39%	1,00
2	Almonds, fresh or dried, shelled	80212	29,09	50%	0,93
3	Tobacco, unmanufactured, stemmed or stripped	240120	21,65	58%	1,44
4	Foliage, branches, for bouquets, etc. - fresh	60491	18,48	64%	0,96
5	Linseed	120400	11,00	69%	1,03
6	Wheat except durum wheat, and meslin	100190	10,37	72%	1,44
7	Durum wheat	100110	8,45	75%	1,14
8	Soya beans	120100	8,08	78%	0,79
9	Grapefruit, fresh or dried	80540	5,53	80%	0,97
10	Prunes, dried	81320	3,65	82%	0,96

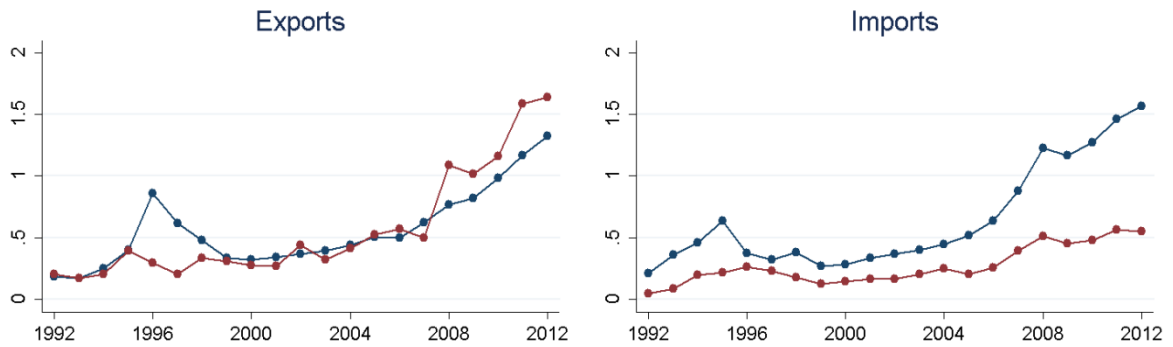
Top import goods, processed agricultural goods

1	Orange juice, not fermented, spirited, or frozen	200919	39,12	16%	0,90
2	Food preparations nes	210690	23,85	25%	1,87
3	Scallops other than live, fresh or chilled	30729	19,55	33%	1,08
4	Dog or cat food (retail)	230910	13,97	39%	1,27
5	Mucilages and thickeners nes	130239	12,37	44%	0,77
6	Hop extract	130213	10,98	48%	1,09
7	Whiskies	220830	10,62	52%	1,11
8	Nuts, seeds & mixes, otherwise prepared or preserved	200819	9,79	56%	0,92
9	Protein concentrates and textured protein substances	210610	7,95	59%	1,20
10	Veg fats, oils or fractions hydrogenated, esterified	151620	6,01	62%	2,63

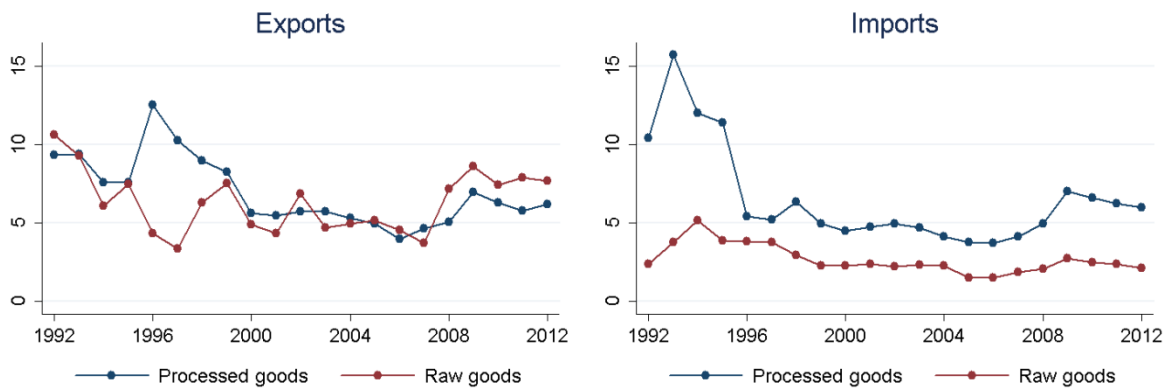
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BULGARIA

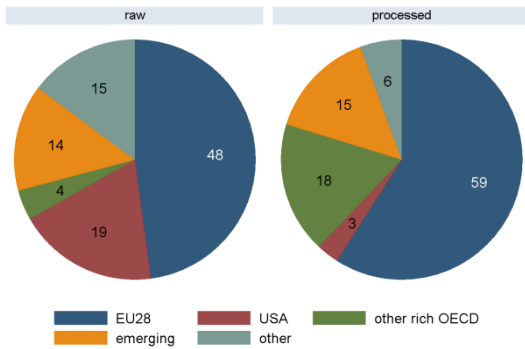
Agricultural trade, EUR billions



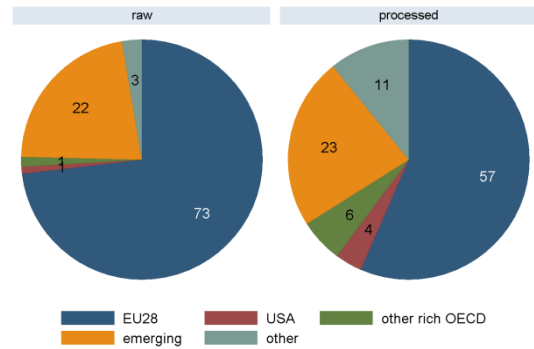
Share of agricultural goods in total trade, %



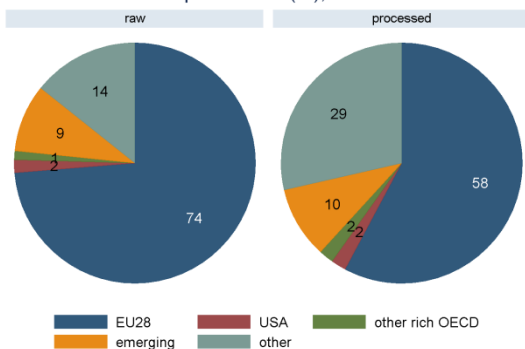
Export shares (%), 1992



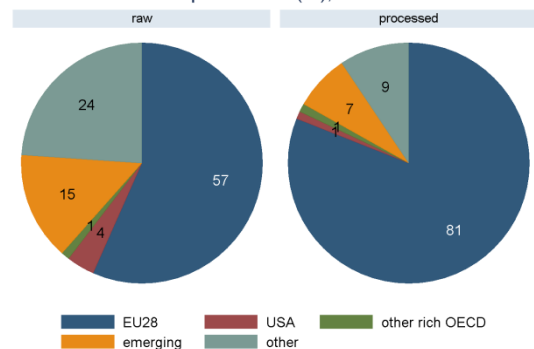
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Tobacco, unmanufactured, stemmed or stripped	240110	20,23	73%	1,21
2	Plants & parts, pharmacy, perfume, insecticide use ne	121190	1,73	80%	1,62
3	Seed, vegetable, nes for sowing	120991	1,62	86%	1,16
4	Sunflower seeds	120600	1,35	90%	1,78
5	Oil seeds and oleaginous fruits, nes	120799	0,70	93%	0,90
6	Tobacco, unmanufactured, stemmed or stripped	240120	0,44	95%	1,21
7	Coriander seeds	90920	0,44	96%	1,33
8	Honey, natural	40900	0,31	97%	1,14
9	Truffles, fresh or chilled	70952	0,23	98%	1,78
10	Mushrooms, fresh or chilled	70951	0,13	99%	1,61

Top export goods, processed agricultural goods

1	Cheese except fresh, grated, processed or blue-veined	40690	8,57	38%	1,01
2	Animal feed preparations nes	230990	3,79	54%	1,79
3	Veg nes, mixes, prepared/preserved, not frozen/vinega	200590	1,57	61%	1,05
4	Veg, fruit, nuts nes prepared or preserved by vinegar	200190	1,39	67%	1,13
5	Cereals, except maize grain, prepared nes	190490	1,09	72%	1,27
6	Fruit, edible plants nes otherwise prepared/preserved	200899	0,82	76%	2,72
7	Cherries provisionally preserved	81210	0,62	78%	1,14
8	Beans, shelled, prepared/preserved, not frozen/vinega	200551	0,32	80%	1,66
9	Food preparations nes	210690	0,31	81%	1,46
10	Grape wines nes, fortified wine or must, pack < 2l	220421	0,30	82%	1,86

Top import goods, raw agricultural goods

1	Tobacco, unmanufactured, stemmed or stripped	240120	6,05	45%	1,12
2	Almonds, fresh or dried, shelled	80212	2,58	65%	0,83
3	Sunflower seeds	120600	2,11	80%	n.a.
4	Pistachios, fresh or dried	80250	0,44	84%	0,69
5	Seed, rye grass, for sowing	120925	0,36	86%	0,94
6	Maize except seed corn	100590	0,32	89%	2,48
7	Maize (corn) seed	100510	0,24	90%	1,15
8	Lentils dried, shelled	71340	0,24	92%	1,12
9	Seed, clover, for sowing	120922	0,24	94%	1,02
10	Almonds in shell fresh or dried	80211	0,22	96%	0,67

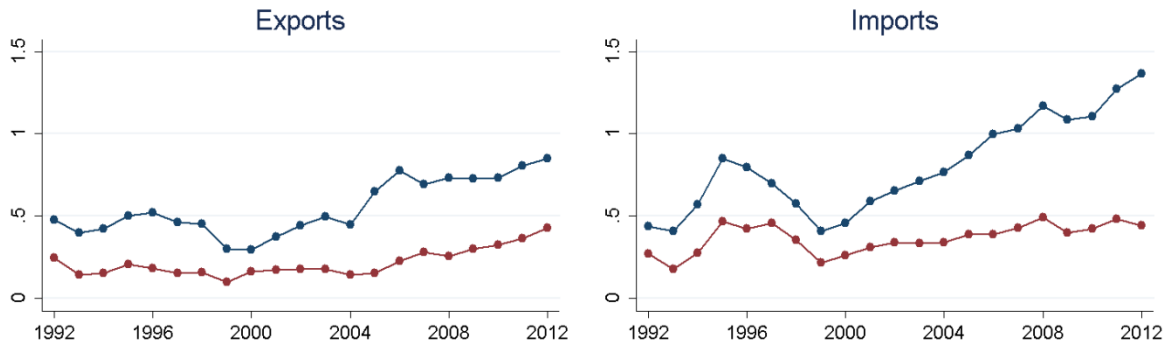
Top import goods, processed agricultural goods

1	Whiskies	220830	4,67	44%	1,07
2	Food preparations nes	210690	1,97	62%	n.a.
3	Cocoa paste wholly or partly defatted	180320	0,51	67%	1,13
4	Protein concentrates and textured protein substances	210610	0,46	71%	1,20
5	Soya-bean oil-cake and other solid residues	230400	0,36	75%	1,28
6	Linseed oil, crude	151511	0,22	77%	n.a.
7	Alcoholic liqueurs nes	220890	0,21	79%	n.a.
8	Cocoa powder, unsweetened	180500	0,17	80%	0,80
9	Non-alcoholic beverages nes, except fruit, veg juices	220290	0,16	82%	n.a.
10	Hop extract	130213	0,15	83%	1,26

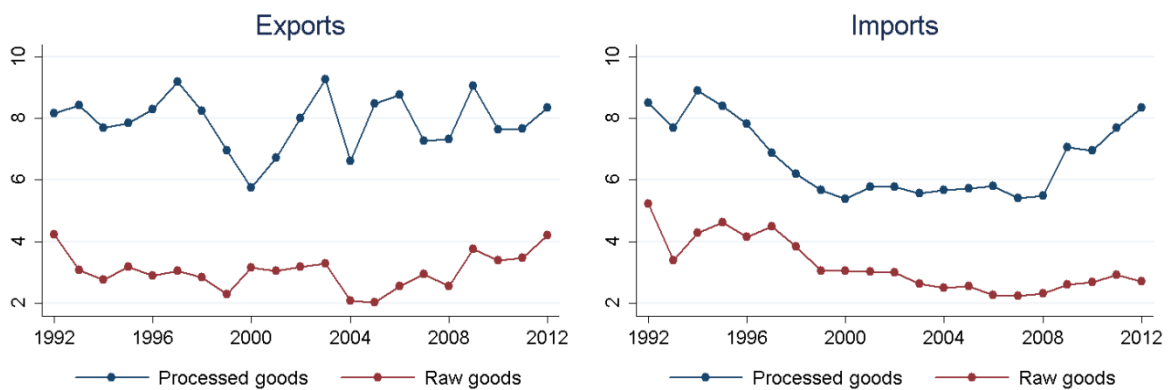
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CROATIA

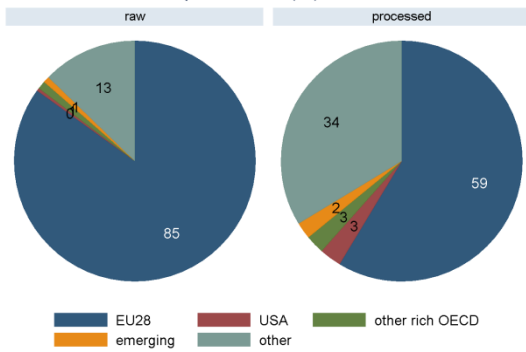
Agricultural trade, EUR billions



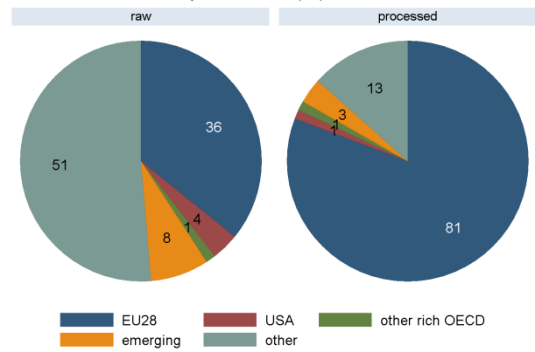
Share of agricultural goods in total trade, %



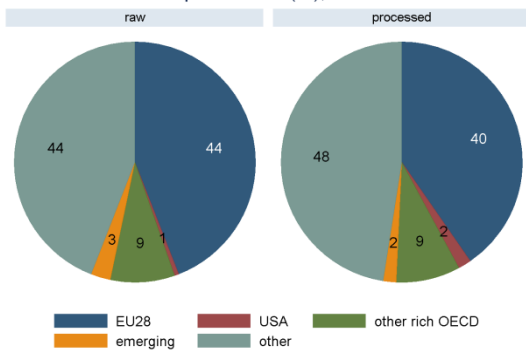
Export shares (%), 1992



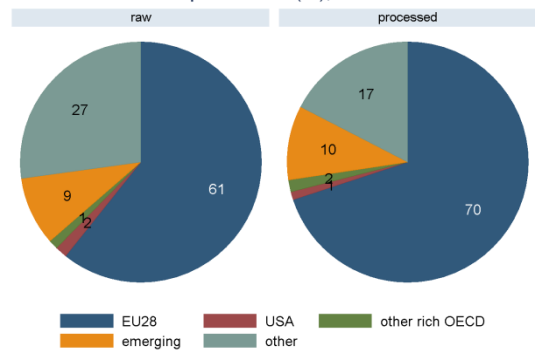
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Spices nes	91099	0,67	43%	0,94
2	Plants & parts, pharmacy, perfume, insecticide use ne	12119	0,39	68%	1,52
3	Truffles, fresh or chilled	70952	0,29	87%	n.a.
4	Mushrooms, fresh or chilled	70951	0,05	90%	n.a.
5	Tuna nes, fresh or chilled, whole	30239	0,05	93%	0,95
6	Fruits, dried nes	81340	0,02	94%	0,72
7	Whalebone, horns, etc unworked or simply prepared nes	50790	0,02	95%	n.a.
8	Animal products and domestic animal carcass (non-food	51199	0,01	96%	n.a.
9	Capsicum or Pimenta, dried, crushed or ground	90420	0,01	97%	1,25
10	Honey, natural	40900	0,01	97%	1,55

Top export goods, processed agricultural goods

1	Animal feed preparations nes	230990	2,91	19%	n.a.
2	Sauces nes, mixed condiments, mixed seasoning	210390	2,27	35%	1,28
3	Jams, fruit jellies, purees and pastes, exc. citrus	200799	1,30	43%	1,82
4	Ice, snow and potable water	220190	1,11	51%	n.a.
5	Soups and broths and preparations thereof	210410	0,98	57%	1,49
6	Alcoholic liqueurs nes	220890	0,64	62%	1,95
7	Chocolate, cocoa prep, block/slab/bar, not filled,>2k	180632	0,49	65%	1,00
8	Grape wines nes, fortified wine or must, pack < 2l	220421	0,45	68%	2,07
9	Chocolate/cocoa food preparations nes	180690	0,42	71%	0,96
10	Mineral and aerated waters not sweetened or flavoured	220110	0,33	73%	2,53

Top import goods, raw agricultural goods

1	Almonds, fresh or dried, shelled	80212	3,94	53%	0,97
2	Herring, fresh or chilled, whole	30240	0,54	60%	1,01
3	Pistachios, fresh or dried	80250	0,45	66%	1,01
4	Ground-nuts shelled, not roasted or cooked	120220	0,44	72%	0,81
5	Fruits, dried nes	81340	0,40	77%	1,37
6	Foliage, branches, for bouquets, etc. - fresh	60491	0,21	80%	n.a.
7	Sunflower seeds	120600	0,21	83%	3,26
8	Seed, vegetable, nes for sowing	120991	0,15	85%	2,20
9	Hop cones, ground, powdered or pelleted and lupulin	121020	0,11	86%	2,69
10	Walnuts, fresh or dried, shelled	80232	0,11	88%	0,96

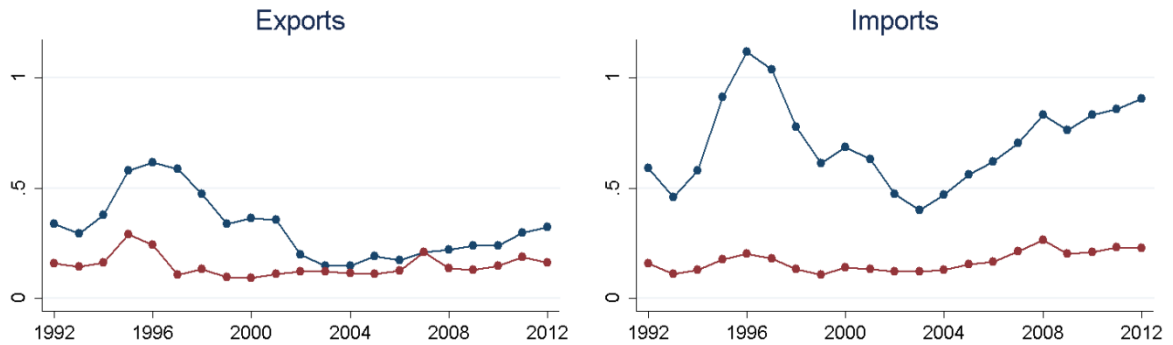
Top import goods, processed agricultural goods

1	Food preparations nes	210690	6,41	39%	n.a.
2	Whiskies	220830	2,22	52%	1,30
3	Herrings, frozen, whole	30350	1,27	60%	0,86
4	Swine cuts, frozen nes	20329	0,59	64%	0,78
5	Cuttle fish, squid, frozen, dried, salted or in brine	30749	0,57	67%	0,55
6	Fruit, edible plants nes otherwise prepared/preserved	200899	0,54	70%	1,31
7	Dog or cat food (retail)	230910	0,49	73%	1,51
8	Nuts, seeds & mixes, otherwise prepared or preserved	200819	0,46	76%	1,70
9	Rum and tafia	220840	0,33	78%	1,55
10	Sardines,brisling,sprats, frozen, whole	30371	0,28	80%	0,86

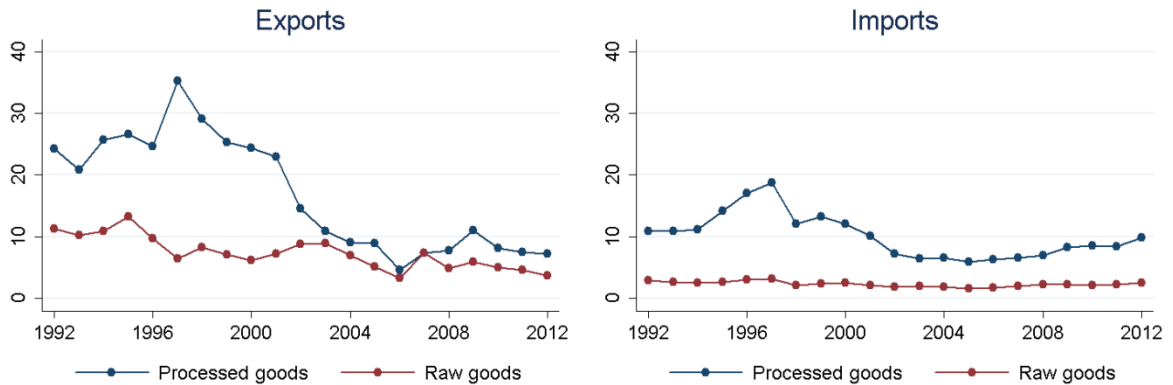
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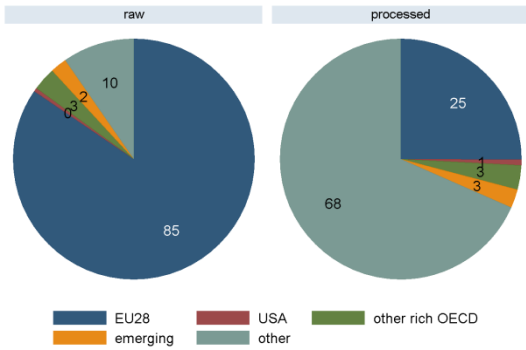
Agricultural trade, EUR billions



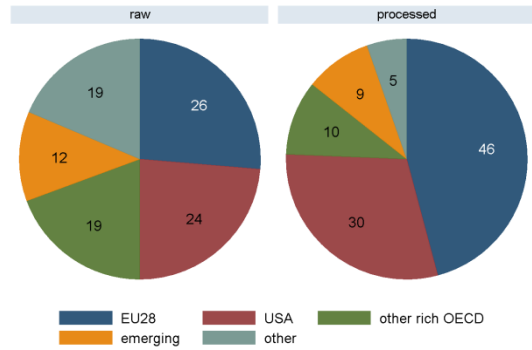
Share of agricultural goods in total trade, %



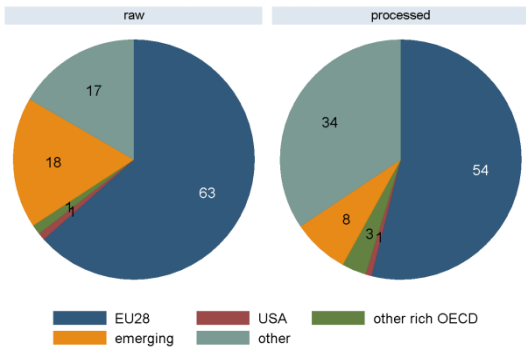
Export shares (%), 1992



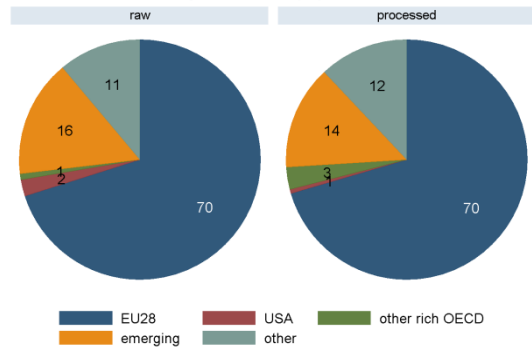
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Fish nes, fresh or chilled, whole	30269	1,35	97%	1,42
2	Tobacco, unmanufactured, stemmed or stripped	240110	0,01	98%	0,81
3	Animal products and domestic animal carcass (non-food)	51199	0,01	99%	2,10
4	Honey, natural	40900	0,00	99%	2,99
5	Vegetable products nes	140490	0,00	99%	3,19
6	Wheat except durum wheat, and meslin	100190	0,00	99%	n.a.
7	Pistachios, fresh or dried	80250	0,00	100%	0,65
8	Vegetables, fresh or chilled nes	70990	0,00	100%	n.a.
9	Nuts edible, fresh or dried, nes	80290	0,00	100%	0,49
10	Vegetable products nes for human consumption	121299	0,00	100%	1,47

Top export goods, processed agricultural goods

1	Cheese except fresh, grated, processed or blue-veined	40690	1,94	69%	1,42
2	Grape wines nes, fortified wine or must, pack < 2l	220421	0,16	74%	n.a.
3	Food preparations nes	210690	0,11	78%	n.a.
4	Fresh cheese, unfermented whey cheese, curd	40610	0,08	81%	1,99
5	Olive oil, virgin	150910	0,06	84%	1,31
6	Coffee, roasted, not decaffeinated	90121	0,06	86%	2,20
7	Alcoholic liqueurs nes	220890	0,06	88%	0,97
8	Beer made from malt	220300	0,05	89%	0,95
9	Whiskies	220830	0,05	91%	1,21
10	Veg nes, mixes, prepared/preserved, not frozen/vinega	200590	0,04	93%	1,43

Top import goods, raw agricultural goods

1	Almonds, fresh or dried, shelled	80212	2,35	42%	0,95
2	Pistachios, fresh or dried	80250	1,52	68%	1,13
3	Raw mink furskins, whole	430110	0,25	73%	1,00
4	Walnuts, fresh or dried, shelled	80232	0,24	77%	1,01
5	Beans dried, shelled, nes	71339	0,19	80%	0,94
6	Logs, poles, coniferous not treated or painted	440320	0,14	83%	1,38
7	Semen bovine	51110	0,13	85%	1,94
8	Vegetable products nes for human consumption	121299	0,09	87%	n.a.
9	Logs, non-coniferous nes	440399	0,08	88%	n.a.
10	Seed, vegetable, nes for sowing	120991	0,06	89%	1,26

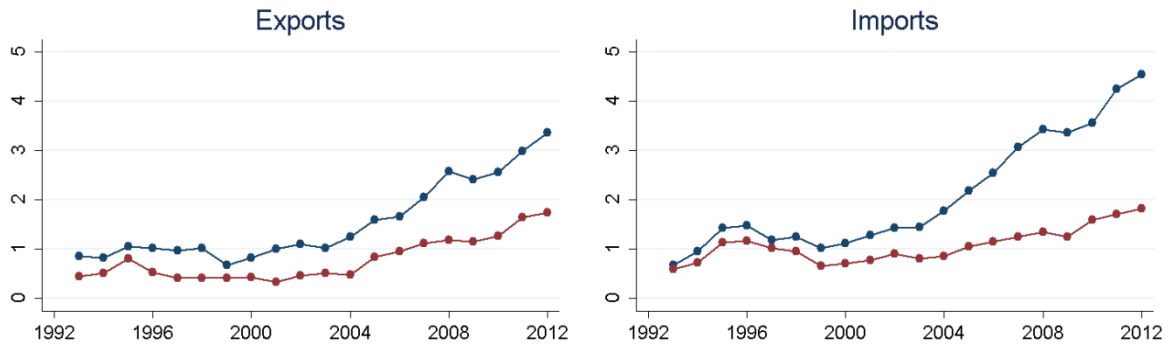
Top import goods, processed agricultural goods

1	Cigarettes containing tobacco	240220	1,62	23%	0,78
2	Whiskies	220830	1,50	44%	1,10
3	Food preparations nes	210690	0,72	54%	2,53
4	Soya-bean oil-cake and other solid residues	230400	0,39	59%	1,06
5	Soya bean flour or meal	120810	0,38	65%	0,92
6	Cigarette or pipe tobacco and tobacco substitute mixe	240310	0,23	68%	2,67
7	Sauces nes, mixed condiments, mixed season.	210390	0,20	71%	1,02
8	Mixes and doughs for bread, pastry, biscuits	190120	0,18	73%	0,66
9	Communion wafers, rice paper, bakers wares	190590	0,17	75%	2,26
10	Protein concentrates and textured protein substances	210610	0,14	77%	2,62

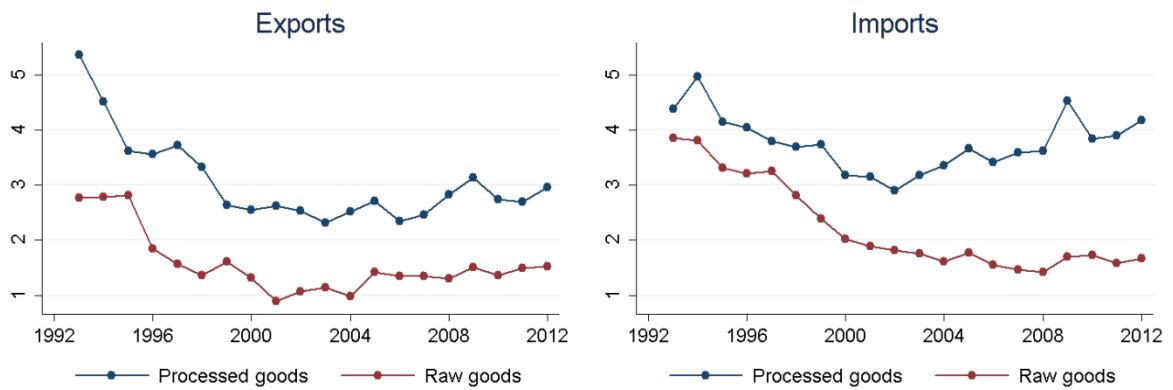
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CZECH REPUBLIC

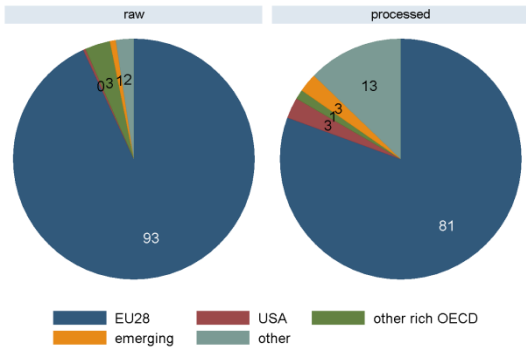
Agricultural trade, EUR billions



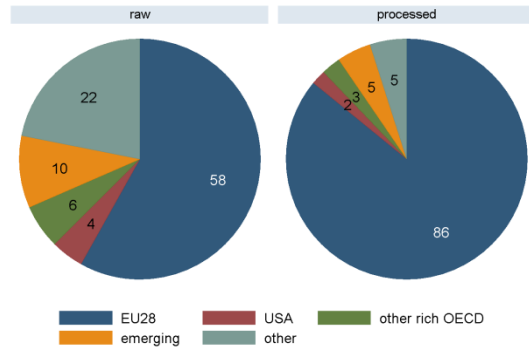
Share of agricultural goods in total trade, %



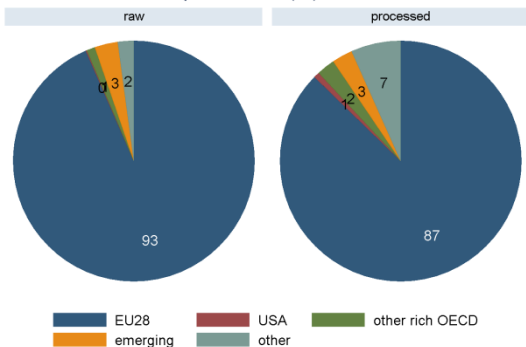
Export shares (%), 2002



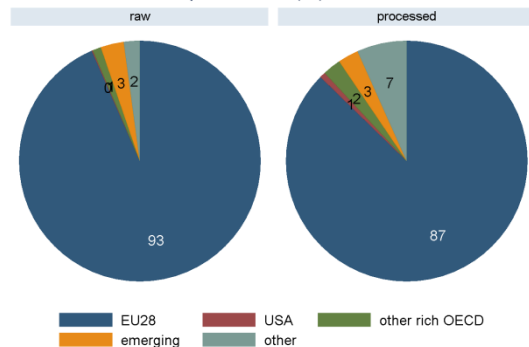
Import shares (%), 2002



Export shares (%), 2012



Export shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Plants & parts, pharmacy, perfume, insecticide use ne	121190	0,79	36%	n.a.
2	Hop cones, ground, powdered or pelleted and lupulin	121020	0,25	48%	1,34
3	Feathers and down used for stuffing	50510	0,25	59%	2,58
4	Ornamental fish, live	30110	0,18	67%	1,12
5	Raw hide/skins except bovine/equine/sheep/goat/reptil	410390	0,16	75%	n.a.
6	Raw furskins of other animals, whole	430180	0,14	81%	n.a.
7	Poppy seeds	120791	0,12	87%	0,88
8	Hop cones, not ground, powdered or pelleted	121010	0,12	93%	1,76
9	Seed, vegetable, nes for sowing	120991	0,03	94%	n.a.
10	Seed, fescue, for sowing	120923	0,03	95%	1,07

Top export goods, processed agricultural goods

1	Beer made from malt	220300	8,49	33%	1,41
2	Animal feed preparations nes	230990	4,60	50%	n.a.
3	Dextrins and other modified starches	350510	2,60	60%	1,24
4	Food preparations nes	210690	2,25	69%	1,16
5	Sugar confectionery not chewing gum, no cocoa content	170490	2,02	77%	0,87
6	Pectic substances, pectinates, pectates	130220	1,87	84%	1,39
7	Yeasts, inactive, dead unicellular organisms nes	210220	1,28	89%	1,49
8	Alcoholic liqueurs nes	220890	0,62	91%	2,76
9	Cereal foods obtained by swelling, roasting of cereal	190410	0,33	93%	1,34
10	Communion wafers, rice paper, bakers wares nes	190590	0,23	93%	2,79

Top import goods, raw agricultural goods

1	Almonds, fresh or dried, shelled	80212	11,39	45%	0,96
2	Tobacco, unmanufactured, stemmed or stripped	240120	3,88	60%	0,97
3	Grapes, dried	80620	1,89	68%	1,10
4	Pistachios, fresh or dried	80250	0,89	71%	1,28
5	Tobacco refuse	240130	0,85	75%	1,09
6	Semen bovine	51110	0,71	78%	n.a.
7	Foliage, branches, for bouquets, etc. - fresh	60491	0,45	79%	n.a.
8	Prunes, dried	81320	0,44	81%	1,54
9	Raw furskins of other animals, whole	430180	0,41	83%	n.a.
10	Raw hide/skins except bovine/equine/sheep/goat/reptil	410390	0,40	84%	n.a.

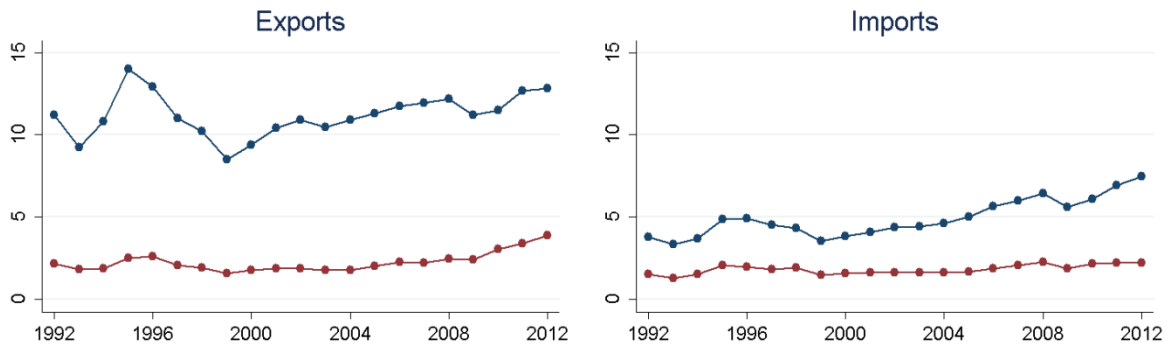
Top import goods, processed agricultural goods

1	Food preparations nes	210690	12,28	31%	n.a.
2	Fish fillets, frozen	30420	4,52	42%	0,92
3	Whiskies	220830	4,11	52%	0,85
4	Fruit, edible plants nes otherwise prepared/preserved	200899	1,81	57%	2,21
5	Dog or cat food (retail)	230910	1,72	61%	0,93
6	Nuts, seeds & mixes, otherwise prepared or preserved	200819	1,72	65%	1,72
7	Animal feed preparations nes	230990	1,26	69%	3,00
8	Grape wines nes, fortified wine or must, pack < 2l	220421	1,13	71%	1,32
9	Vegetable saps and extracts nes	130219	1,05	74%	1,62
10	Rum and tafia	220840	0,81	76%	1,31

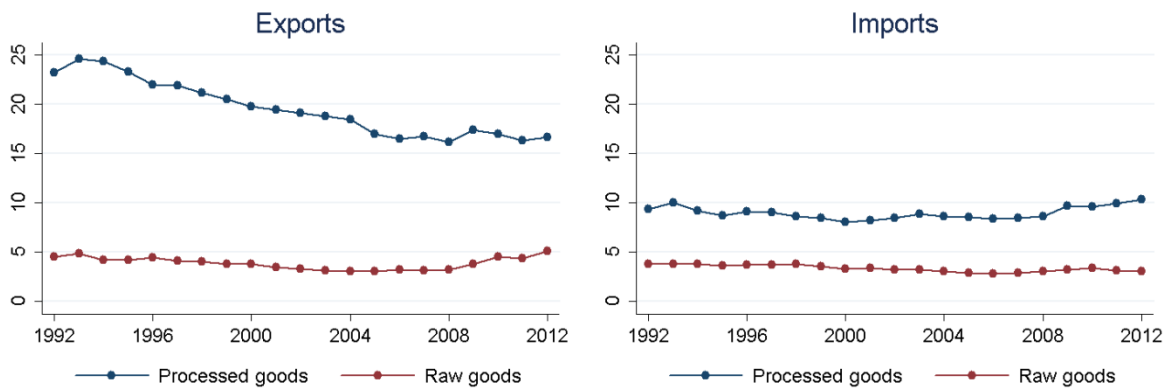
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DENMARK

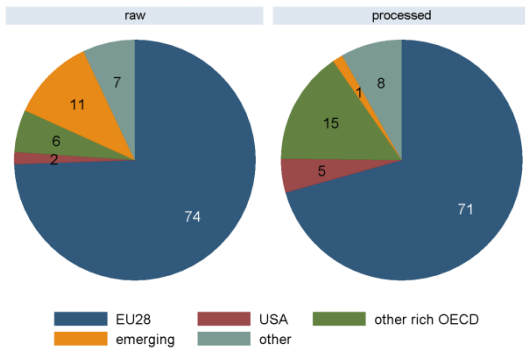
Agricultural trade, EUR billions



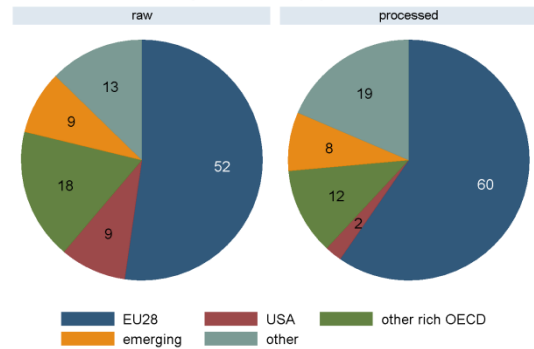
Share of agricultural goods in total trade, %



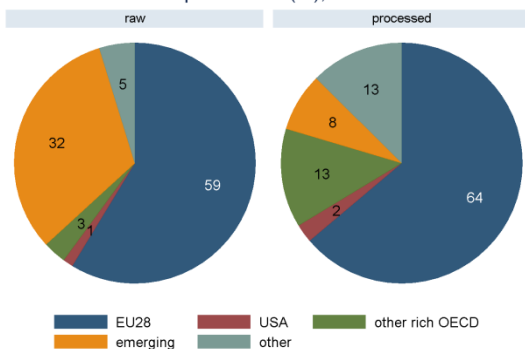
Export shares (%), 1992



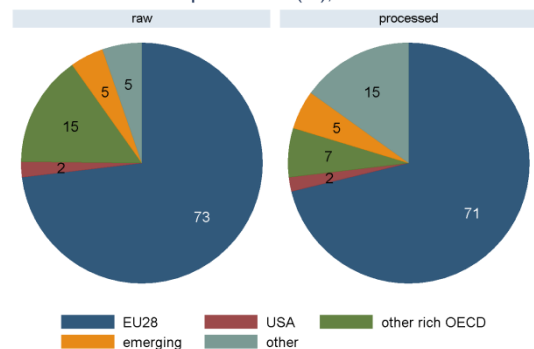
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Salmon fresh or chilled, whole	30212	52,45	75%	1,31
2	Seed, vegetable, nes for sowing	120991	5,74	83%	1,28
3	Guts, bladders and stomachs of animals except fish	50400	2,77	87%	2,34
4	Rye	100200	1,64	89%	0,91
5	Seed, flower, for sowing	120930	1,21	91%	n.a.
6	Seed, forage plants, for sowing nes	120929	0,81	92%	0,75
7	Seed, fruits and spores for sowing, nes	120999	0,66	93%	n.a.
8	Barley	100300	0,51	94%	0,50
9	Seaweeds and other algae,	121220	0,49	95%	0,89
10	Raw mink furskins, whole	430110	0,41	95%	1,11

Top export goods, processed agricultural goods

1	Swine cuts, frozen nes	20329	101,86	34%	1,13
2	Fish fillet or meat, fresh or chilled, not liver, roe	30410	27,84	44%	1,05
3	Cheese except fresh, grated, processed or blue-veined	40690	25,86	52%	1,47
4	Food preparations nes	210690	17,75	58%	n.a.
5	Pectic substances, pectinates, pectates	130220	12,25	62%	1,09
6	Cheese, blue-veined	40640	11,06	66%	0,89
7	Swine meat or offal nes, prepared,preserved, not live	160249	9,38	69%	1,19
8	Malt extract & limited cocoa pastrycooks products nes	190190	5,73	71%	1,13
9	Swine cuts, fresh or chilled, nes	20319	5,42	73%	1,67
10	Non-alcoholic beverages nes, except fruit, veg juices	220290	5,15	75%	1,68

Top import goods, raw agricultural goods

1	Almonds, fresh or dried, shelled	80212	13,34	30%	0,87
2	Grapes, dried	80620	8,73	49%	1,03
3	Ground-nuts shelled, not roasted or cooked	120220	4,02	58%	1,06
4	Tobacco, unmanufactured, stemmed or stripped	240120	3,05	64%	1,24
5	Animal products and domestic animal carcass (non-food)	51199	2,09	69%	n.a.
6	Prunes, dried	81320	1,12	72%	1,07
7	Sunflower seeds	120600	1,07	74%	1,69
8	Fuel wood	440110	0,94	76%	0,87
9	Guts, bladders and stomachs of animals except fish	50400	0,93	78%	1,47
10	Seed, vegetable, nes for sowing	120991	0,88	80%	0,43

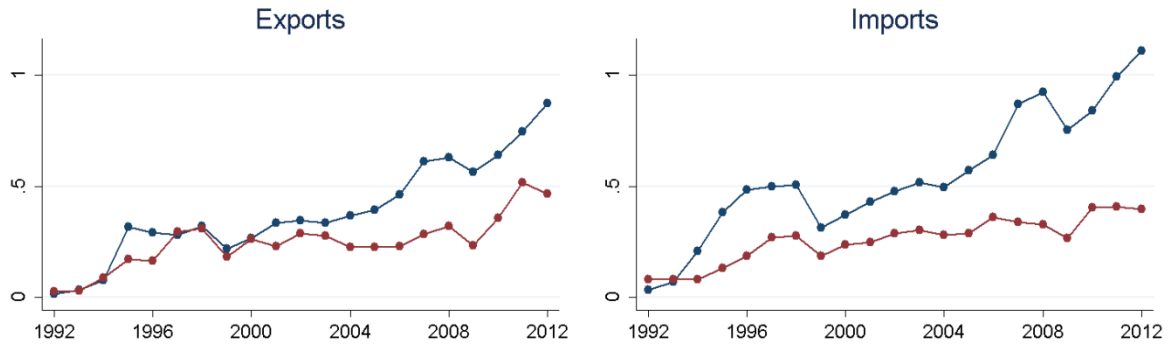
Top import goods, processed agricultural goods

1	Soya-bean oil-cake and other solid residues	230400	22,06	18%	1,07
2	Fish oils except liver, not chemically modified	150420	16,86	31%	0,66
3	Cod, frozen, whole	30360	13,20	42%	1,15
4	Grape wines nes, fortified wine or must, pack < 2l	220421	12,38	52%	1,47
5	Shrimps and prawns, prepared or preserved	160520	10,25	60%	1,00
6	Fish fillets, frozen	30420	8,35	67%	0,74
7	Scallops other than live, fresh or chilled	30729	4,62	70%	1,20
8	Grape wines, alcoholic grape must nes	220429	4,50	74%	0,76
9	Whiskies	220830	2,48	76%	1,96
10	Eggs, bird, not in shell, dried	40891	2,43	78%	0,88

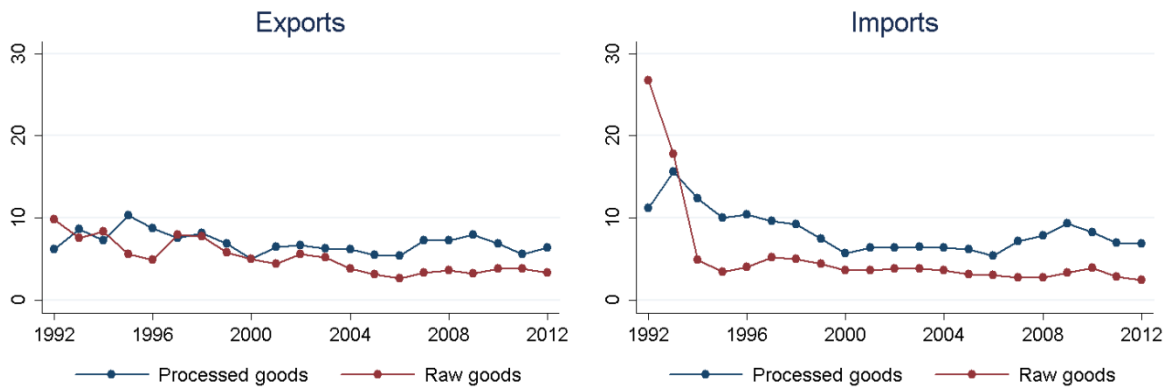
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ESTONIA

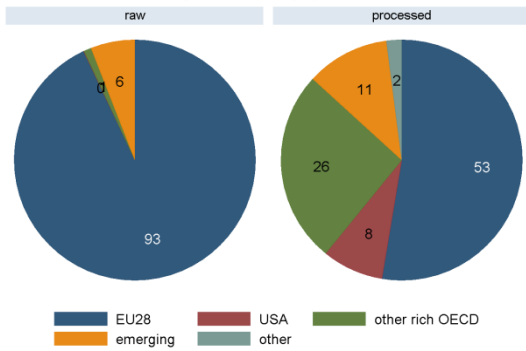
Agricultural trade, EUR billions



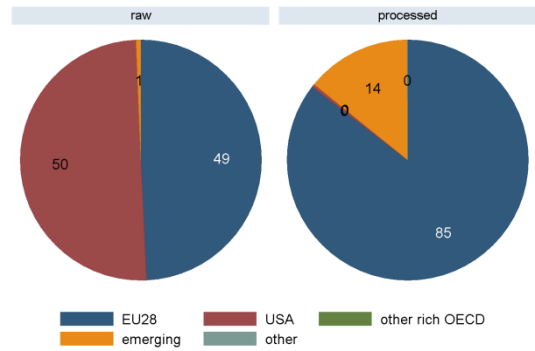
Share of agricultural goods in total trade, %



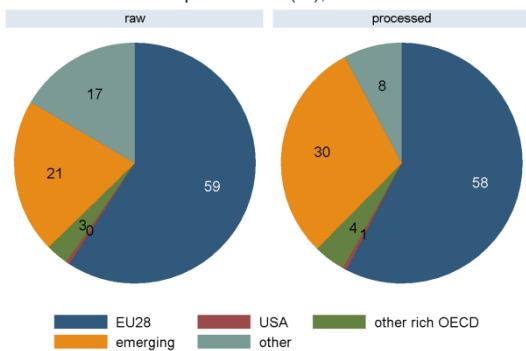
Export shares (%), 1992



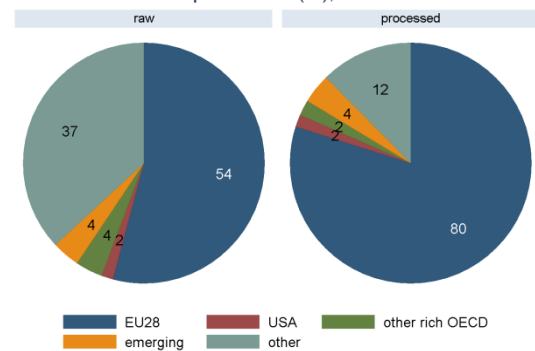
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Fuel wood	440110	1,77	96%	1,48
2	Coffee, not roasted, not decaffeinated	90111	0,03	97%	2,34
3	Seaweeds and other algae,	121220	0,02	99%	n.a.
4	Fruits, dried nes	81340	0,02	99%	2,34
5	Feathers and down used for stuffing	50510	0,01	100%	n.a.
6	Fish nes, fresh or chilled, whole	30269	0,00	100%	n.a.

Top export goods, processed agricultural goods

1	Yeasts, inactive, dead unicellular organisms nes	210220	2,32	45%	1,47
2	Cheese except fresh, grated, processed or blue-veined	40690	1,19	68%	1,34
3	Fish fillets, frozen	30420	0,72	82%	1,01
4	Cocoa butter, fat, oil	180400	0,38	89%	1,26
5	Alcoholic liqueurs nes	220890	0,36	97%	0,97
6	Food preparations nes	210690	0,06	98%	0,84
7	Beer made from malt	220300	0,04	98%	n.a.
8	Fish fillet or meat, fresh or chilled, not liver, roe	30410	0,03	99%	1,43
9	Shrimps and prawns, frozen	30613	0,02	99%	1,35
10	Yeasts, active	210210	0,01	100%	0,34

Top import goods, raw agricultural goods

1	Almonds, fresh or dried, shelled	80212	2,76	40%	0,96
2	Logs, non-coniferous nes	440399	0,92	54%	n.a.
3	Guts, bladders and stomachs of animals except fish	50400	0,75	64%	0,98
4	Raw furskins of other animals, whole	430180	0,49	72%	0,89
5	Nuts edible, fresh or dried, nes	80290	0,38	77%	0,93
6	Grapes, dried	80620	0,26	81%	1,16
7	Capsicum or Pimenta, dried, crushed or ground	90420	0,24	84%	1,02
8	Logs, Oak (Quercus spp)	440391	0,17	87%	0,81
9	Sunflower seeds	120600	0,11	88%	1,23
10	Logs, poles, coniferous not treated or painted	440320	0,10	90%	0,78

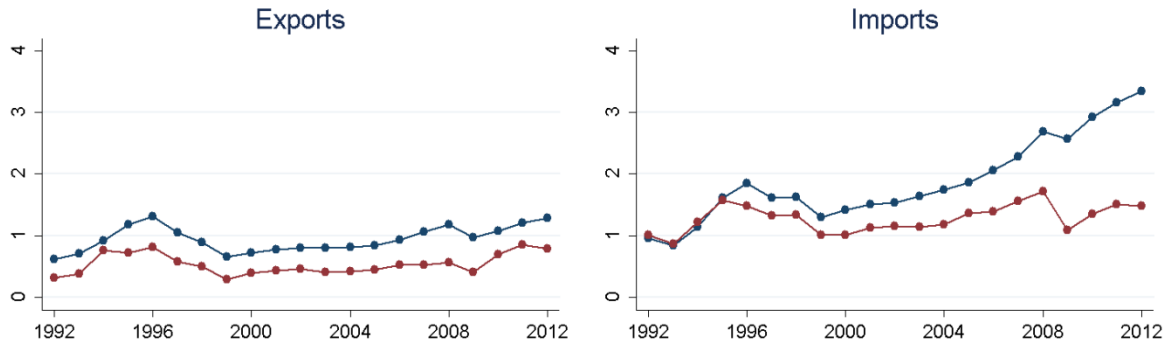
Top import goods, processed agricultural goods

1	Alcoholic liqueurs nes	220890	2,63	19%	0,50
2	Whiskies	220830	2,57	38%	1,37
3	Caviar and caviar substitutes prepared from fish eggs	160430	1,54	49%	1,23
4	Food preparations nes	210690	0,70	54%	n.a.
5	Fish meat & mince, except liver, roe & fillets, froze	30490	0,58	59%	1,03
6	Onions, dried, not further prepared	71220	0,57	63%	1,13
7	Sauces nes, mixed condiments, mixed seasoning	210390	0,51	67%	0,83
8	Grape wines nes, fortified wine or must, pack < 2l	220421	0,47	70%	1,34
9	Fish fillets, frozen	30420	0,47	73%	0,81
10	Rum and tafia	220840	0,43	77%	1,28

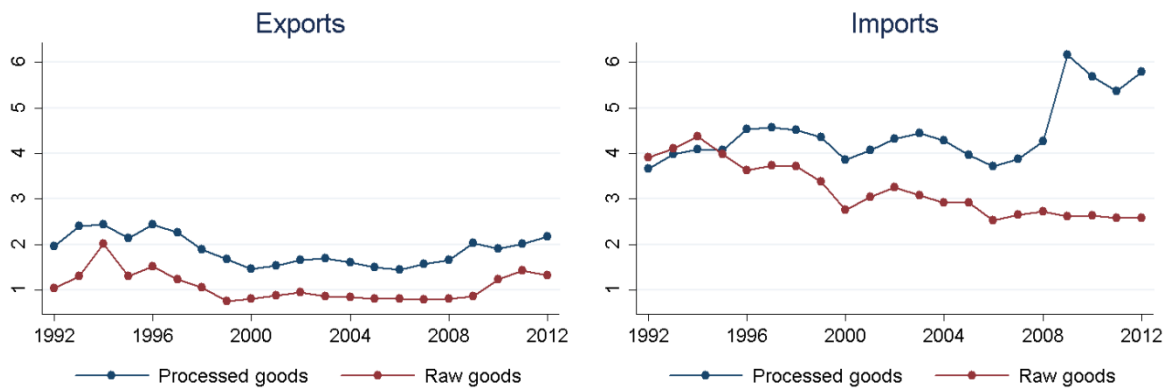
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FINLAND

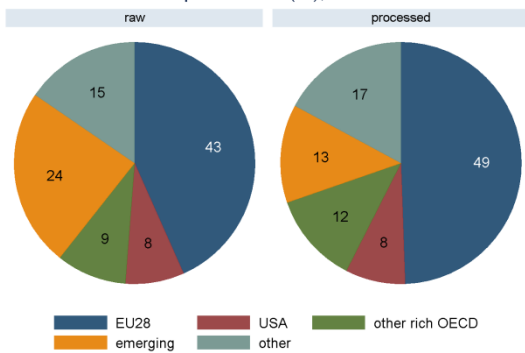
Agricultural trade, EUR billions



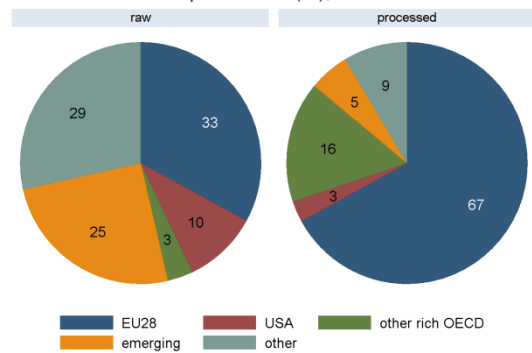
Share of agricultural goods in total trade, %



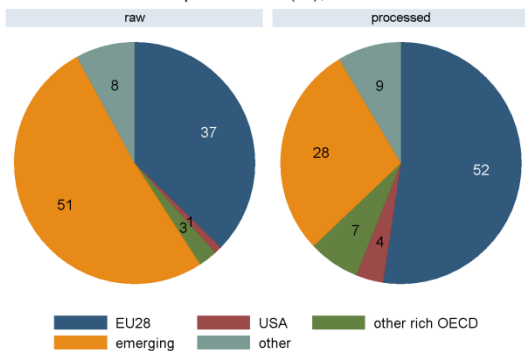
Export shares (%), 1992



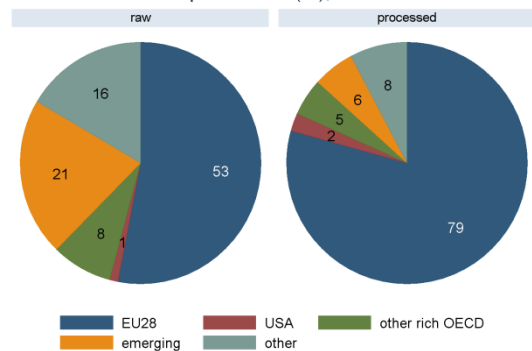
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Oats	100400	5,72	54%	0,76
2	Raw fox furskins, whole	430160	2,51	77%	1,06
3	Caraway seeds	90940	0,87	85%	1,10
4	Raw furskins of other animals, whole	430180	0,47	90%	1,53
5	Anise or badian seeds	90910	0,46	94%	0,85
6	Raw mink furskins, whole	430110	0,34	97%	1,06
7	Animal products and domestic animal carcass (non-food)	51199	0,10	98%	n.a.
8	Mosses and lichens for bouquets, ornamental purposes	60410	0,05	99%	0,76
9	Coriander seeds	90920	0,03	99%	1,05
10	Fruits, dried nes	81340	0,02	99%	2,32

Top export goods, processed agricultural goods

1	Cheese except fresh, grated, processed or blue-veined	40690	23,54	50%	0,92
2	Alcoholic liqueurs nes	220890	11,23	73%	1,23
3	Swine cuts, frozen nes	20329	2,72	79%	1,51
4	Animal feed preparations nes	230990	2,50	84%	n.a.
5	Sugar confectionery not chewing gum, no cocoa content	170490	2,37	89%	0,96
6	Rusks, toasted bread and similar toasted products	190540	1,00	91%	1,43
7	Crispbread	190510	0,71	93%	2,15
8	Veg fats, oils or fractions hydrogenated, esterified	151620	0,59	94%	n.a.
9	Fructose, chemically pure	170250	0,53	95%	2,51
10	Malt extract & limited cocoa pastrycooks products nes	190190	0,52	96%	1,13

Top import goods, raw agricultural goods

1	Grapes, dried	80620	3,70	26%	1,02
2	Prunes, dried	81320	2,16	41%	1,25
3	Almonds, fresh or dried, shelled	80212	1,90	54%	0,92
4	Sunflower seeds	120600	0,94	60%	1,41
5	Apples, fresh	80810	0,88	66%	1,57
6	Sweet potatoes, fresh or dried	71420	0,61	70%	0,93
7	Guts, bladders and stomachs of animals except fish	50400	0,57	74%	1,96
8	Walnuts, fresh or dried, shelled	80232	0,43	77%	0,95
9	Ground-nuts shelled, not roasted or cooked	120220	0,42	80%	0,85
10	Logs, Oak (Quercus spp)	440391	0,36	83%	0,95

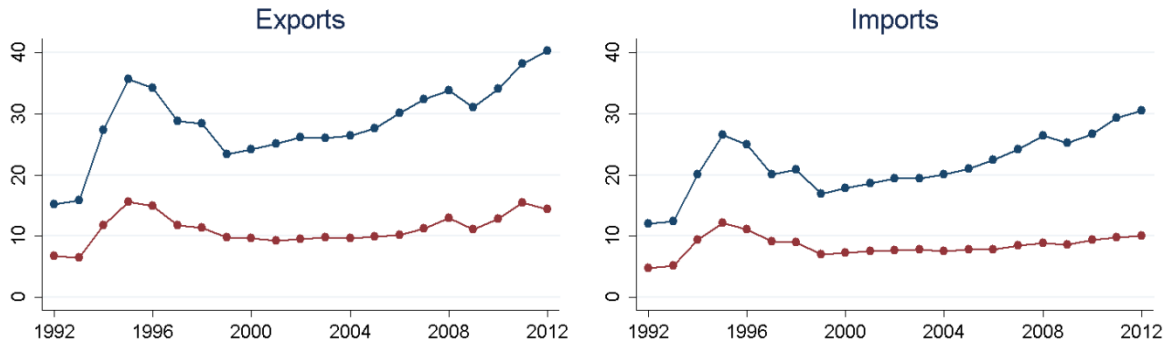
Top import goods, processed agricultural goods

1	Ethyl alcohol and other spirits, denatured	220720	34,34	48%	1,06
2	Undenatured ethyl alcohol > 80% by volume	220710	14,48	68%	0,74
3	Grape wines nes, fortified wine or must, pack < 2l	220421	2,58	72%	1,07
4	Whiskies	220830	2,36	75%	1,19
5	Sauces nes, mixed condiments, mixed seasoning	210390	1,42	77%	1,09
6	Food preparations nes	210690	1,23	79%	2,78
7	Fructose, chemically pure	170250	1,00	80%	0,34
8	Liquorice extract	130212	0,99	82%	1,09
9	Rum and tafia	220840	0,91	83%	1,20
10	Grape wines, alcoholic grape must nes	220429	0,88	84%	0,69

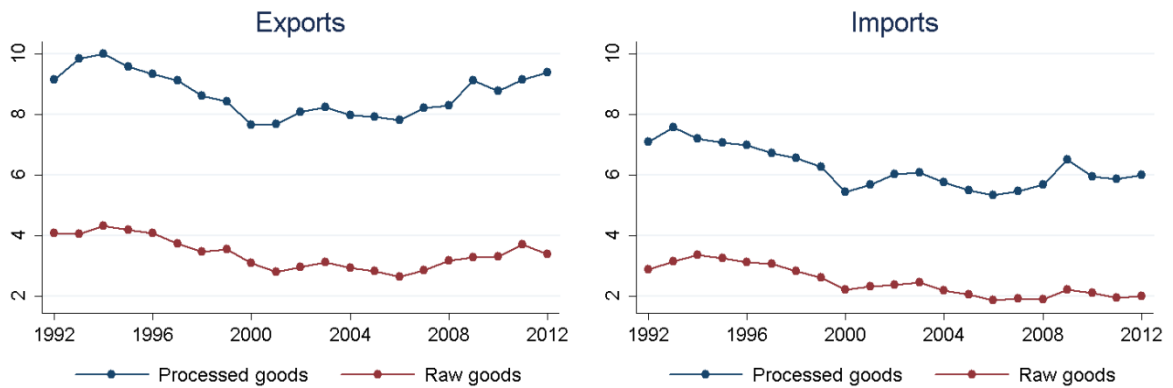
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FRANCE

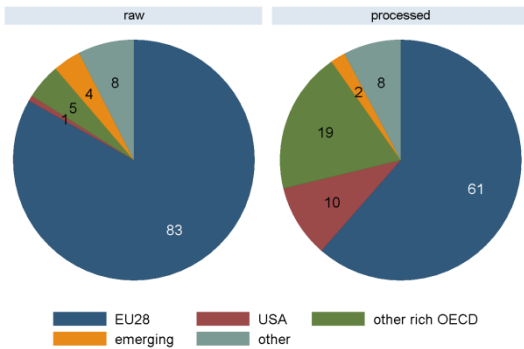
Agricultural trade, EUR billions



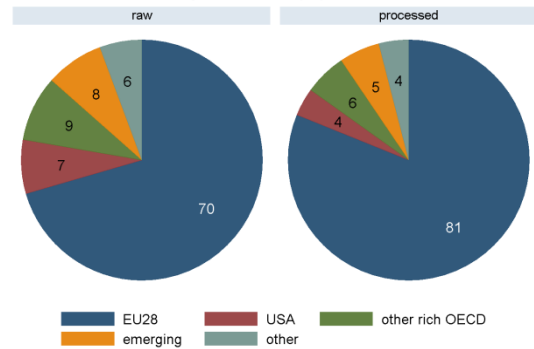
Share of agricultural goods in total trade, %



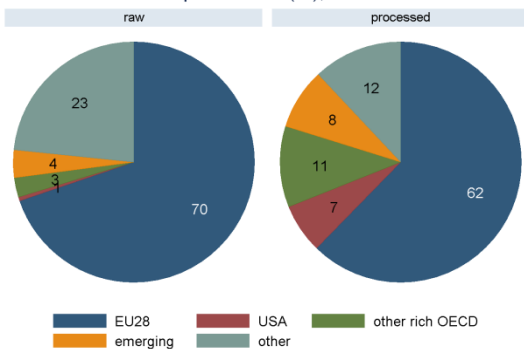
Export shares (%), 1992



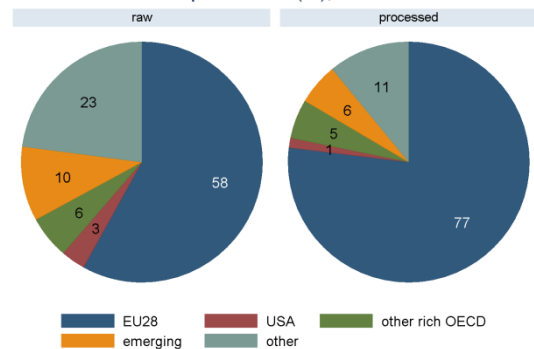
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Gum arabic	130120	13,51	21%	0,99
2	Seed, vegetable, nes for sowing	120991	11,96	39%	2,06
3	Maize (corn) seed	100510	3,17	43%	n.a.
4	Feathers and down used for stuffing	50510	3,16	48%	3,02
5	Tobacco, unmanufactured, stemmed or stripped	240120	3,03	53%	0,67
6	Plants & parts, pharmacy, perfume, insecticide use ne	121190	2,03	56%	1,66
7	Onions and shallots, fresh or chilled	70310	1,81	59%	1,88
8	Fruits, dried nes	81340	1,61	61%	3,02
9	Animal products and domestic animal carcass (non-food)	51199	1,46	63%	2,98
10	Pepper of the genus Piper, whole	90411	1,35	65%	0,53

Top export goods, processed agricultural goods

1	Grape wines nes, fortified wine or must, pack < 2l	220421	544,45	23%	1,60
2	Spirits obtained by distilling grape wine, grape marc	220820	540,99	45%	1,61
3	Grape wines, sparkling	220410	360,61	60%	1,46
4	Alcoholic liqueurs nes	220890	326,82	74%	1,31
5	Cheese except fresh, grated, processed or blue-veined	40690	119,70	79%	1,39
6	Mineral and aerated waters not sweetened or flavoured	220110	70,96	82%	1,76
7	Vegetable saps and extracts nes	130219	34,34	83%	2,39
8	Food preparations nes	210690	33,42	84%	1,59
9	Cocoa powder, unsweetened	180500	23,85	85%	1,10
10	Communion wafers, rice paper, bakers wares nes	190590	22,72	86%	2,22

Top import goods, raw agricultural goods

1	Almonds, fresh or dried, shelled	80212	56,04	16%	0,93
2	Soya beans	120100	47,73	30%	0,95
3	Pistachios, fresh or dried	80250	41,50	42%	0,89
4	Scallops, live, fresh or chilled	30721	23,58	48%	1,60
5	Lobsters (Homarus), not frozen	30622	20,31	54%	0,85
6	Reptile skins, raw	410320	19,21	60%	0,90
7	Grapefruit, fresh or dried	80540	15,01	64%	1,10
8	Sunflower seeds	120600	10,53	67%	n.a.
9	Seed, vegetable, nes for sowing	120991	9,72	70%	0,90
10	Nuts edible, fresh or dried, nes	80290	9,14	73%	0,97

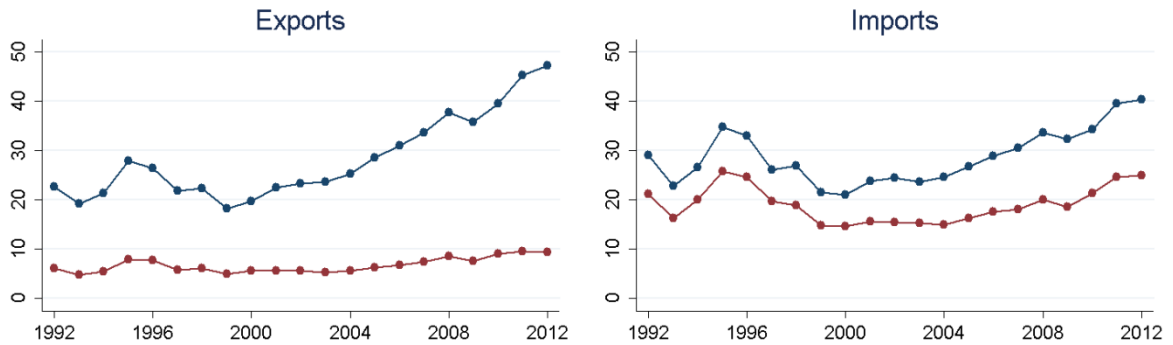
Top import goods, processed agricultural goods

1	Whiskies	220830	76,82	19%	n.a.
2	Fish fillets, frozen	30420	35,01	28%	0,84
3	Fish meat & mince, except liver, roe & fillets, froze	30490	34,16	36%	0,86
4	Scallops other than live, fresh or chilled	30729	30,02	44%	1,32
5	Grape wines nes, fortified wine or must, pack < 2l	220421	21,11	49%	2,24
6	Soya-bean oil-cake and other solid residues	230400	20,81	54%	0,88
7	Nuts, seeds & mixes, otherwise prepared or preserved	200819	17,04	58%	1,21
8	Food preparations nes	210690	14,03	62%	1,75
9	Rum and tafia	220840	7,84	64%	n.a.
10	Undenatured ethyl alcohol > 80% by volume	220710	7,38	66%	0,89

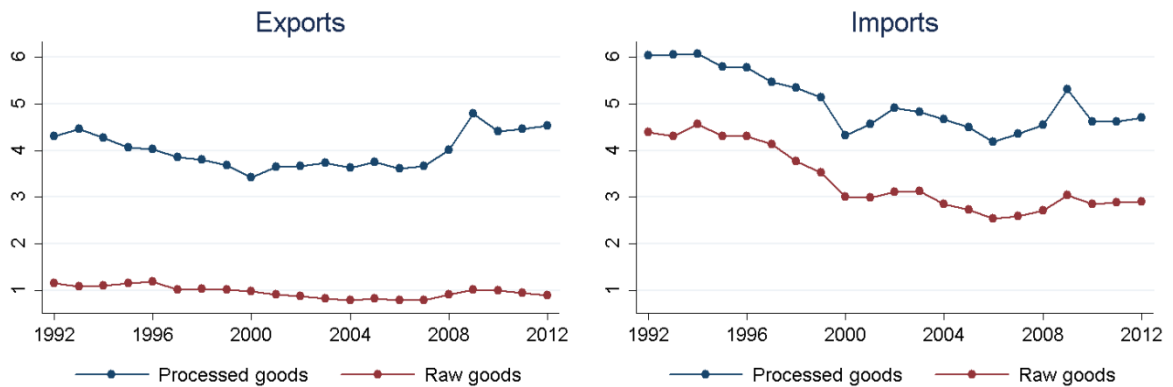
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GERMANY

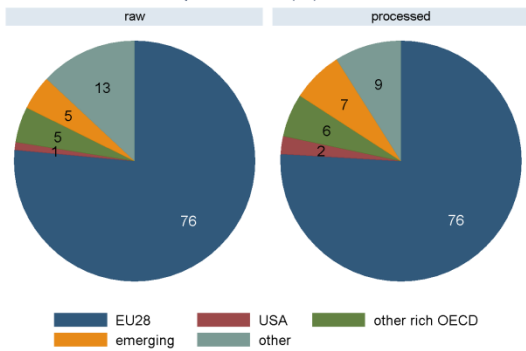
Agricultural trade, EUR billions



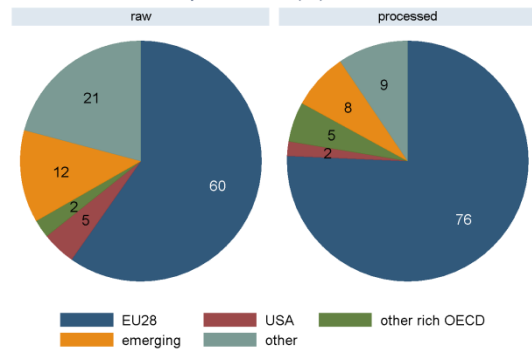
Share of agricultural goods in total trade, %



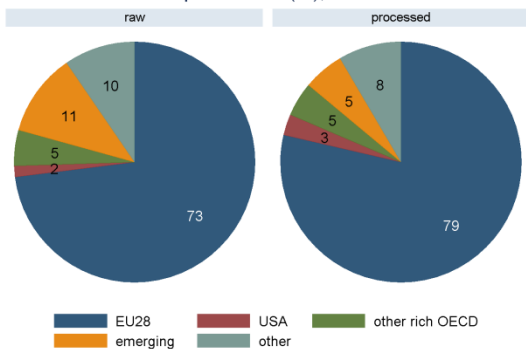
Export shares (%), 2012



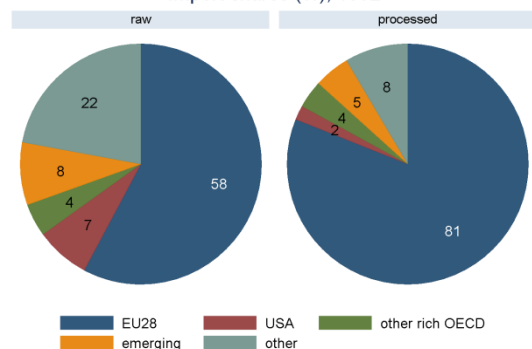
Import shares (%), 2012



Export shares (%), 1992



Import shares (%), 1992



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Tea, black (fermented or partly) in packages > 3 kg	90240	19,95	21%	1,08
2	Hop cones, ground, powdered or pelleted and lupulin	121020	12,62	34%	1,12
3	Plants & parts, pharmacy, perfume, insecticide use ne	121190	9,20	44%	1,00
4	Coffee, not roasted, not decaffeinated	90111	8,90	53%	1,28
5	Pepper of the genus Piper, crushed or ground	90412	5,81	59%	0,81
6	Seed, flower, for sowing	120930	4,70	64%	2,54
7	Fruits, dried nes	81340	4,40	68%	0,42
8	Tea, green (unfermented) in packages > 3 kg	90220	3,14	72%	0,85
9	Rye	100200	2,78	75%	1,04
10	Capsicum or Pimenta, dried, crushed or ground	90420	1,90	77%	0,77

Top export goods, processed agricultural goods

1	Alcoholic liqueurs nes	220890	142,17	14%	1,77
2	Beer made from malt	220300	135,42	27%	1,37
3	Grape wines nes, fortified wine or must, pack < 2l	220421	104,60	37%	1,50
4	Coffee, not roasted, decaffeinated	90112	98,40	46%	1,07
5	Food preparations nes	210690	59,32	52%	2,28
6	Sugar confectionery not chewing gum, no cocoa content	170490	44,36	56%	1,09
7	Chocolate/cocoa food preparations nes	180690	35,80	60%	1,41
8	Chocolate, cocoa prep, block/slab/bar, not filled,>2kg	180632	26,93	62%	1,26
9	Communion wafers, rice paper, bakers wares nes	190590	25,54	65%	1,17
10	Animal feed preparations nes	230990	24,52	67%	n.a.

Top import goods, raw agricultural goods

1	Soya beans	120100	257,17	27%	1,10
2	Almonds, fresh or dried, shelled	80212	192,81	48%	0,96
3	Tobacco, unmanufactured, stemmed or stripped	240120	104,04	59%	1,30
4	Pistachios, fresh or dried	80250	88,07	68%	0,97
5	Walnuts, fresh or dried, shelled	80232	62,22	74%	1,00
6	Grapes, dried	80620	21,44	77%	1,02
7	Prunes, dried	81320	19,51	79%	1,10
8	Logs, non-coniferous nes	440399	14,61	80%	n.a.
9	Walnuts in shell, fresh or dried	80231	13,49	82%	0,87
10	Cotton, not carded or combed	520100	13,06	83%	1,33

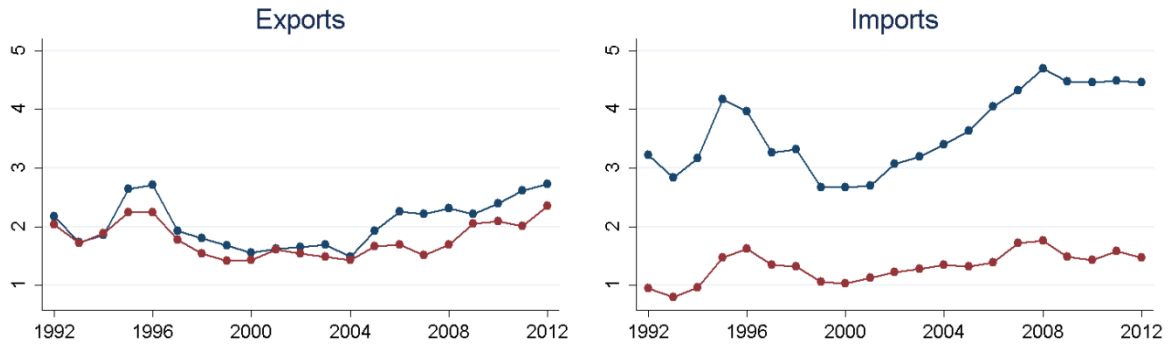
Top import goods, processed agricultural goods

1	Fish fillets, frozen	30420	140,28	19%	0,79
2	Whiskies	220830	93,02	32%	0,90
3	Grape wines nes, fortified wine or must, pack < 2l	220421	51,87	40%	1,14
4	Bovine cuts boneless, fresh or chilled	20130	41,86	45%	1,34
5	Dextrins and other modified starches	350510	31,63	50%	1,25
6	Food preparations nes	210690	29,99	54%	1,29
7	Grape wines, alcoholic grape must nes	220429	24,79	57%	1,49
8	Nuts, seeds & mixes, otherwise prepared or preserved	200819	19,71	60%	1,10
9	Soya-bean oil-cake and other solid residues	230400	18,06	63%	0,99
10	Animal feed preparations nes	230990	16,38	65%	0,55

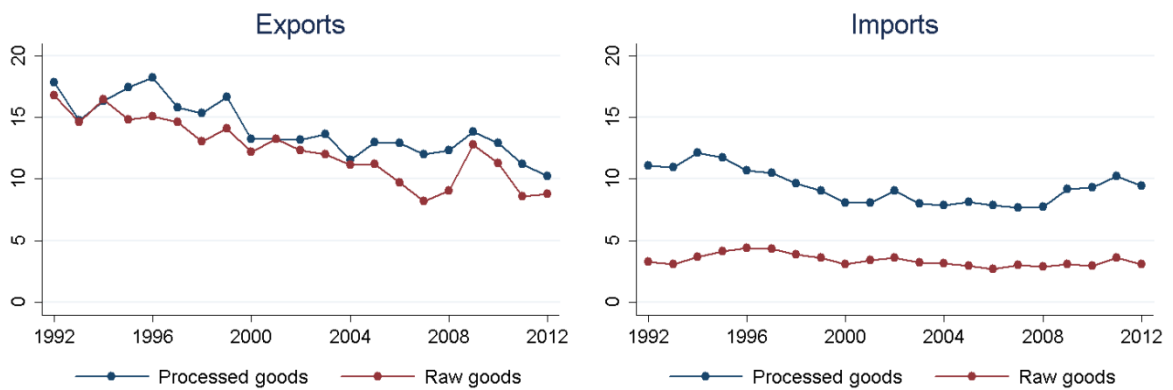
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GREECE

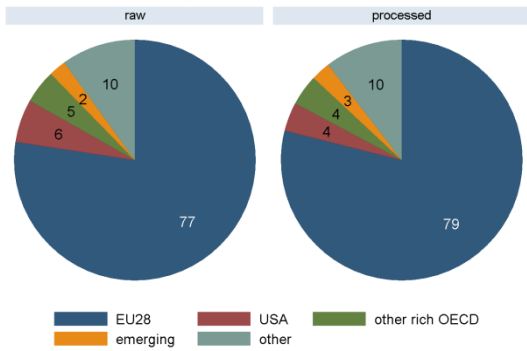
Agricultural trade, EUR billions



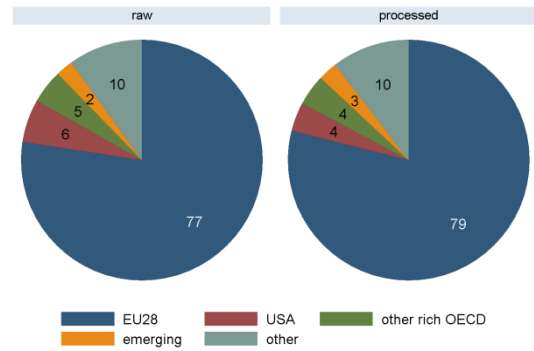
Share of agricultural goods in total trade, %



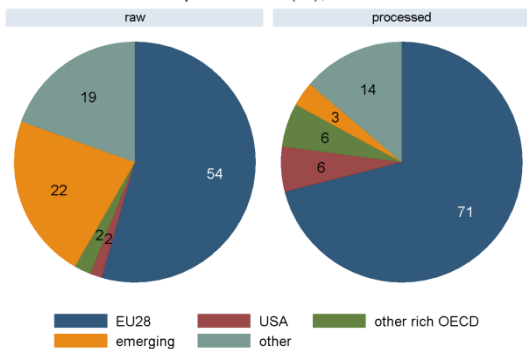
Export shares (%), 1992



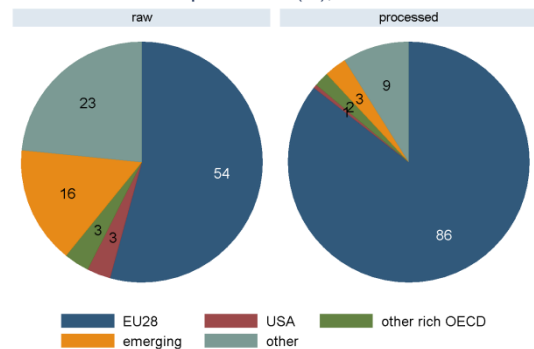
Export shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Fish nes, fresh or chilled, whole	30269	20,73	64%	1,54
2	Tobacco, unmanufactured, not stemmed or stripped	240110	3,37	74%	0,87
3	Raw mink furskins, whole	430110	1,93	80%	1,10
4	Figs, fresh or dried	80420	1,66	86%	0,87
5	Tobacco, unmanufactured, stemmed or stripped	240120	1,05	89%	0,65
6	Tuna nes, fresh or chilled, whole	30239	0,60	91%	1,58
7	Sesamum seeds	120740	0,52	92%	0,90
8	Grapes, dried	80620	0,45	94%	0,77
9	Honey, natural	40900	0,43	95%	1,57
10	Natural gum, resin, gum-resin, balsam, not gum arabic	130190	0,33	96%	2,96

Top export goods, processed agricultural goods

1	Olives, prepared or preserved, not frozen/vinegar	200570	70,29	46%	1,41
2	Cheese except fresh, grated, processed or blue-veined	40690	16,38	56%	1,12
3	Olive oil, virgin	150910	13,18	65%	1,33
4	Peaches, otherwise prepared or preserved	200870	12,80	73%	1,42
5	Grape wines nes, fortified wine or must, pack < 2l	220421	7,67	78%	1,77
6	Veg, fruit, nuts nes prepared or preserved by vinegar	200190	7,66	83%	0,58
7	Veg nes, mixes, prepared/preserved, not frozen/vinega	200590	6,09	87%	0,52
8	Spirits obtained by distilling grape wine, grape marc	220820	1,32	88%	3,12
9	Uncooked pasta, not stuffed or prepared, without eggs	190219	1,27	89%	1,31
10	Fruits and nuts (uncooked, steamed, boiled) frozen,ne	81190	1,22	89%	0,98

Top import goods, raw agricultural goods

1	Raw mink furskins, whole	430110	13,26	22%	1,28
2	Almonds, fresh or dried, shelled	80212	12,92	44%	0,91
3	Soya beans	120100	9,99	61%	1,02
4	Tobacco, unmanufactured, stemmed or stripped	240120	7,02	73%	1,53
5	Pistachios, fresh or dried	80250	4,62	81%	0,99
6	Lentils dried, shelled	71340	1,74	84%	1,00
7	Sunflower seeds	120600	1,67	86%	1,80
8	Walnuts, fresh or dried, shelled	80232	1,03	88%	1,02
9	Prunes, dried	81320	0,78	89%	1,15
10	Maize except seed corn	100590	0,74	91%	2,54

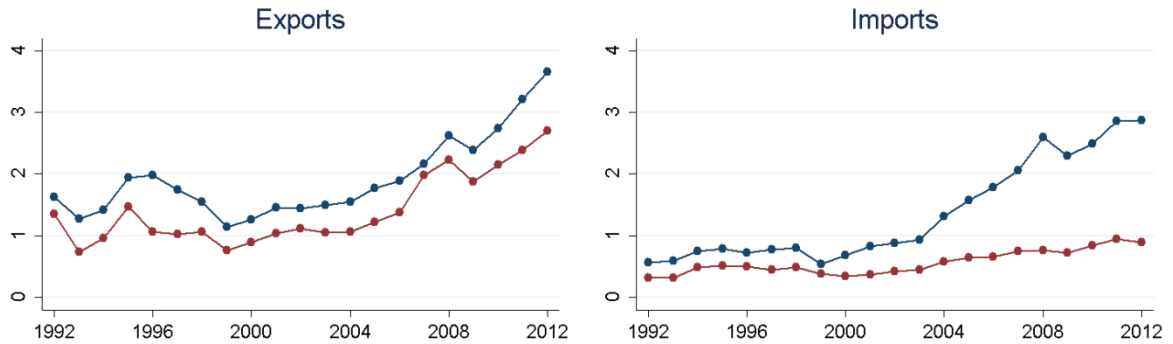
Top import goods, processed agricultural goods

1	Whiskies	220830	4,88	17%	1,87
2	Fish, shellfish and crustaceans (non-food)	51191	4,08	30%	n.a.
3	Protein concentrates and textured protein substances	210610	3,34	42%	1,10
4	Soya-bean oil-cake and other solid residues	230400	2,43	50%	1,05
5	Cuttle fish, squid, frozen, dried, salted or in brine	30749	1,70	56%	0,43
6	Food preparations nes	210690	1,17	60%	0,98
7	Fish fillets, frozen	30420	0,81	63%	3,09
8	Grape wines nes, fortified wine or must, pack < 2l	220421	0,66	65%	2,44
9	Rusks, toasted bread and similar toasted products	190540	0,57	67%	n.a.
10	Hake, frozen, whole	30378	0,56	69%	1,15

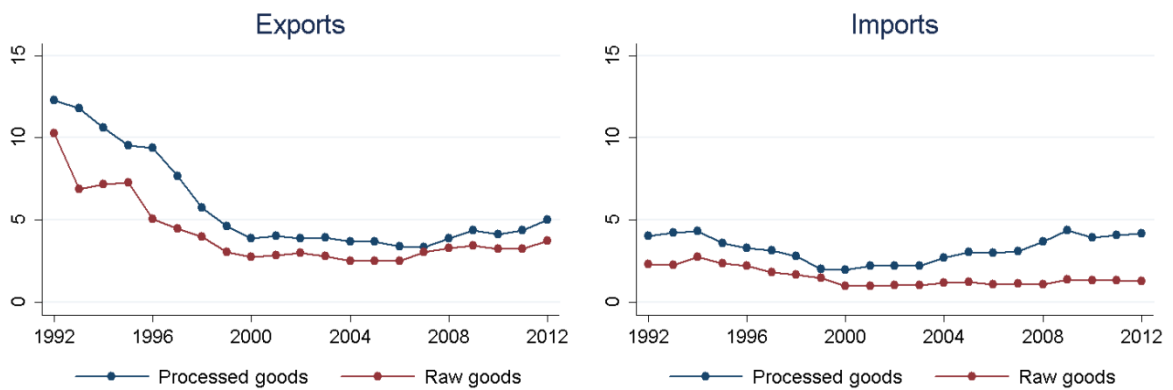
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HUNGARY

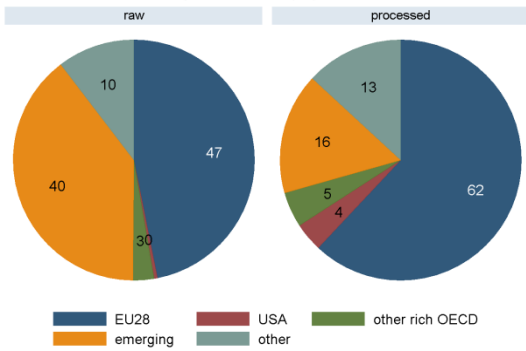
Agricultural trade, EUR billions



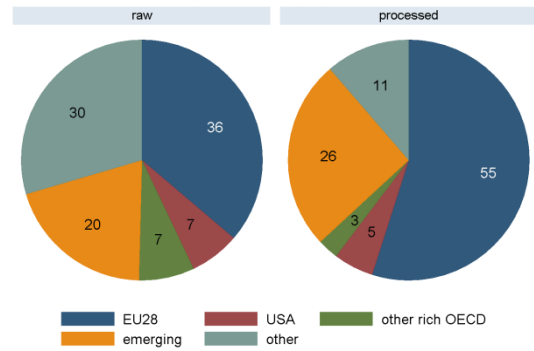
Share of agricultural goods in total trade, %



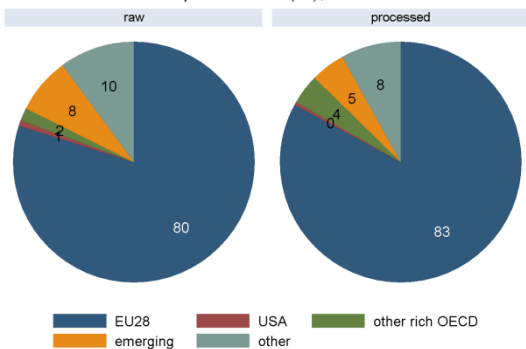
Export shares (%), 1992



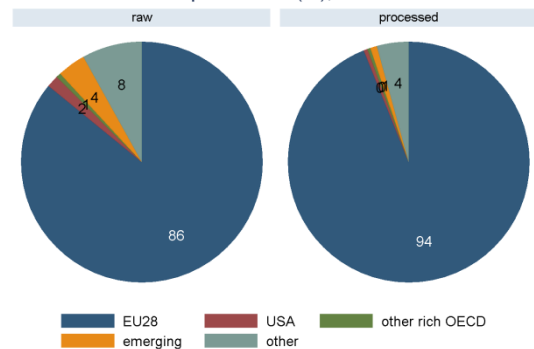
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Feathers and down used for stuffing	50510	14,62	84%	n.a.
2	Truffles, fresh or chilled	70952	0,49	87%	n.a.
3	Seed, vegetable, nes for sowing	120991	0,48	89%	0,89
4	Peas dried, shelled	71310	0,34	91%	2,40
5	Capsicum or Pimenta, dried, crushed or ground	90420	0,30	93%	1,19
6	Plants & parts, pharmacy, perfume, insecticide use ne	121190	0,18	94%	1,18
7	Spices nes	91099	0,14	95%	1,30
8	Beetroot, salsify, celeriac, radishes etc. fresh, chille	70690	0,14	96%	0,81
9	Honey, natural	40900	0,12	96%	1,65
10	Birds eggs, in shell, fresh, preserved or cooked	40700	0,10	97%	3,26

Top export goods, processed agricultural goods

1	Grape wines nes, fortified wine or must, pack < 2l	220421	2,48	22%	n.a.
2	Chocolate/cocoa food preparations nes	180690	1,55	35%	1,34
3	Vegetables nes & mixtures, dried, not further prepare	71290	1,14	45%	0,74
4	Food preparations nes	210690	1,12	55%	1,60
5	Swine meat or offal nes, prepared, preserved, not live	160249	0,67	61%	1,53
6	Sugar confectionery not chewing gum, no cocoa content	170490	0,50	65%	0,98
7	Glucose, glucose syrup < 20% fructose	170230	0,36	68%	1,82
8	Sausages, similar products of meat, meat offal & bloo	160100	0,35	71%	1,45
9	Single fruit, veg juice nes, not fermented or spirite	200980	0,34	74%	0,92
10	Bellies (streaky) of swine, salted, dried or smoked	21012	0,30	77%	0,99

Top import goods, raw agricultural goods

1	Kidney beans and white pea beans dried shelled	71333	3,86	25%	1,68
2	Sunflower seeds	120600	3,12	45%	n.a.
3	Peas dried, shelled	71310	1,68	56%	1,53
4	Semen bovine	51110	1,18	64%	n.a.
5	Almonds, fresh or dried, shelled	80212	0,91	70%	0,88
6	Birds eggs, in shell, fresh, preserved or cooked	40700	0,90	76%	n.a.
7	Prunes, dried	81320	0,85	81%	0,91
8	Fowls, live domestic < 185 grams	10511	0,55	85%	n.a.
9	Tobacco, unmanufactured, stemmed or stripped	240120	0,54	88%	0,96
10	Grain sorghum	100700	0,39	91%	2,01

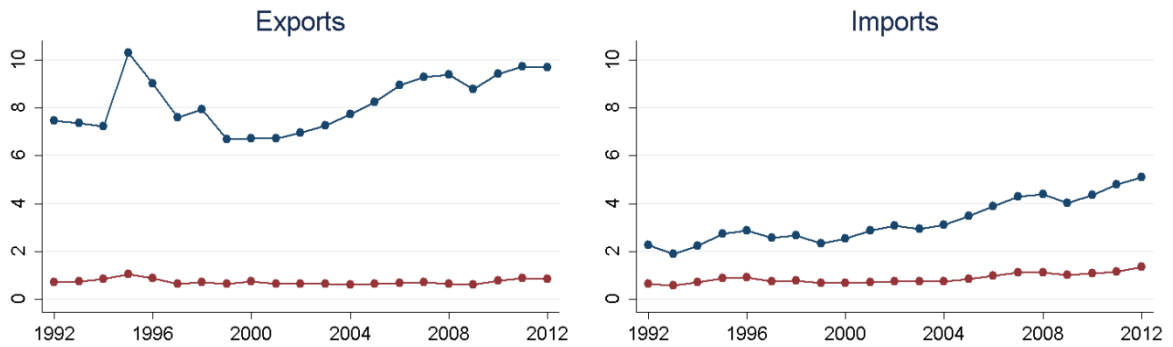
Top import goods, processed agricultural goods

1	Food preparations nes	210690	7,51	54%	n.a.
2	Whiskies	220830	1,18	63%	1,08
3	Homogenized or reconstituted tobacco	240391	1,00	70%	2,24
4	Vegetables nes & mixtures, dried, not further prepare	71290	0,86	76%	3,09
5	Non-alcoholic beverages nes, except fruit, veg juices	220290	0,80	82%	n.a.
6	Protein concentrates and textured protein substances	210610	0,55	86%	0,78
7	Animal feed preparations nes	230990	0,38	89%	n.a.
8	Liquorice extract	130212	0,26	90%	1,04
9	Dog or cat food (retail)	230910	0,16	92%	1,03
10	Tea and mate extracts, essences and concentrates	210120	0,10	92%	n.a.

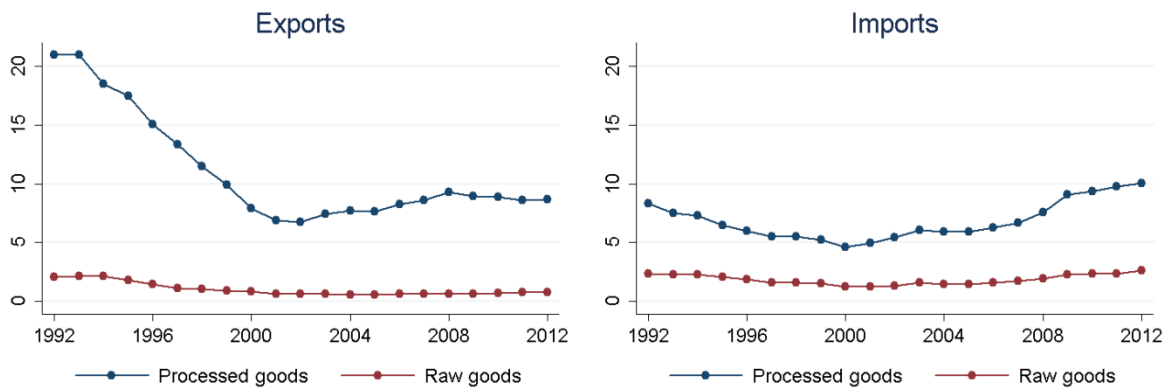
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IRELAND

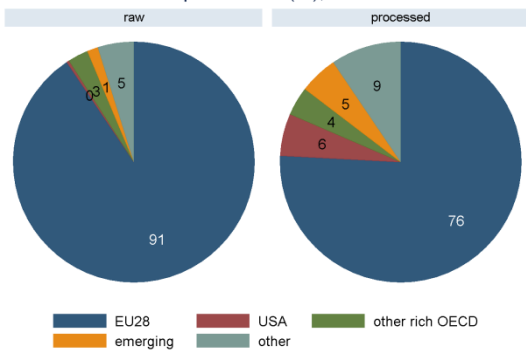
Agricultural trade, EUR billions



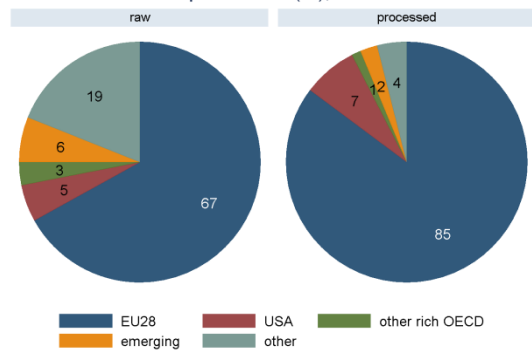
Share of agricultural goods in total trade, %



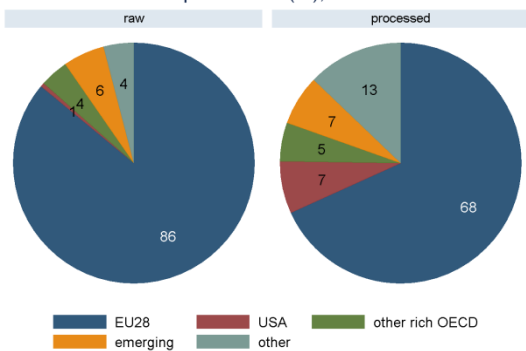
Export shares (%), 1992



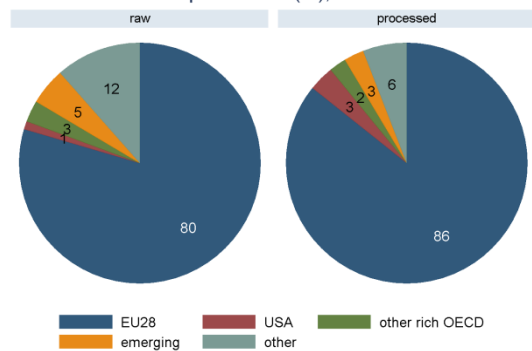
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Salmon fresh or chilled, whole	30212	3,01	62%	1,33
2	Seaweeds and other algae,	121220	0,68	76%	n.a.
3	Cut flowers and flower buds for bouquets, etc., fresh	60310	0,41	85%	1,23
4	Tea, green (unfermented) in packages > 3 kg	90220	0,11	87%	1,06
5	Mixtures of spices	91091	0,09	89%	1,41
6	Animal products and domestic animal carcass (non-food)	51199	0,09	91%	n.a.
7	Cut flowers and flower buds for bouquets, dried, etc.	60390	0,07	92%	0,86
8	Greasy shorn wool, not carded or combed	510111	0,07	94%	n.a.
9	Aquatic invertebrates nes, fresh or chilled, live	30791	0,05	95%	0,75
10	Trout, fresh or chilled, whole	30211	0,04	95%	1,35

Top export goods, processed agricultural goods

1	Alcoholic liqueurs nes	220890	159,48	27%	1,82
2	Beer made from malt	220300	117,99	47%	1,39
3	Whiskies	220830	107,38	66%	1,12
4	Casein	350110	55,10	75%	1,12
5	Animal feed preparations nes	230990	46,69	83%	0,72
6	Cheese except fresh, grated, processed or blue-veined	40690	27,95	88%	1,27
7	Chocolate and other food preps containing cocoa >2 k	180620	15,56	91%	1,28
8	Fermented beverages nes (eg cider, perry, mead, etc)	220600	11,73	93%	1,09
9	Swine cuts, frozen nes	20329	10,16	94%	1,46
10	Grape wines nes, fortified wine or must, pack < 2l	220421	3,92	95%	1,24

Top import goods, raw agricultural goods

1	Maize except seed corn	100590	4,70	23%	1,03
2	Soya beans	120100	3,25	39%	1,00
3	Plants & parts, pharmacy, perfume, insecticide use ne	121190	1,78	47%	0,87
4	Grapes, dried	80620	1,52	55%	1,09
5	Raspberry, blackberry, mulberry and loganberry, fresh	81020	1,04	60%	1,08
6	Onions and shallots, fresh or chilled	70310	1,02	65%	1,38
7	Grapes, fresh	80610	1,00	69%	1,29
8	Almonds, fresh or dried, shelled	80212	0,77	73%	1,00
9	Logs, Oak (Quercus spp)	440391	0,51	76%	0,53
10	Semen bovine	51110	0,50	78%	1,06

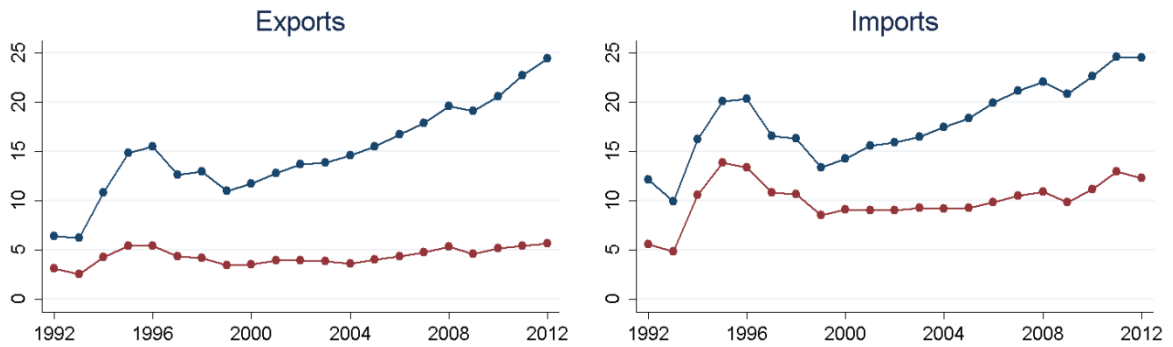
Top import goods, processed agricultural goods

1	Residues of starch manufacture and similar residues	230310	36,41	19%	0,98
2	Soya-bean oil-cake and other solid residues	230400	31,60	36%	1,00
3	Brewing or distilling dregs and waste	230330	28,91	51%	1,06
4	Animal feed preparations nes	230990	26,71	65%	0,43
5	Edible mix & preparations of animal & veg fat, oil ne	151790	16,74	74%	n.a.
6	Vegetable saps and extracts nes	130219	6,84	78%	1,25
7	Food preparations nes	210690	5,16	80%	n.a.
8	Bran, sharps and other residues of leguminous plants	230250	4,21	83%	1,21
9	Grape wines nes, fortified wine or must, pack < 2l	220421	4,12	85%	1,11
10	Beet-pulp, bagasse & other waste of sugar manufacture	230320	3,66	87%	0,95

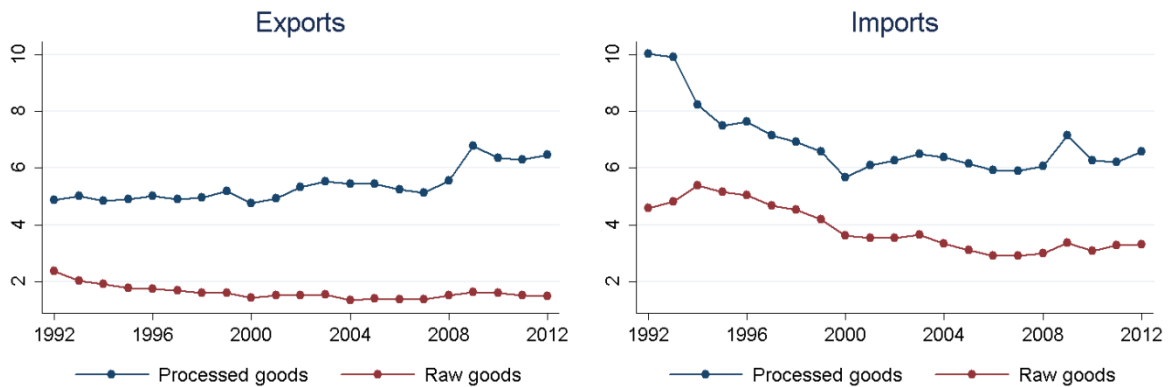
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ITALY

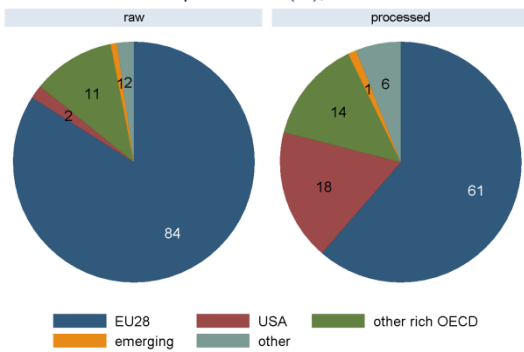
Agricultural trade, EUR billions



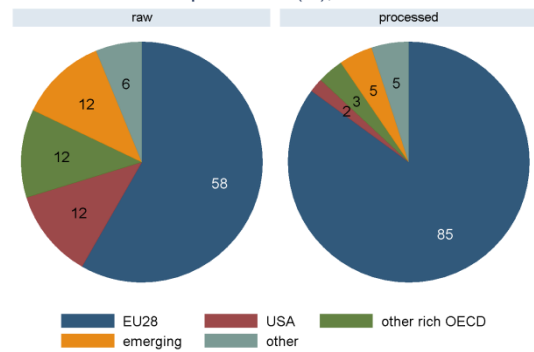
Share of agricultural goods in total trade, %



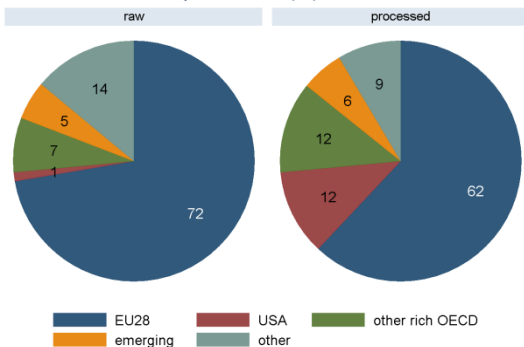
Export shares (%), 1992



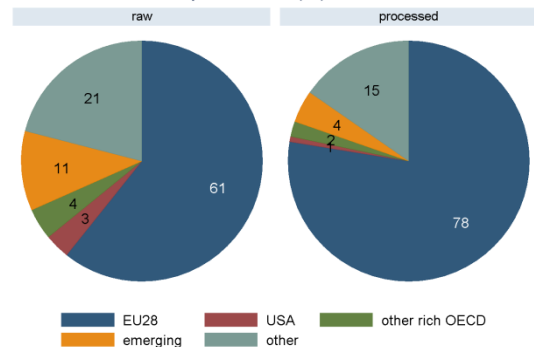
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Fruits, fresh nes	81090	15,08	27%	1,10
2	Chestnuts, fresh or dried	80240	5,17	37%	0,87
3	Tobacco, unmanufactured, stemmed or stripped	240120	4,03	44%	0,84
4	Foliage, branches, for bouquets, etc. - fresh	60491	3,61	50%	1,40
5	Seed, vegetable, nes for sowing	120991	3,14	56%	1,14
6	Tobacco, unmanufactured, not stemmed or stripped	240110	2,66	61%	0,55
7	Almonds, fresh or dried, shelled	80212	2,64	66%	1,15
8	Mushrooms, fresh or chilled	70951	2,48	70%	n.a.
9	Grapes, fresh	80610	2,20	74%	1,39
10	Truffles, fresh or chilled	70952	1,93	78%	n.a.

Top export goods, processed agricultural goods

1	Grape wines nes, fortified wine or must, pack < 2l	220421	900,73	35%	1,33
2	Olive oil, virgin	150910	288,30	46%	0,97
3	Cheese except fresh, grated, processed or blue-veined	40690	215,71	55%	1,07
4	Uncooked pasta, not stuffed or prepared, without eggs	190219	133,24	60%	1,25
5	Grape wines, sparkling	220410	119,12	64%	1,33
6	Olive oil, fractions, refined, not chemically modifie	150990	95,41	68%	0,92
7	Alcoholic liqueurs nes	220890	93,43	72%	1,72
8	Mineral and aerated waters not sweetened or flavoured	220110	80,31	75%	1,85
9	Communion wafers, rice paper, bakers wares nes	190590	63,07	77%	1,31
10	Sauces nes, mixed condiments, mixed seasoning	210390	58,95	80%	0,47

Top import goods, raw agricultural goods

1	Durum wheat	100110	75,41	17%	1,05
2	Almonds, fresh or dried, shelled	80212	65,66	32%	0,93
3	Wheat except durum wheat, and meslin	100190	57,38	45%	1,23
4	Lobsters (Homarus), not frozen	30622	38,04	53%	0,97
5	Walnuts in shell, fresh or dried	80231	37,30	62%	0,92
6	Pistachios, fresh or dried	80250	17,63	66%	0,96
7	Logs, non-coniferous nes	440399	17,07	70%	2,79
8	Cotton, not carded or combed	520100	15,28	73%	1,24
9	Soya beans	120100	14,65	76%	1,09
10	Prunes, dried	81320	9,50	79%	1,33

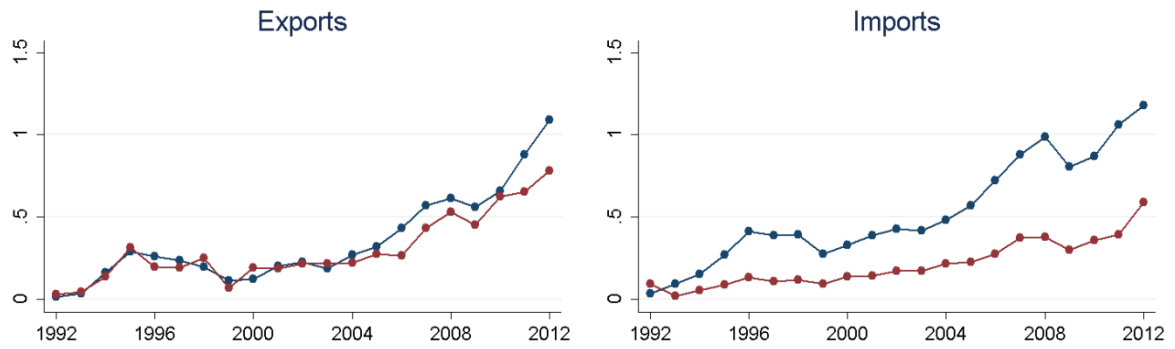
Top import goods, processed agricultural goods

1	Grape wines, alcoholic grape must nes	220429	38,58	22%	1,51
2	Tomatoes nes, prepared or preserved, not in vinegar	200290	24,68	37%	1,02
3	Whiskies	220830	21,71	49%	1,73
4	Bovine cuts boneless, fresh or chilled	20130	12,08	56%	0,99
5	Soya-bean oil-cake and other solid residues	230400	9,72	62%	1,18
6	Fish fillets, frozen	30420	9,14	67%	0,73
7	Dog or cat food (retail)	230910	6,11	71%	1,49
8	Lobster, prepared or preserved	160530	4,73	73%	1,00
9	Hake, frozen, whole	30378	3,42	75%	1,13
10	Food preparations nes	210690	3,03	77%	3,14

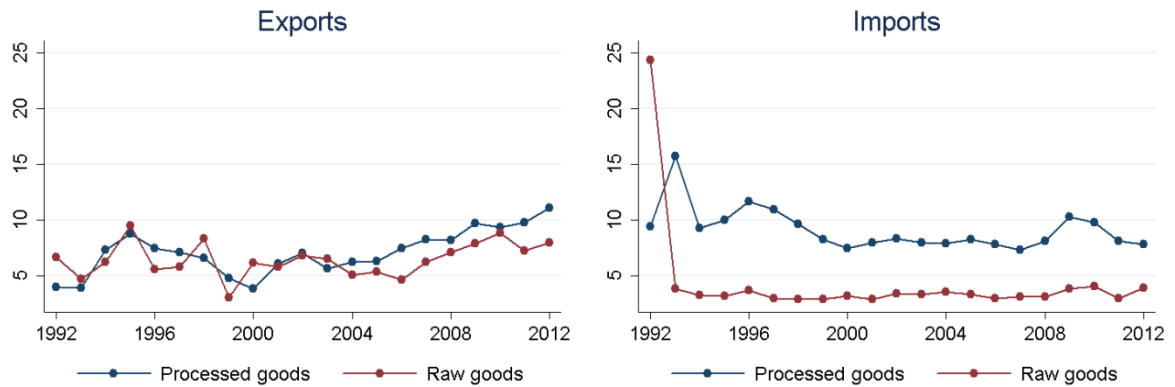
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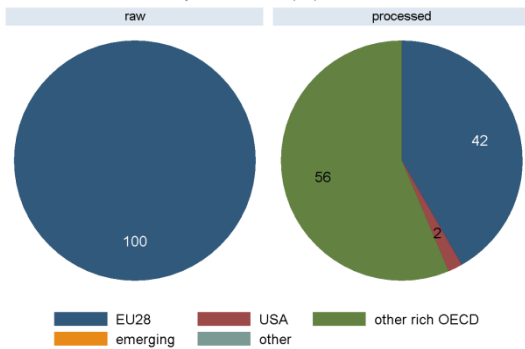
Agricultural trade, EUR billions



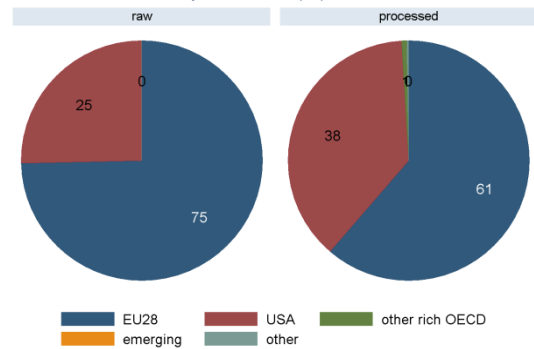
Share of agricultural goods in total trade, %



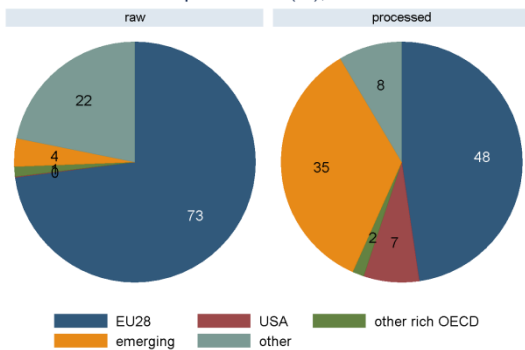
Export shares (%), 1992



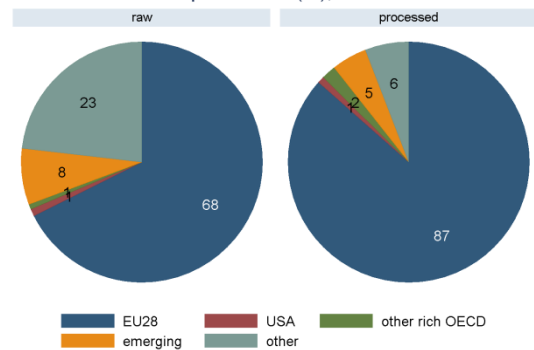
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Fuel wood	440110	0,31	75%	1,81
2	Seed, vegetable, nes for sowing	120991	0,08	95%	n.a.
3	Spices nes	91099	0,01	96%	0,58
4	Honey, natural	40900	0,00	97%	n.a.
5	Cranberries, bilberries, similar fruits, fresh	81040	0,00	98%	1,63
6	Plants & parts, pharmacy, perfume, insecticide use ne	121190	0,00	99%	1,74
7	Strawberries, fresh	81010	0,00	99%	0,99
8	Tea, green (unfermented) in packages > 3 kg	90220	0,00	100%	n.a.
9	Black, white or red currants and gooseberries, fresh	81030	0,00	100%	0,58
10	Tea, black (fermented or partly) in packages > 3 kg	90240	0,00	100%	n.a.

Top export goods, processed agricultural goods

1	Alcoholic liqueurs nes	220890	62,01	92%	0,77
2	Sardine, brisling, sprat prepared/preserved,not mince	160413	0,98	93%	2,23
3	Spirits obtained by distilling grape wine, grape marc	220820	0,83	95%	2,79
4	Whiskies	220830	0,82	96%	2,56
5	Communion wafers, rice paper, bakers wares nes	190590	0,41	97%	1,55
6	Chocolate, cocoa preps, block, slab, bar, filled, >2k	180631	0,28	97%	2,63
7	Chocolate/cocoa food preparations nes	180690	0,24	97%	1,21
8	Grape wines nes, fortified wine or must, pack < 2l	220421	0,22	98%	2,28
9	Cigarettes containing tobacco	240220	0,20	98%	n.a.
10	Herrings, prepared or preserved, not minced	160412	0,16	98%	1,88

Top import goods, raw agricultural goods

1	Pistachios, fresh or dried	80250	2,13	38%	1,03
2	Almonds, fresh or dried, shelled	80212	1,01	56%	0,89
3	Guts, bladders and stomachs of animals except fish	50400	0,76	70%	2,21
4	Cotton, not carded or combed	520100	0,63	81%	2,15
5	Maize except seed corn	100590	0,14	84%	n.a.
6	Semen bovine	51110	0,14	86%	0,79
7	Walnuts in shell, fresh or dried	80231	0,11	89%	0,90
8	Walnuts, fresh or dried, shelled	80232	0,09	90%	0,96
9	Almonds in shell fresh or dried	80211	0,08	92%	0,88
10	Ground-nuts shelled, not roasted or cooked	120220	0,05	92%	0,85

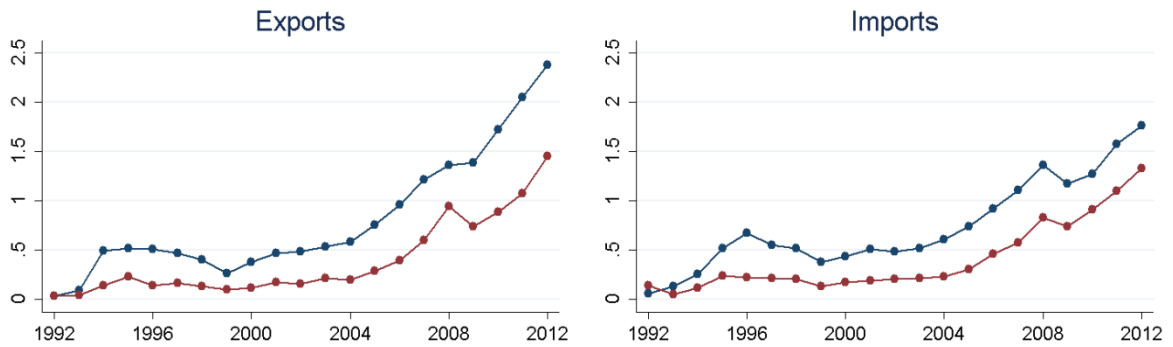
Top import goods, processed agricultural goods

1	Soya-bean oil-cake and other solid residues	230400	1,28	20%	1,62
2	Food preparations nes	210690	0,73	31%	2,17
3	Whiskies	220830	0,68	41%	1,84
4	Grape wines nes, fortified wine or must, pack < 2l	220421	0,59	50%	1,24
5	Dog or cat food (retail)	230910	0,55	58%	1,21
6	Caviar and caviar substitutes prepared from fish eggs	160430	0,27	63%	1,18
7	Fish livers and roes, frozen	30380	0,26	67%	3,17
8	Rum and tafia	220840	0,25	70%	0,76
9	Eggs, bird, not in shell, dried	40891	0,23	74%	1,16
10	Mixtures of juices not fermented or spirited	200990	0,17	76%	2,56

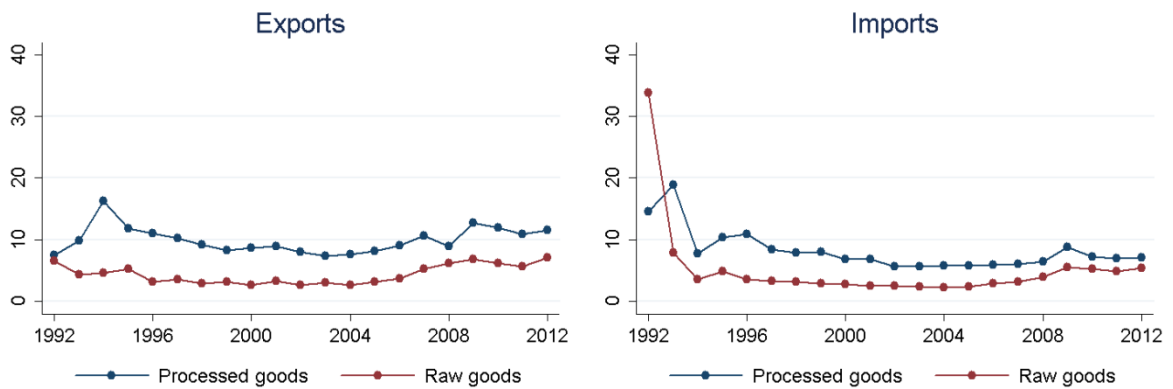
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LITHUANIA

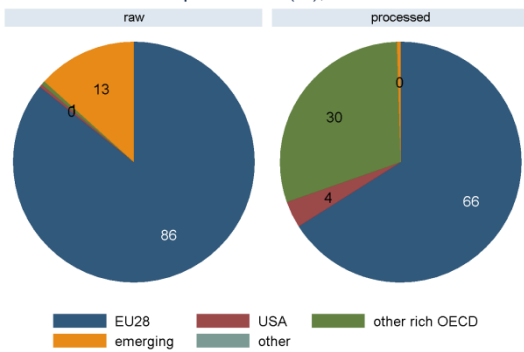
Agricultural trade, EUR billions



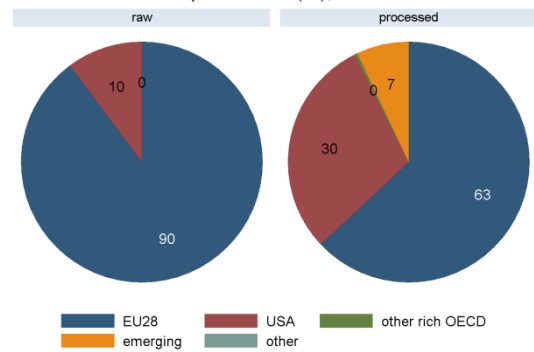
Share of agricultural goods in total trade, %



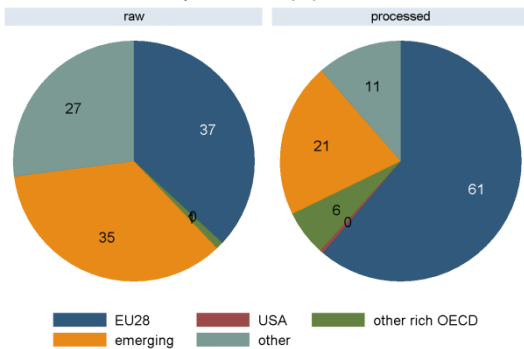
Export shares (%), 1992



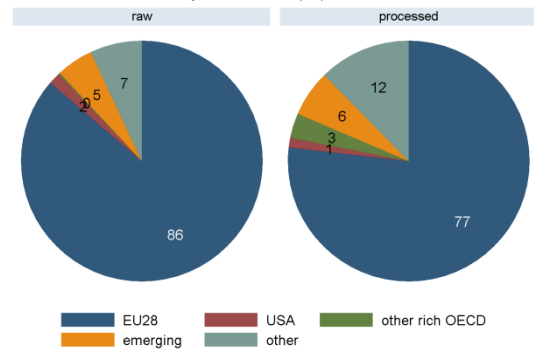
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Seed, forage plants, for sowing nes	120929	0,10	26%	0,83
2	Honey, natural	40900	0,08	46%	1,29
3	Fuel wood	440110	0,05	59%	3,17
4	Walnuts in shell, fresh or dried	80231	0,02	65%	1,15
5	Vegetable products nes	140490	0,02	70%	1,53
6	Buckwheat	100810	0,02	75%	1,76
7	Plants & parts, pharmacy, perfume, insecticide use	121190	0,02	80%	1,95
8	Flax fibre, raw or retted	530110	0,02	84%	0,63
9	Logs, Oak (Quercus spp)	440391	0,01	87%	0,77
10	Caraway seeds	90940	0,01	90%	2,63

Top export goods, processed agricultural goods

1	Wheat gluten	110900	5,54	51%	1,24
2	Cheese except fresh, grated, processed or blue-veined	40690	1,15	61%	1,13
3	Communion wafers, rice paper, bakers wares nes	190590	1,05	71%	0,74
4	Ice cream and other edible ice	210500	0,69	77%	1,86
5	Fish fillets, frozen	30420	0,33	80%	1,38
6	Beer made from malt	220300	0,32	83%	1,93
7	Alcoholic liqueurs nes	220890	0,25	85%	0,80
8	Herrings, prepared or preserved, not minced	160412	0,20	87%	1,41
9	Chocolate/cocoa food preparations nes	180690	0,16	88%	1,64
10	Chocolate, cocoa preps, block, slab, bar, filled, >2k	180631	0,12	89%	1,15

Top import goods, raw agricultural goods

1	Tobacco, unmanufactured, stemmed or stripped	240120	13,35	74%	1,26
2	Almonds, fresh or dried, shelled	80212	2,17	86%	0,92
3	Cereals unmilled nes	100890	0,34	88%	n.a.
4	Pistachios, fresh or dried	80250	0,25	90%	1,10
5	Guts, bladders and stomachs of animals except fish	50400	0,20	91%	0,84
6	Logs, Oak (Quercus spp)	440391	0,20	92%	1,38
7	Walnuts in shell, fresh or dried	80231	0,18	93%	1,00
8	Logs, non-coniferous nes	440399	0,16	94%	n.a.
9	Grapes, dried	80620	0,11	94%	1,37
10	Semen bovine	51110	0,11	95%	n.a.

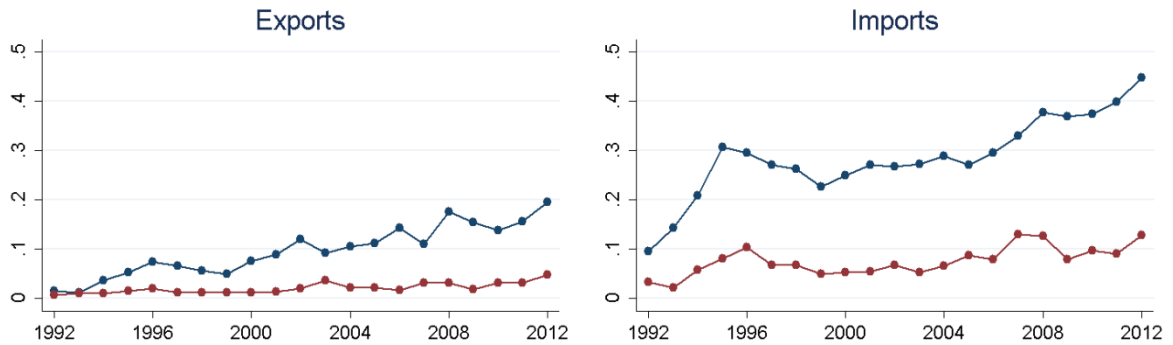
Top import goods, processed agricultural goods

1	Fish meat & mince, except liver, roe & fillets, froze	30490	5,72	27%	1,43
2	Swine cuts, frozen nes	20329	3,04	41%	1,16
3	Caviar and caviar substitutes prepared from fish eggs	160430	2,47	53%	1,08
4	Whiskies	220830	1,66	61%	1,85
5	Hake, frozen, whole	30378	1,35	67%	1,04
6	Milk and cream unsweetened, concentrated	40291	0,96	72%	2,31
7	Soya-bean oil-cake and other solid residues	230400	0,94	76%	1,14
8	Food preparations nes	210690	0,92	81%	n.a.
9	Liquorice extract	130212	0,88	85%	1,01
10	Bovine cuts boneless, frozen	20230	0,70	88%	1,30

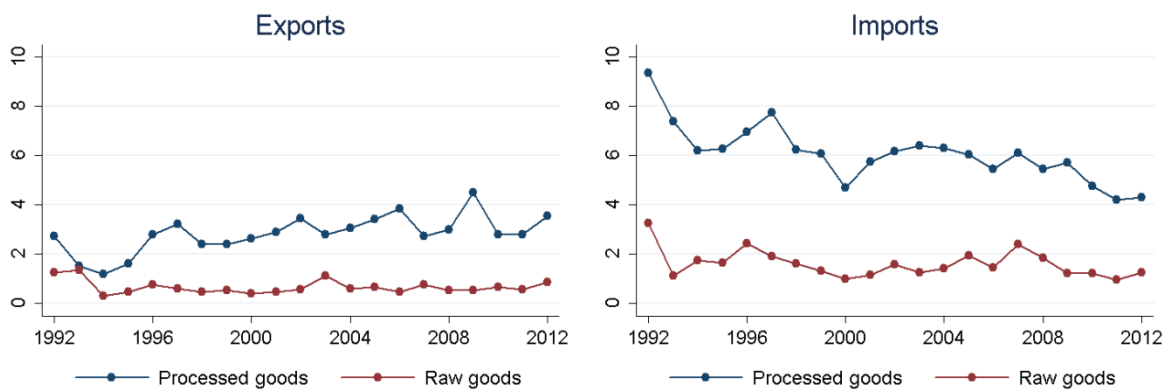
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MALTA

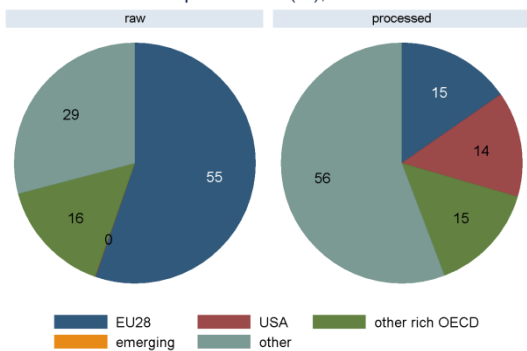
Agricultural trade, EUR billions



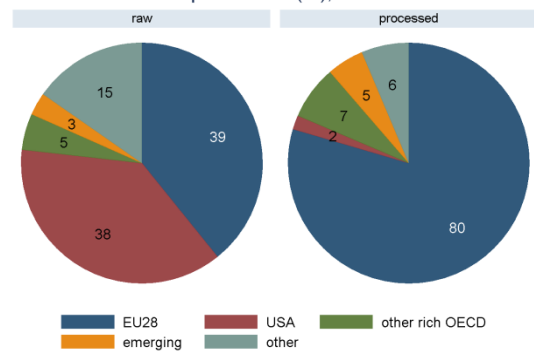
Share of agricultural goods in total trade, %



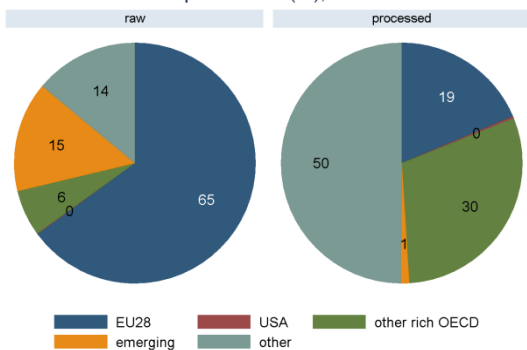
Export shares (%), 1992



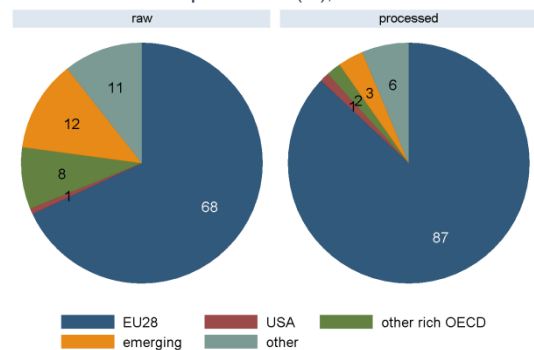
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Tuna nes, fresh or chilled, whole	30239	0,41	98%	2,15
2	Fish live, except trout, eel or carp	30199	0,00	99%	0,63
3	Seed, flower, for sowing	120930	0,00	99%	1,55
4	Seed, vegetable, nes for sowing	120991	0,00	100%	0,37
5	Seed, fruits and spores for sowing, nes	120999	0,00	100%	n.a.
6	Rice in the husk (paddy or rough)	100610	0,00	100%	1,07

Top export goods, processed agricultural goods

1	Tunas nes, frozen, whole	30349	0,41	71%	0,64
2	Food preparations nes	210690	0,05	80%	1,08
3	Beverage waters, sweetened or flavoured	220210	0,04	86%	1,56
4	Fish meat & mince, except liver, roe & fillets, froze	30490	0,02	90%	n.a.
5	Fish nes, frozen, whole	30379	0,02	93%	1,26
6	Fish fillets, frozen	30420	0,01	95%	0,50
7	Vegetable saps and extracts nes	130219	0,01	96%	n.a.
8	Crispbread	190510	0,01	98%	0,88
9	Tomato ketchup and other tomato sauces	210320	0,01	99%	1,63
10	Grape wines nes, fortified wine or must, pack < 2l	220421	0,01	100%	n.a.

Top import goods, raw agricultural goods

1	Logs, non-coniferous nes	440399	0,28	25%	n.a.
2	Walnuts in shell, fresh or dried	80231	0,17	41%	0,84
3	Herring, fresh or chilled, whole	30240	0,13	52%	0,94
4	Almonds, fresh or dried, shelled	80212	0,13	64%	1,03
5	Walnuts, fresh or dried, shelled	80232	0,11	74%	0,95
6	Logs, Oak (Quercus spp)	440391	0,07	79%	1,00
7	Semen bovine	51110	0,05	84%	n.a.
8	Tobacco, unmanufactured, not stemmed or stripped	240110	0,04	87%	1,21
9	Other fodder and forage products, roots, etc.	121490	0,03	90%	1,38
10	Prunes, dried	81320	0,02	92%	1,60

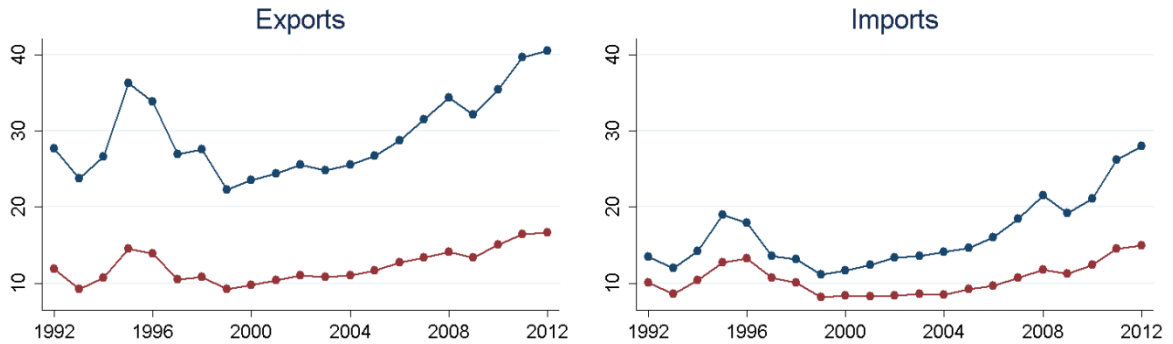
Top import goods, processed agricultural goods

1	Whiskies	220830	1,60	33%	n.a.
2	Cigarettes containing tobacco	240220	0,61	46%	1,35
3	Herrings, frozen, whole	30350	0,57	58%	0,94
4	Mucilages and thickeners nes	130239	0,34	65%	1,09
5	Fish, shellfish and crustaceans (non-food)	51191	0,33	72%	0,91
6	Rice, semi-milled or wholly milled	100630	0,21	76%	1,03
7	Food preparations nes	210690	0,16	79%	2,59
8	Cigars, cheroots and cigarillos, containing tobacco	240210	0,14	82%	1,15
9	Mackerel, frozen, whole	30374	0,13	85%	1,46
10	Edible mix & preparations of animal & veg fat, oil ne	151790	0,07	86%	0,60

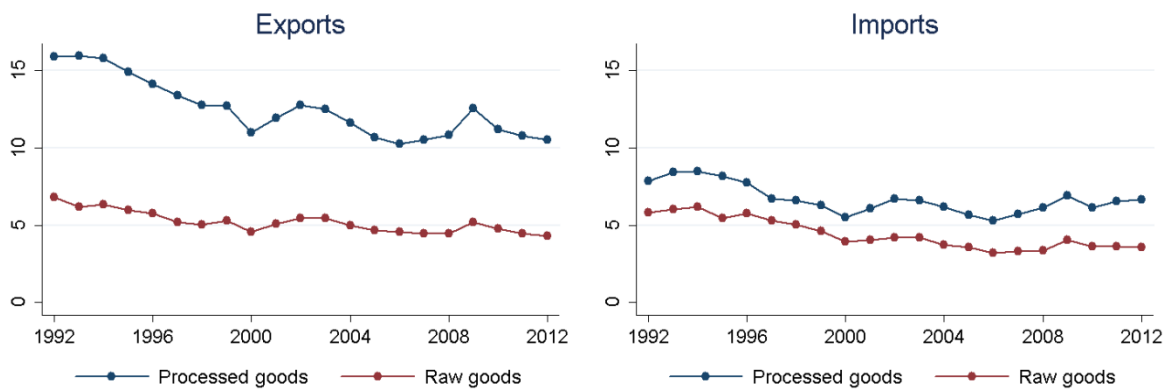
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NETHERLANDS

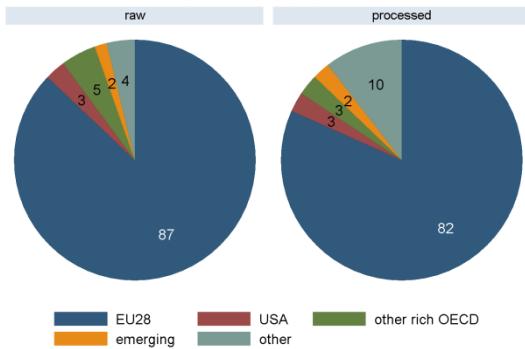
Agricultural trade, EUR billions



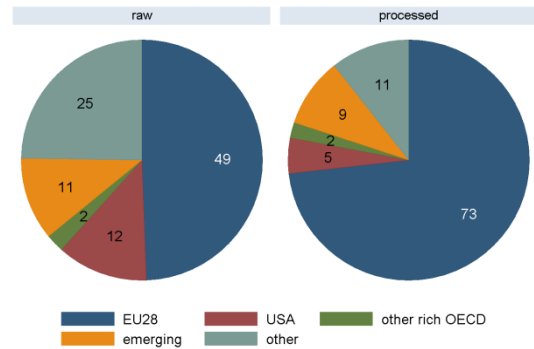
Share of agricultural goods in total trade, %



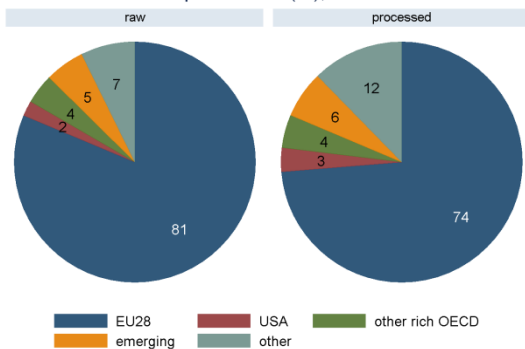
Export shares (%), 1992



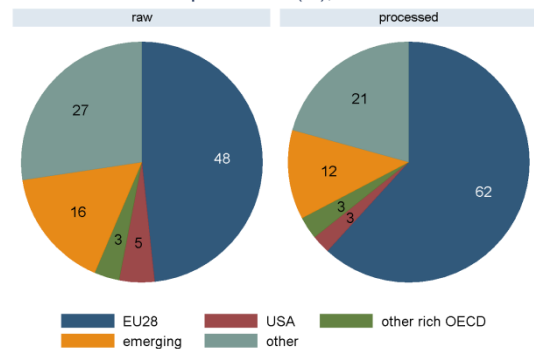
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Bulbs, tubers, corms, crowns and rhizomes, dormant	60110	104,37	32%	1,01
2	Peppers (Capsicum, Pimenta) fresh or chilled	70960	56,94	50%	1,70
3	Cut flowers and flower buds for bouquets, etc., fresh	60310	51,17	66%	1,18
4	Seed, vegetable, nes for sowing	120991	41,71	78%	1,11
5	Raw mink furskins, whole	430110	16,04	83%	2,18
6	Seed, flower, for sowing	120930	8,37	86%	1,97
7	Raw hide/skins except bovine/equine/sheep/goat/reptil	410390	7,36	88%	n.a.
8	Sole, fresh or chilled, whole	30223	3,90	89%	1,86
9	Onions and shallots, fresh or chilled	70310	2,77	90%	1,81
10	Seed, fruits and spores for sowing, nes	120999	2,61	91%	n.a.

Top export goods, processed agricultural goods

1	Beer made from malt	220300	665,16	52%	1,24
2	Cocoa powder, unsweetened	180500	181,30	66%	1,03
3	Alcoholic liqueurs nes	220890	98,54	74%	1,32
4	Cheese except fresh, grated, processed or blue-veined	40690	46,34	77%	1,62
5	Food preparations nes	210690	26,20	79%	1,45
6	Salmon, smoked, including fillets	30541	19,29	81%	1,09
7	Sugar confectionery not chewing gum, no cocoa content	170490	16,42	82%	0,91
8	Potato starch	110813	13,70	83%	1,23
9	Dextrins and other modified starches	350510	12,45	84%	1,30
10	Vegetables, frozen nes, uncooked steamed or boiled	71080	12,31	85%	0,98

Top import goods, raw agricultural goods

1	Soya beans	120100	240,45	36%	1,00
2	Tobacco, unmanufactured, stemmed or stripped	240120	76,96	47%	1,27
3	Almonds, fresh or dried, shelled	80212	53,86	55%	0,96
4	Pistachios, fresh or dried	80250	50,97	62%	0,96
5	Seed, vegetable, nes for sowing	120991	40,01	68%	1,61
6	Foliage, branches, for bouquets, etc. - fresh	60491	25,41	72%	1,00
7	Grapefruit, fresh or dried	80540	20,95	75%	1,05
8	Ground-nuts shelled, not roasted or cooked	120220	14,72	77%	1,00
9	Nuts edible, fresh or dried, nes	80290	14,01	79%	0,88
10	Seed, flower, for sowing	120930	9,73	81%	3,22

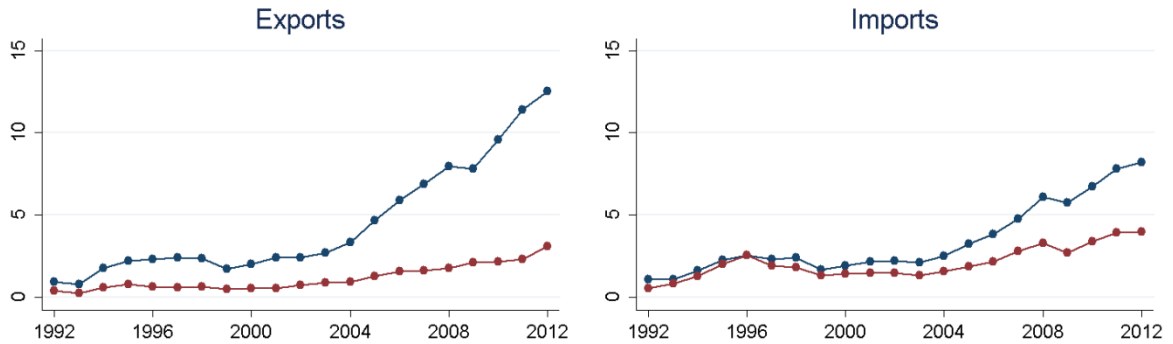
Top import goods, processed agricultural goods

1	Food preparations nes	210690	89,52	14%	3,24
2	Bovine cuts boneless, fresh or chilled	20130	57,89	23%	1,26
3	Edible mix & preparations of animal & veg fat, oil ne	151790	57,58	32%	n.a.
4	Animal feed preparations nes	230990	44,67	38%	1,31
5	Ethyl alcohol and other spirits, denatured	220720	30,15	43%	1,13
6	Whiskies	220830	26,89	47%	0,97
7	Fish fillets, frozen	30420	26,48	51%	0,80
8	Fruit, edible plants nes otherwise prepared/preserved	200899	24,59	55%	2,51
9	Lard, other pig fat and poultry fat, rendered	150100	22,56	59%	1,07
10	Single fruit, veg juice nes, not fermented or spirite	200980	20,04	62%	0,81

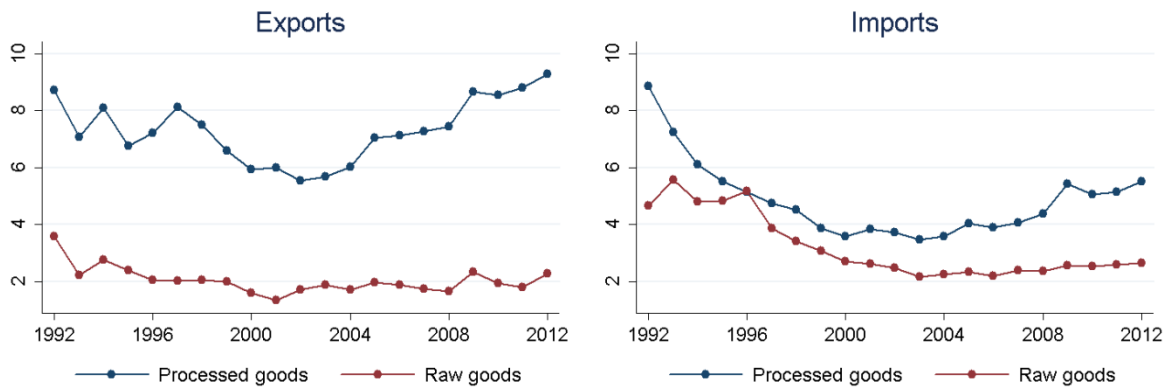
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POLAND

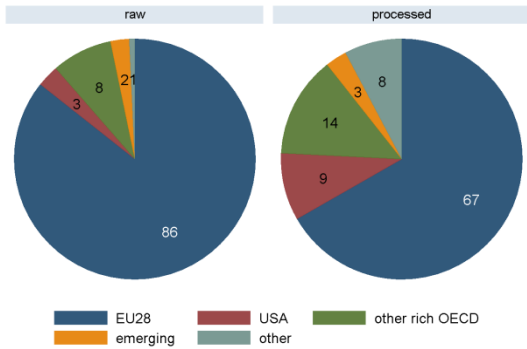
Agricultural trade, EUR billions



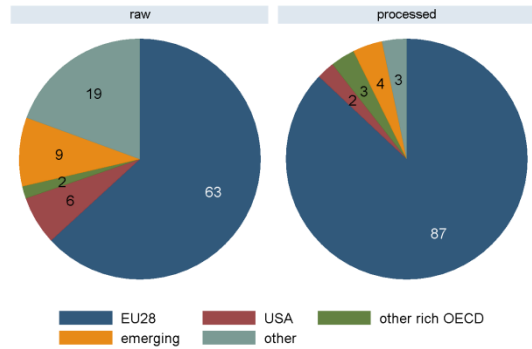
Share of agricultural goods in total trade, %



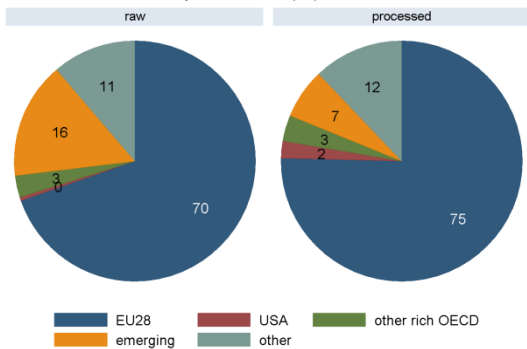
Export shares (%), 1992



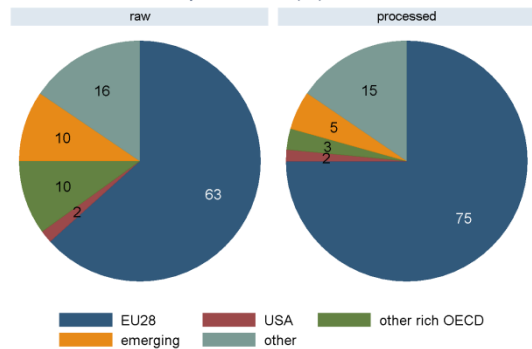
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Feathers and down used for stuffing	50510	2,87	28%	0,96
2	Spices nes	91099	1,54	43%	1,41
3	Plants & parts, pharmacy, perfume, insecticide use ne	121190	1,32	55%	1,23
4	Raw mink furskins, whole	430110	1,16	67%	3,10
5	Apples, dried	81330	0,60	72%	n.a.
6	Tea, black (fermented or partly) in packages > 3 kg	90240	0,56	78%	1,98
7	Cereals unmilled nes	100890	0,24	80%	n.a.
8	Cherries, fresh	80920	0,22	82%	1,95
9	Tea, green (unfermented) in packages > 3 kg	90220	0,22	85%	1,64
10	Poppy seeds	120791	0,21	87%	n.a.

Top export goods, processed agricultural goods

1	Alcoholic liqueurs nes	220890	53,46	21%	1,06
2	Wheat gluten	110900	26,08	32%	1,06
3	Swine hams & cuts thereof, prepared or preserved	160241	25,73	42%	0,97
4	Sardine, brisling, sprat prepared/preserved,not mince	160413	14,66	48%	1,16
5	Fish fillets, frozen	30420	12,75	53%	1,23
6	Fruits and nuts (uncooked, steamed, boiled) frozen,ne	81190	10,73	57%	1,42
7	Chocolate/cocoa food preparations nes	180690	9,85	61%	0,93
8	Beer made from malt	220300	7,39	64%	1,61
9	Single fruit, veg juice nes, not fermented or spirite	200980	6,67	66%	0,49
10	Swine cuts, frozen nes	20329	5,28	69%	1,49

Top import goods, raw agricultural goods

1	Tobacco, unmanufactured, stemmed or stripped	240120	25,97	44%	1,26
2	Almonds, fresh or dried, shelled	80212	8,08	57%	0,91
3	Pistachios, fresh or dried	80250	5,86	67%	1,26
4	Prunes, dried	81320	2,89	72%	1,01
5	Grapes, dried	80620	1,43	75%	1,27
6	Grapefruit, fresh or dried	80540	1,20	77%	1,22
7	Raw mink furskins, whole	430110	1,05	78%	n.a.
8	Tobacco refuse	240130	1,02	80%	1,78
9	Rice, husked (brown)	100620	0,77	81%	0,85
10	Maize except seed corn	100590	0,67	83%	3,07

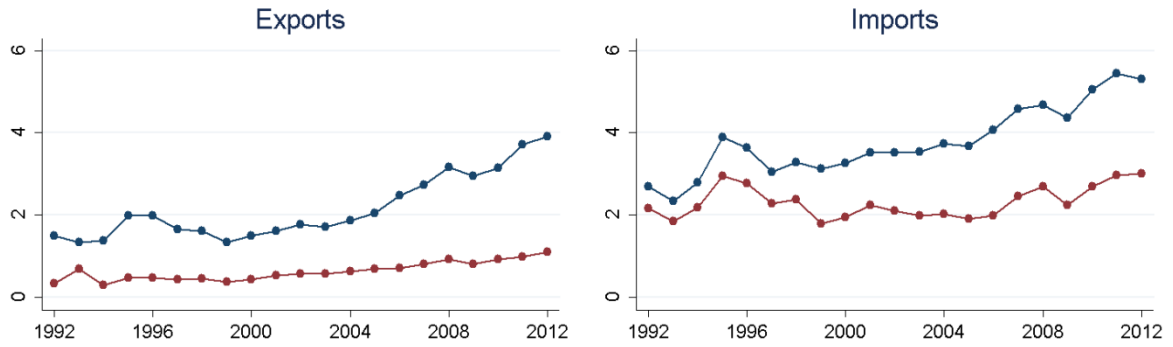
Top import goods, processed agricultural goods

1	Soya-bean oil-cake and other solid residues	230400	51,04	38%	1,00
2	Grape wines nes, fortified wine or must, pack < 2l	220421	19,76	53%	1,34
3	Food preparations nes	210690	17,26	66%	n.a.
4	Fish fillets, frozen	30420	8,12	72%	1,08
5	Whiskies	220830	7,41	78%	0,97
6	Fruit, edible plants nes otherwise	200899	4,54	81%	2,42
7	Fish meat & mince, except liver, roe & fillets, froze	30490	2,81	83%	1,12
8	Mucilages and thickeners nes	130239	1,65	84%	1,52
9	Rum and tafia	220840	1,56	85%	1,57
10	Protein concentrates and textured protein substances	210610	1,52	87%	1,13

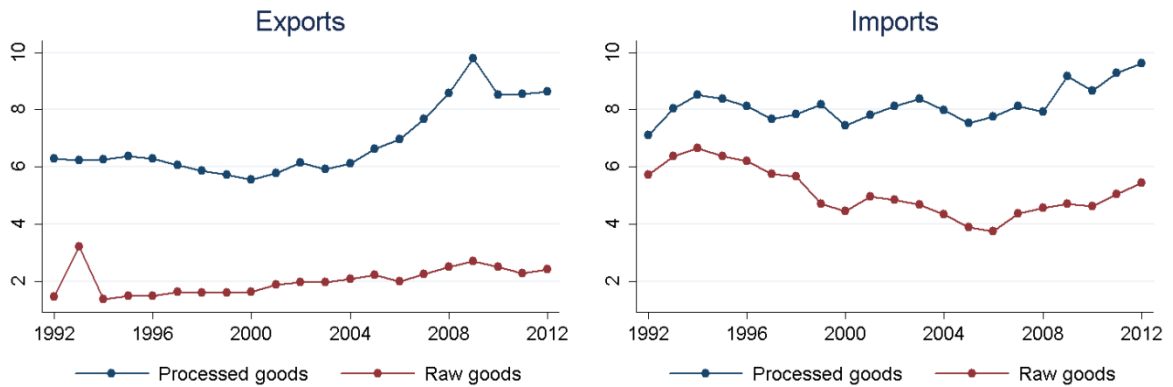
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PORTUGAL

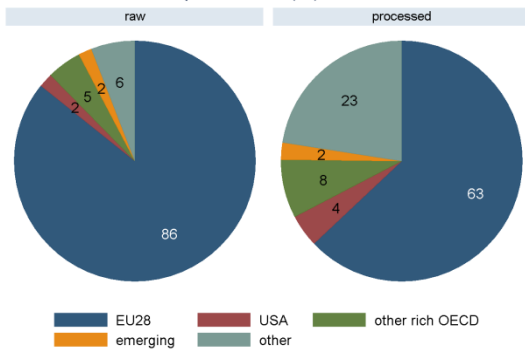
Agricultural trade, EUR billions



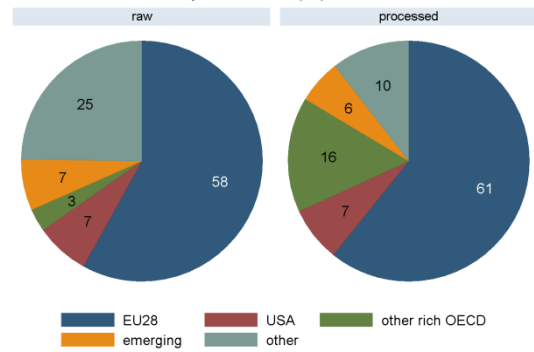
Share of agricultural goods in total trade, %



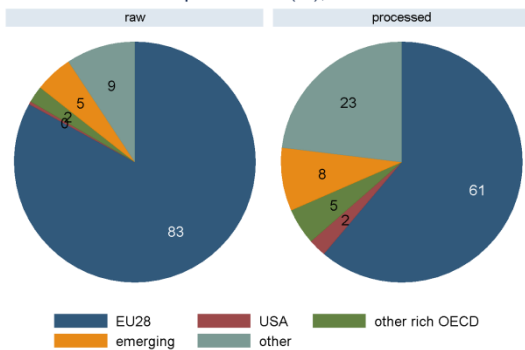
Export shares (%), 1992



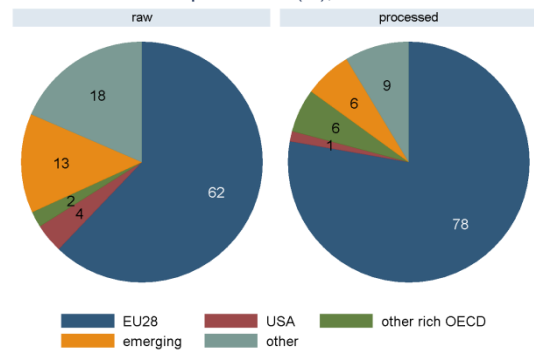
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Guts, bladders and stomachs of animals except fish	50400	0,98	22%	1,48
2	Fish nes, fresh or chilled, whole	30269	0,65	36%	1,75
3	Tuna nes, fresh or chilled, whole	30239	0,57	49%	n.a.
4	Saffron	91020	0,37	57%	n.a.
5	Chestnuts, fresh or dried	80240	0,30	64%	1,73
6	Mackerel, fresh or chilled, whole	30264	0,22	69%	n.a.
7	Sardines,brisling,sprats, fresh or chilled, whole	30261	0,19	73%	2,28
8	Octopus, live, fresh or chilled	30751	0,15	77%	1,16
9	Fish live, except trout, eel or carp	30199	0,10	79%	n.a.
10	Tuna(albacore,longfin) fresh or chilled, whole	30231	0,10	81%	1,77

Top export goods, processed agricultural goods

1	Grape wines nes, fortified wine or must, pack < 2l	220421	53,26	60%	1,48
2	Olives, prepared or preserved, not frozen/vinegar	200570	3,84	64%	1,03
3	Octopus, frozen, dried, salted or in brine	30759	2,90	68%	1,32
4	Olive oil, fractions, refined, not chemically modifie	150990	2,87	71%	0,91
5	Cheese except fresh, grated, processed or blue-veined	40690	2,56	74%	1,98
6	Veg fats, oils nes, fractions, not chemically modifie	151590	2,14	76%	1,60
7	Sardine, brisling, sprat prepared/preserved,not mince	160413	2,04	78%	0,83
8	Olive oil, virgin	150910	1,76	80%	0,92
9	Mineral and aerated waters not sweetened or flavoured	220110	1,19	82%	1,63
10	Beverage waters, sweetened or flavoured	220210	1,16	83%	1,95

Top import goods, raw agricultural goods

1	Soya beans	120100	64,28	46%	1,05
2	Maize except seed corn	100590	27,46	66%	1,21
3	Tobacco, unmanufactured, stemmed or stripped	240120	15,70	77%	1,37
4	Wheat except durum wheat, and meslin	100190	10,10	85%	1,11
5	Almonds, fresh or dried, shelled	80212	3,43	87%	0,86
6	Logs, Oak (Quercus spp)	440391	3,20	89%	0,93
7	Logs, non-coniferous nes	440399	2,97	91%	n.a.
8	Natural cork, raw or simply prepared	450110	1,55	93%	n.a.
9	Cotton, not carded or combed	520100	1,23	93%	1,16
10	Ground-nuts in shell not roasted or cooked	120210	1,17	94%	1,07

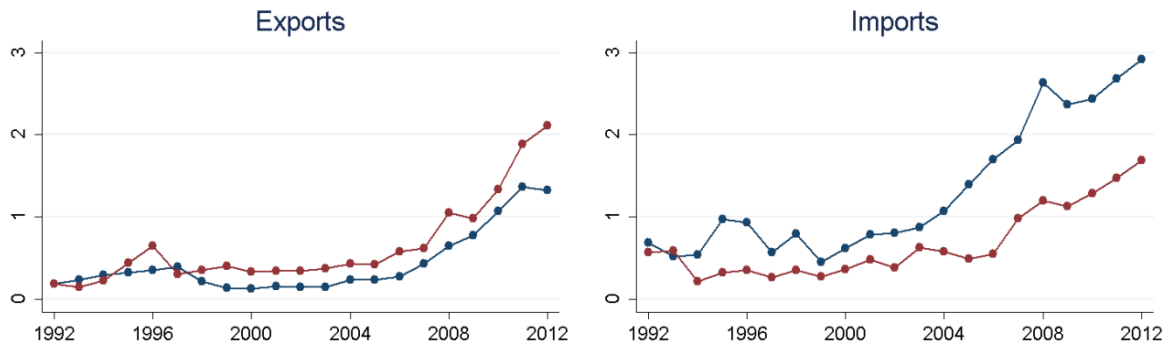
Top import goods, processed agricultural goods

1	Cod, frozen, whole	30360	31,43	46%	0,91
2	Soya-bean oil-cake and other solid residues	230400	8,08	58%	1,12
3	Animal feed preparations nes	230990	5,31	66%	n.a.
4	Residues of starch manufacture and similar residues	230310	3,91	71%	0,89
5	Brewing or distilling dregs and waste	230330	2,83	75%	1,06
6	Food preparations nes	210690	2,66	79%	n.a.
7	Fish meat & mince, except liver, roe & fillets, froze	30490	2,16	83%	0,64
8	Protein concentrates and textured protein substances	210610	1,21	84%	0,81
9	Fish fillets, frozen	30420	1,01	86%	0,56
10	Cod, salted or in brine, not dried or smoked	30562	0,87	87%	0,44

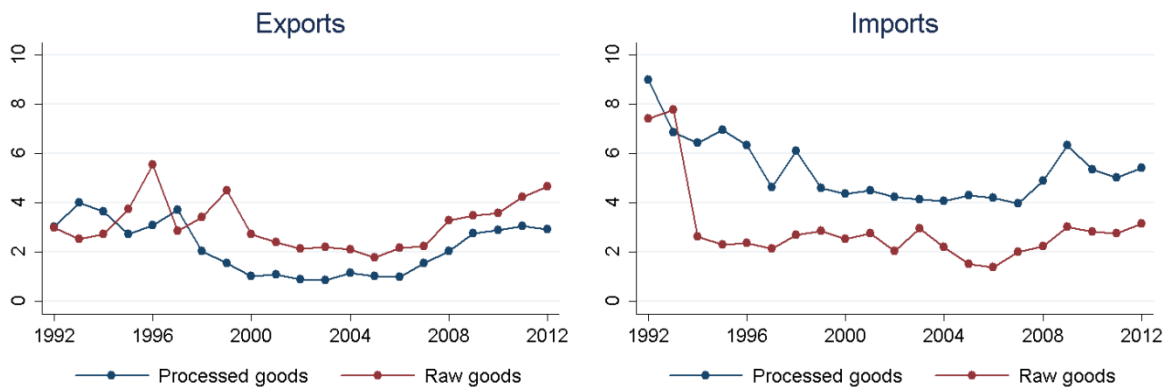
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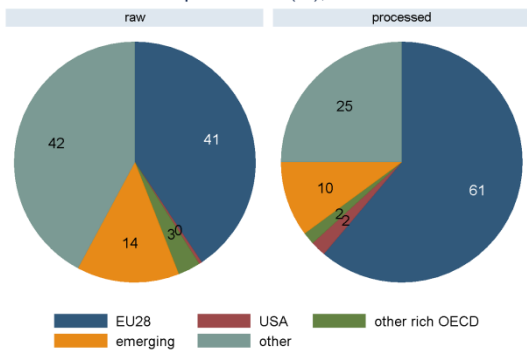
Agricultural trade, EUR billions



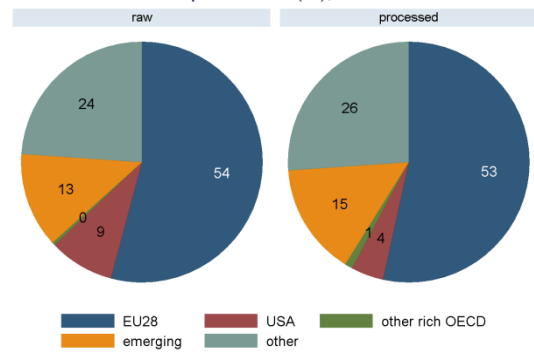
Share of agricultural goods in total trade, %



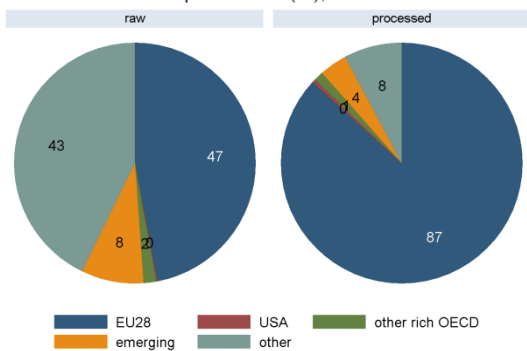
Export shares (%), 1992



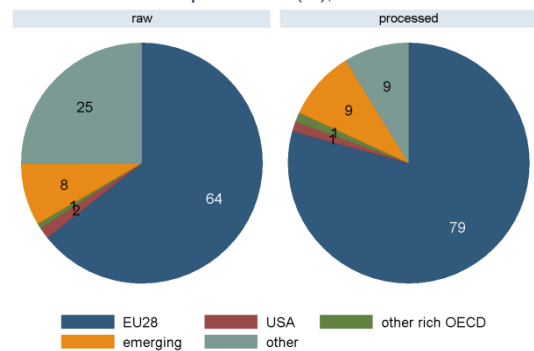
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Maize except seed corn	100590	0,68	41%	2,49
2	Truffles, fresh or chilled	70952	0,25	57%	n.a.
3	Oil seeds and oleaginous fruits, nes	120799	0,14	66%	2,20
4	Honey, natural	40900	0,12	73%	0,71
5	Maize (corn) seed	100510	0,12	81%	1,62
6	Walnuts, fresh or dried, shelled	80232	0,07	85%	1,21
7	Soya beans	120100	0,07	89%	1,50
8	Mushrooms, fresh or chilled	70951	0,06	93%	n.a.
9	Coriander seeds	90920	0,03	95%	1,76
10	Coffee, not roasted, not decaffeinated	90111	0,02	96%	1,10

Top export goods, processed agricultural goods

1	Grape wines nes, fortified wine or must, pack < 2l	220421	1,17	19%	0,95
2	Cheese except fresh, grated, processed or blue-veined	40690	1,14	37%	1,49
3	Uncooked pasta, not stuffed or prepared, without eggs	190219	1,01	53%	1,25
4	Cherries provisionally preserved	81210	0,85	66%	1,60
5	Meat, meat offal and blood, prepared or preserved, ne	160290	0,63	76%	1,51
6	Mineral and aerated waters not sweetened or flavoured	220110	0,30	81%	1,39
7	Chocolate/cocoa food preparations nes	180690	0,26	85%	n.a.
8	Chocolate, cocoa prep, block/slab/bar, not filled,>2k	180632	0,10	86%	1,38
9	Food preparations nes	210690	0,09	88%	n.a.
10	Beer made from malt	220300	0,08	89%	1,82

Top import goods, raw agricultural goods

1	Sunflower seeds	120600	11,65	42%	3,30
2	Tobacco, unmanufactured, stemmed or stripped	240120	6,36	64%	1,17
3	Rice in the husk (paddy or rough)	100610	4,02	79%	0,79
4	Soya beans	120100	1,69	85%	2,38
5	Maize (corn) seed	100510	1,42	90%	1,50
6	Almonds, fresh or dried, shelled	80212	0,88	93%	0,69
7	Seed, lucerne (alfalfa), for sowing	120921	0,46	94%	2,35
8	Maize except seed corn	100590	0,32	96%	n.a.
9	Pistachios, fresh or dried	80250	0,24	96%	0,93
10	Lobsters (Homarus), not frozen	30622	0,17	97%	1,07

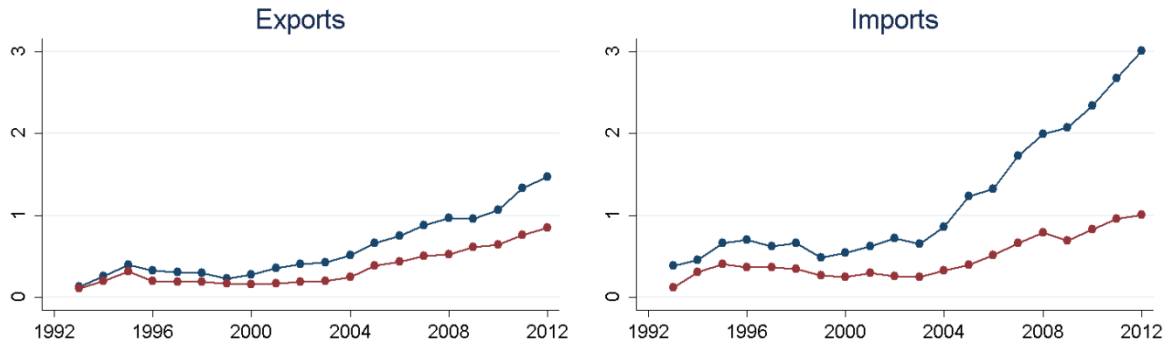
Top import goods, processed agricultural goods

1	Food preparations nes	210690	9,56	35%	n.a.
2	Soya-bean oil-cake and other solid residues	230400	8,52	66%	1,30
3	Whiskies	220830	6,37	89%	1,42
4	Protein concentrates and textured protein substances	210610	0,65	91%	1,41
5	Animal feed preparations nes	230990	0,25	92%	2,85
6	Cigars, cheroots and cigarillos, containing tobacco	240210	0,25	93%	0,68
7	Whey	40410	0,24	94%	n.a.
8	Dog or cat food (retail)	230910	0,20	95%	1,28
9	Hake, frozen, whole	30378	0,16	95%	0,75
10	Fish livers and roes, frozen	30380	0,14	96%	n.a.

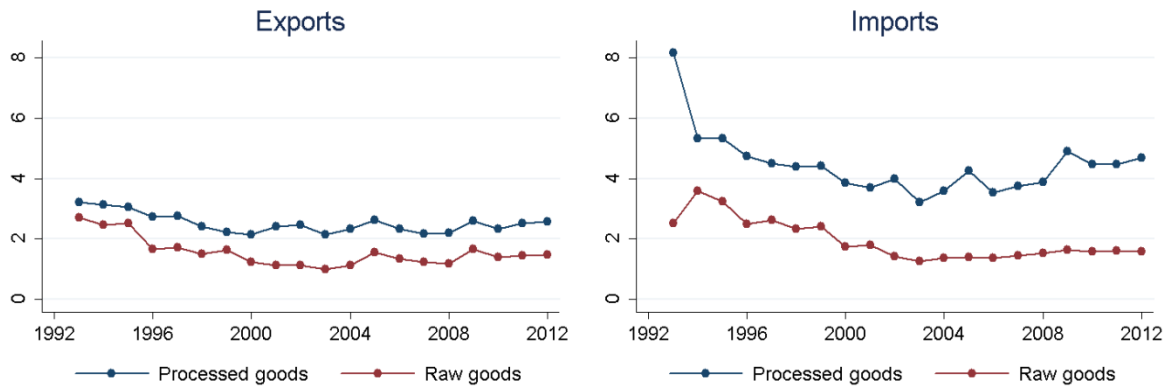
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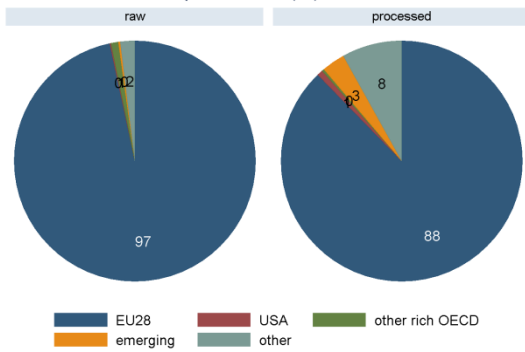
Agricultural trade, EUR billions



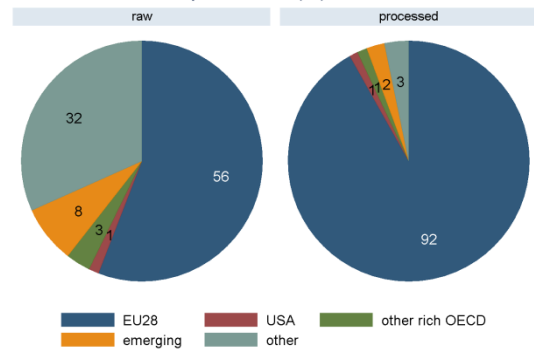
Share of agricultural goods in total trade, %



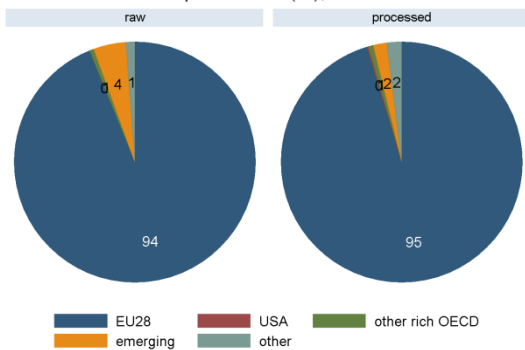
Export shares (%), 2002



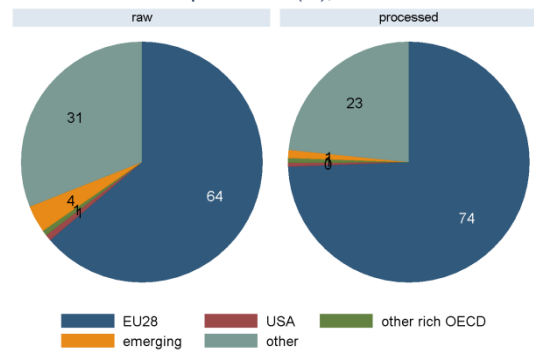
Import shares (%), 2002



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Peas dried, shelled	71310	0,02	22%	1,27
2	Poles, piles etc, non-coniferous, pointed, not sawn	440420	0,01	41%	n.a.
3	Durum wheat	100110	0,01	59%	n.a.
4	Logs, non-coniferous nes	440399	0,01	72%	n.a.
5	Tea, green (unfermented) in packages > 3 kg	90220	0,01	83%	n.a.
6	Seed, fruits and spores for sowing, nes	120999	0,00	89%	n.a.
7	Oats	100400	0,00	93%	0,47
8	Logs, poles, coniferous not treated or painted	440320	0,00	96%	n.a.
9	Spices nes	91099	0,00	98%	0,98
10	Poles, piles etc, coniferous, pointed but not sawn	440410	0,00	100%	n.a.

Top export goods, processed agricultural goods

1	Alcoholic liqueurs nes	220890	1,09	48%	2,80
2	Chocolate/cocoa food preparations nes	180690	0,48	69%	0,85
3	Beer made from malt	220300	0,26	81%	2,45
4	Sugar nes, invert sugar, caramel and artificial honey	170290	0,21	90%	1,62
5	Potatoes, prepared or preserved, not frozen/vinegar	200520	0,07	93%	3,13
6	Mineral and aerated waters not sweetened or flavoured	220110	0,03	94%	2,64
7	Dextrins and other modified starches	350510	0,02	95%	n.a.
8	Communion wafers, rice paper, bakers wares nes	190590	0,02	96%	n.a.
9	Beverage waters, sweetened or flavoured	220210	0,01	96%	1,27
10	Chocolate, cocoa preps, block, slab, bar, filled, >2k	180631	0,01	97%	1,47

Top import goods, raw agricultural goods

1	Almonds, fresh or dried, shelled	80212	2,50	33%	1,15
2	Pistachios, fresh or dried	80250	2,32	64%	0,98
3	Ground-nuts in shell not roasted or cooked	120210	0,94	76%	1,00
4	Grapes, dried	80620	0,29	80%	1,10
5	Almonds in shell fresh or dried	80211	0,27	84%	0,99
6	Sunflower seeds	120600	0,18	86%	2,48
7	Prunes, dried	81320	0,14	88%	0,96
8	Semen bovine	51110	0,14	90%	n.a.
9	Nuts edible, fresh or dried, nes	80290	0,11	91%	1,27
10	Foliage, branches, for bouquets, etc. - fresh	60491	0,10	93%	1,43

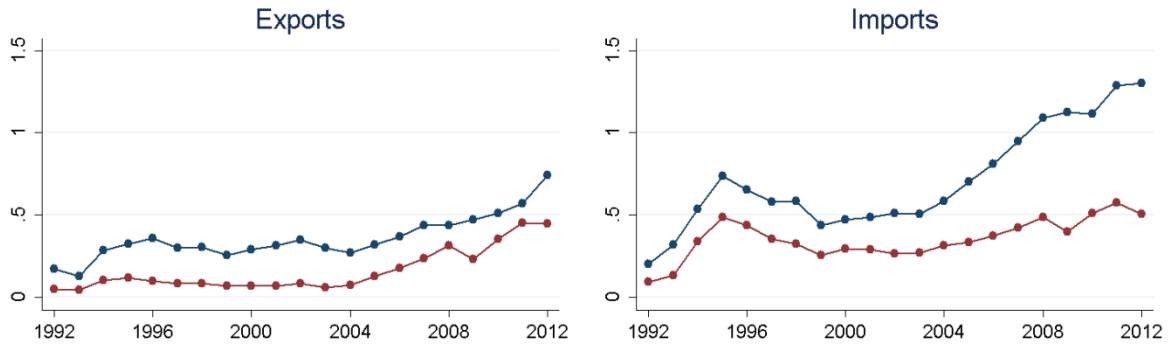
Top import goods, processed agricultural goods

1	Food preparations nes	210690	4,58	36%	n.a.
2	Fish fillets, frozen	30420	1,42	48%	0,90
3	Whiskies	220830	1,33	58%	1,14
4	Fruit, edible plants nes otherwise prepared/preserved	200899	1,18	68%	1,78
5	Non-alcoholic beverages nes, except fruit, veg juices	220290	0,66	73%	n.a.
6	Tea and mate extracts, essences and concentrates	210120	0,56	77%	n.a.
7	Liquorice extract	130212	0,39	80%	1,02
8	Rum and tafia	220840	0,31	83%	1,34
9	Grape wines nes, fortified wine or must, pack < 2l	220421	0,27	85%	1,18
10	Nuts, seeds & mixes, otherwise prepared or preserved	200819	0,26	87%	1,39

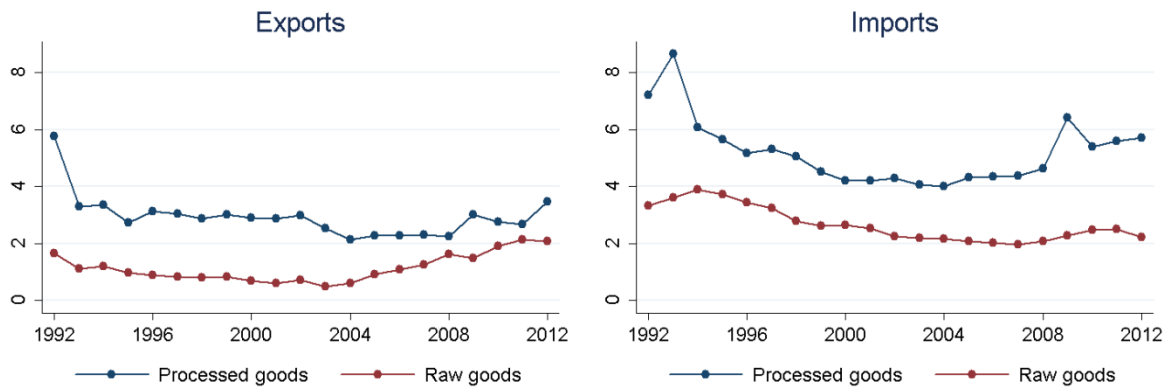
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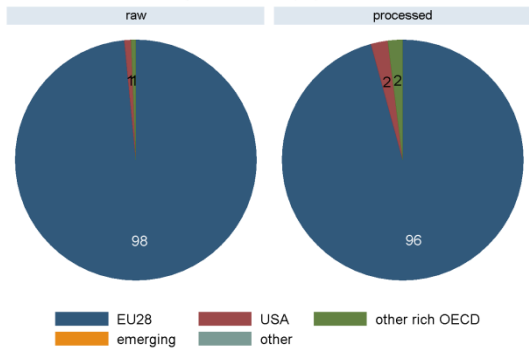
Agricultural trade, EUR billions



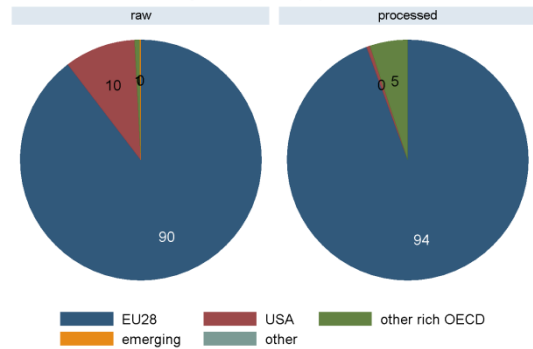
Share of agricultural goods in total trade, %



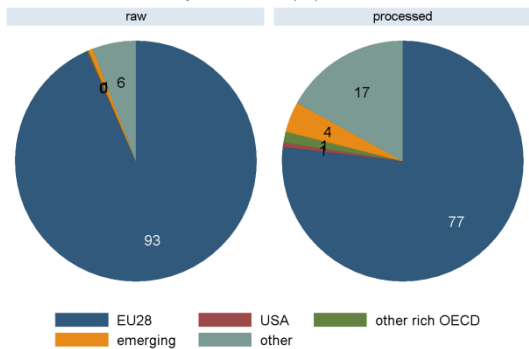
Export shares (%), 1992



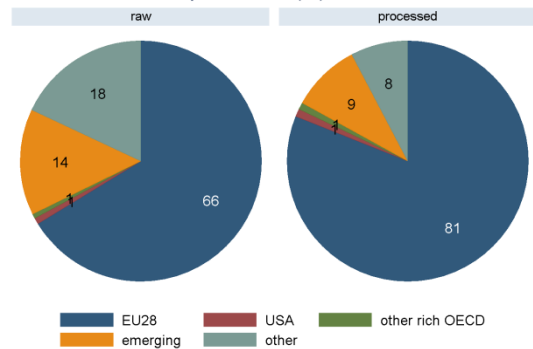
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Hop cones, ground, powdered or pelleted and lupulin	121020	0,23	77%	1,11
2	Hop cones, not ground, powdered or pelleted	121010	0,03	86%	1,58
3	Seaweeds and other algae,	121220	0,02	92%	2,17
4	Seed, fruits and spores for sowing, nes	120999	0,01	95%	2,24
5	Plants & parts, pharmacy, perfume, insecticide use ne	121190	0,01	98%	0,60
6	Guavas, mangoes and mangosteens, fresh or dried	80450	0,00	99%	0,46
7	Honey, natural	40900	0,00	100%	1,33
8	Raw hide/skins except bovine/equine/sheep/goat/reptil	410390	0,00	100%	n.a.

Top export goods, processed agricultural goods

1	Vegetable saps and extracts nes	130219	1,45	29%	0,65
2	Grape wines nes, fortified wine or must, pack < 2l	220421	1,32	55%	1,12
3	Food preparations nes	210690	0,46	64%	n.a.
4	Beverage waters, sweetened or flavoured	220210	0,38	71%	1,21
5	Rusks, toasted bread and similar toasted products	190540	0,25	76%	0,95
6	Mineral and aerated waters not sweetened or flavoured	220110	0,21	80%	0,77
7	Single fruit, veg juice nes, not fermented or spirite	200980	0,16	83%	0,50
8	Non-alcoholic beverages nes, except fruit, veg juices	220290	0,13	86%	0,86
9	Dog or cat food (retail)	230910	0,12	88%	2,00
10	Fish prepared or preserved, except whole, in pieces	160420	0,12	91%	0,38

Top import goods, raw agricultural goods

1	Soya beans	120100	8,76	71%	0,89
2	Logs, non-coniferous nes	440399	1,44	83%	n.a.
3	Almonds, fresh or dried, shelled	80212	0,72	89%	0,91
4	Raw hide/skins except bovine/equine/sheep/goat/reptil	410390	0,21	90%	1,42
5	Walnuts, fresh or dried, shelled	80232	0,18	92%	0,88
6	Prunes, dried	81320	0,13	93%	1,22
7	Fruits, dried nes	81340	0,13	94%	1,06
8	Lobsters (Homarus), not frozen	30622	0,11	95%	0,91
9	Pistachios, fresh or dried	80250	0,06	95%	0,93
10	Hazelnuts and filberts, fresh or dried, shelled	80222	0,06	96%	0,66

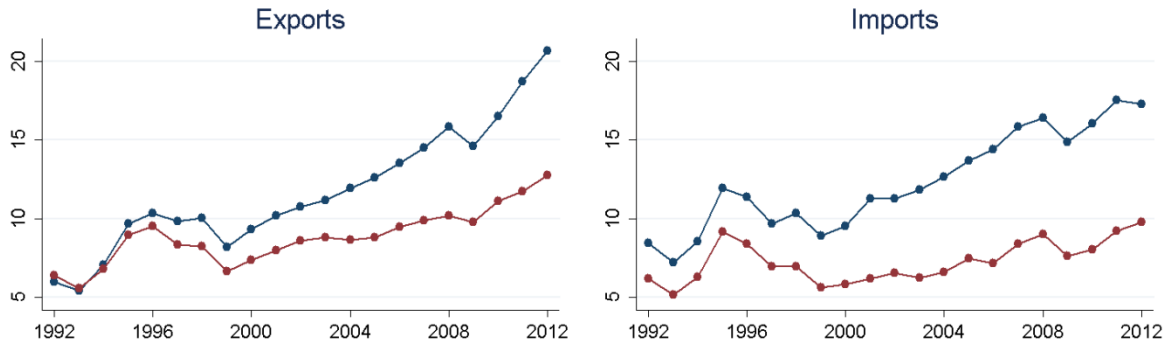
Top import goods, processed agricultural goods

1	Food preparations nes	210690	4,90	39%	n.a.
2	Whiskies	220830	3,16	64%	1,38
3	Tea and mate extracts, essences and concentrates	210120	0,55	68%	n.a.
4	Dog or cat food (retail)	230910	0,50	72%	1,64
5	Dextrins and other modified starches	350510	0,38	75%	n.a.
6	Non-alcoholic beverages nes, except fruit, veg juices	220290	0,34	78%	n.a.
7	Sauces nes, mixed condiments, mixed seasoning	210390	0,29	80%	0,88
8	Fruit, edible plants nes otherwise prepared/preserved	200899	0,28	82%	2,08
9	Animal feed preparations nes	230990	0,26	84%	n.a.
10	Alcoholic liqueurs nes	220890	0,25	86%	2,03

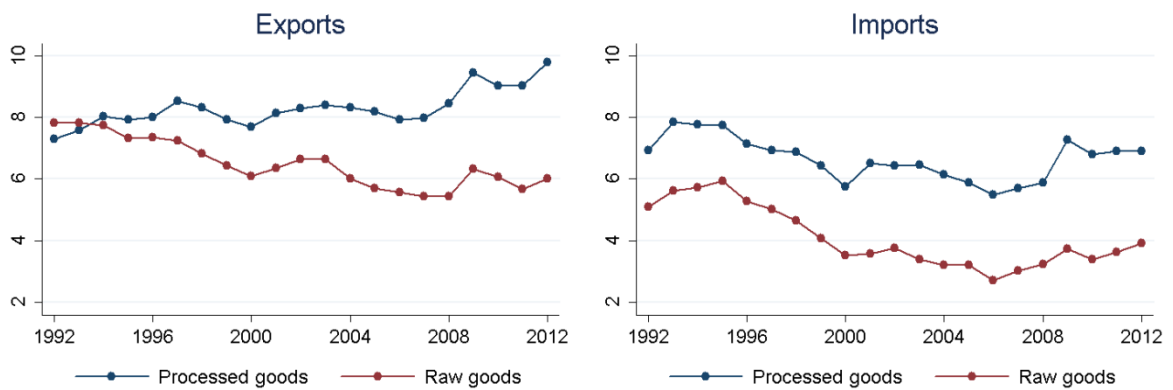
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SPAIN

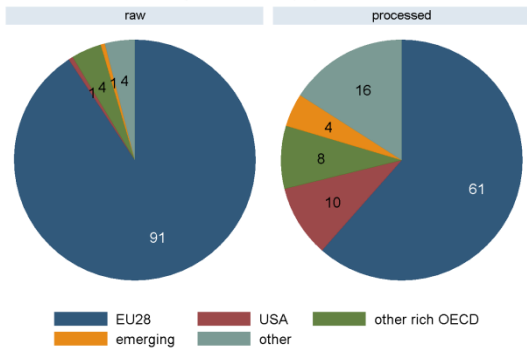
Agricultural trade, EUR billions



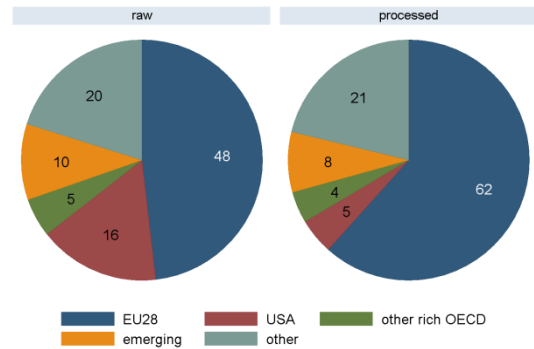
Share of agricultural goods in total trade, %



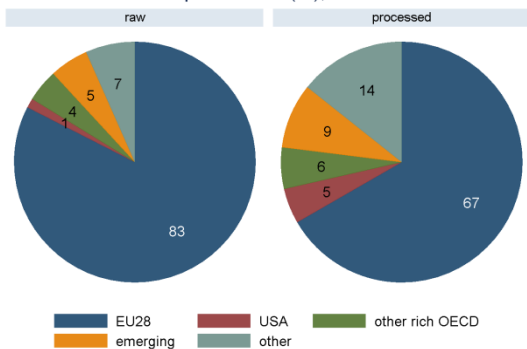
Export shares (%), 1992



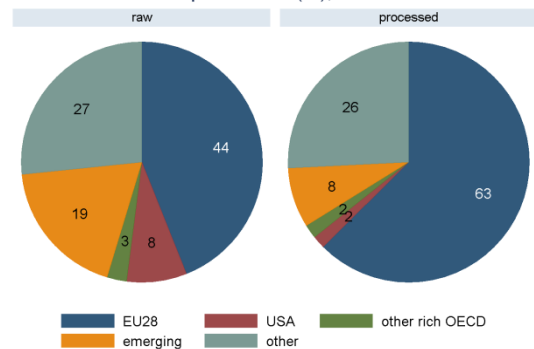
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Mandarin, clementine & citrus hybrids, fresh or dried	80520	72,10	48%	1,70
2	Capsicum or Pimenta, dried, crushed or ground	90420	18,65	60%	1,11
3	Saffron	91020	9,02	66%	n.a.
4	Almonds, fresh or dried, shelled	80212	8,95	72%	1,68
5	Tuna nes, fresh or chilled, whole	30239	6,22	76%	1,63
6	Peppers (Capsicum, Pimenta) fresh or chilled	70960	5,21	80%	2,23
7	Mixtures of spices	91091	3,16	82%	0,81
8	Plants & parts, pharmacy, perfume, insecticide use ne	121190	2,62	83%	1,05
9	Spices nes	91099	2,38	85%	0,97
10	Seed, vegetable, nes for sowing	120991	2,09	86%	n.a.

Top export goods, processed agricultural goods

1	Grape wines nes, fortified wine or must, pack < 2l	220421	165,96	19%	2,01
2	Olives, prepared or preserved, not frozen/vinegar	200570	155,83	36%	1,53
3	Olive oil, virgin	150910	110,63	48%	1,12
4	Grape wines, sparkling	220410	52,92	54%	1,56
5	Olive oil, fractions, refined, not chemically modifie	150990	45,70	59%	0,95
6	Cheese except fresh, grated, processed or blue-veined	40690	38,65	64%	1,61
7	Cocoa powder, unsweetened	180500	33,62	68%	1,02
8	Sugar confectionery not chewing gum, no cocoa	170490	29,31	71%	0,80
9	Veg, fruit, nuts nes prepared or preserved by vinegar	200190	23,02	73%	1,16
10	Veg nes, mixes, prepared/preserved, not frozen/vinega	200590	21,97	76%	1,35

Top import goods, raw agricultural goods

1	Soya beans	120100	218,88	28%	1,05
2	Almonds, fresh or dried, shelled	80212	214,70	55%	1,01
3	Wheat except durum wheat, and meslin	100190	70,28	64%	1,15
4	Walnuts, fresh or dried, shelled	80232	39,50	69%	0,98
5	Grain sorghum	100700	39,40	74%	1,00
6	Lobsters (Homarus), not frozen	30622	33,84	78%	0,91
7	Sunflower seeds	120600	23,61	81%	1,99
8	Maize except seed corn	100590	23,60	84%	1,04
9	Walnuts in shell, fresh or dried	80231	21,49	87%	0,97
10	Lentils dried, shelled	71340	17,07	89%	0,99

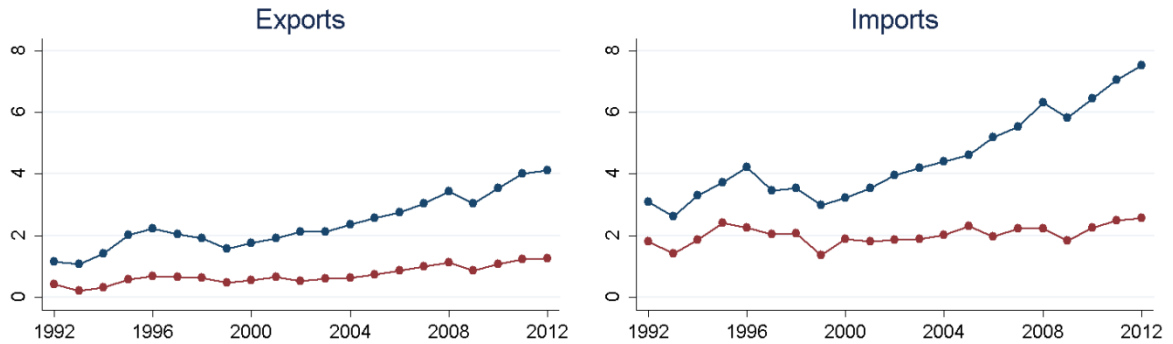
Top import goods, processed agricultural goods

1	Whiskies	220830	37,50	15%	0,97
2	Maize oil crude	151521	33,82	28%	1,01
3	Rum and tafia	220840	27,77	39%	1,38
4	Lard, other pig fat and poultry fat, rendered	150100	17,43	45%	0,99
5	Fish meat & mince, except liver, roe & fillets, froze	30490	16,96	52%	0,80
6	Animal feed preparations nes	230990	12,19	57%	n.a.
7	Brewing or distilling dregs and waste	230330	11,26	61%	0,83
8	Tunas(albacore,longfin), frozen, whole	30341	9,22	65%	1,01
9	Soya-bean oil-cake and other solid residues	230400	7,65	68%	1,08
10	Cuttle fish, squid, frozen, dried, salted or in brine	30749	6,51	70%	0,57

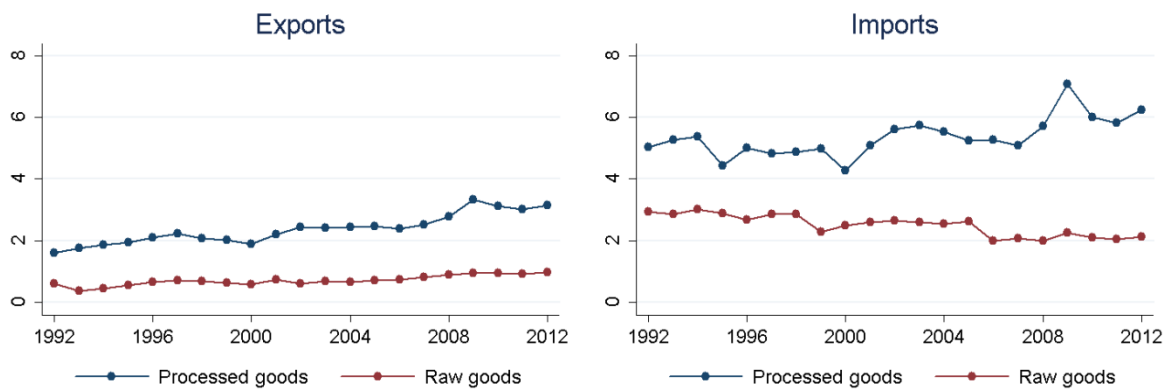
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SWEDEN

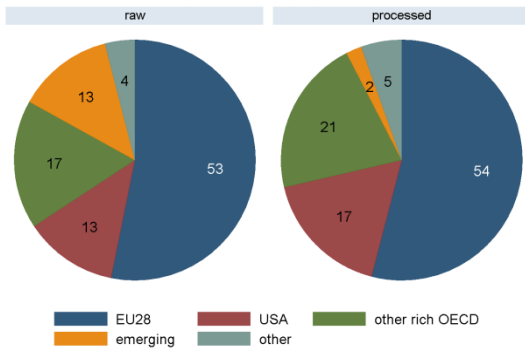
Agricultural trade, EUR billions



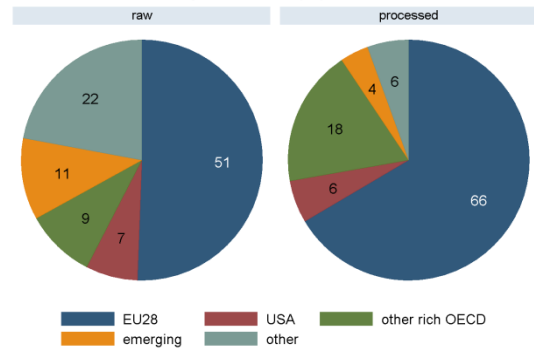
Share of agricultural goods in total trade, %



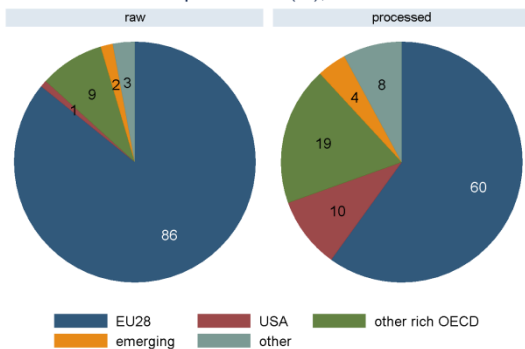
Export shares (%), 1992



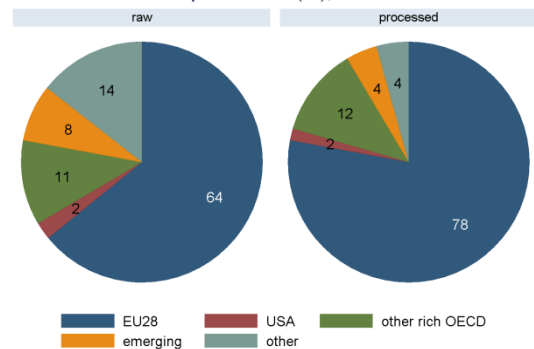
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Raw mink furskins, whole	430110	5,07	66%	1,33
2	Oats	100400	1,83	89%	0,92
3	Plants & parts, pharmacy, perfume, insecticide use ne	121190	0,27	93%	1,66
4	Seaweeds and other algae,	121220	0,16	95%	0,80
5	Semen bovine	51110	0,05	95%	n.a.
6	Animal products and domestic animal carcass (non-food)	51199	0,05	96%	n.a.
7	Coarse animal hair, not carded or combed	510220	0,03	96%	n.a.
8	Fuel wood	440110	0,03	97%	1,29
9	Maize except seed corn	100590	0,03	97%	n.a.
10	Hair & waste of badger and of other brush making hair	50290	0,02	97%	0,99

Top export goods, processed agricultural goods

1	Alcoholic liqueurs nes	220890	303,34	79%	1,35
2	Coffee, roasted, not decaffeinated	90121	17,97	83%	1,21
3	Food preparations nes	210690	16,52	88%	2,62
4	Chocolate and other food preps containing cocoa >2 k	180620	9,76	90%	1,26
5	Coffee, roasted, decaffeinated	90122	3,39	91%	1,00
6	Jams, fruit jellies, purees and pastes, except citrus	200799	2,58	92%	1,29
7	Undenatured ethyl alcohol > 80% by volume	220710	2,44	92%	1,49
8	Cheese except fresh, grated, processed or blue-veined	40690	2,44	93%	1,62
9	Communion wafers, rice paper, bakers wares nes	190590	2,42	94%	1,32
10	Crispbread	190510	2,32	94%	0,91

Top import goods, raw agricultural goods

1	Grapes, dried	80620	13,71	26%	1,01
2	Almonds, fresh or dried, shelled	80212	12,62	50%	0,93
3	Walnuts, fresh or dried, shelled	80232	3,12	56%	0,91
4	Logs, Oak (Quercus spp)	440391	2,64	61%	1,36
5	Pistachios, fresh or dried	80250	2,62	66%	0,93
6	Lobsters (Homarus), not frozen	30622	1,95	70%	0,84
7	Capsicum or Pimenta, dried, crushed or ground	90420	1,55	73%	1,01
8	Prunes, dried	81320	1,23	75%	1,03
9	Coffee, not roasted, not decaffeinated	90111	1,03	77%	1,23
10	Grapefruit, fresh or dried	80540	0,99	79%	1,03

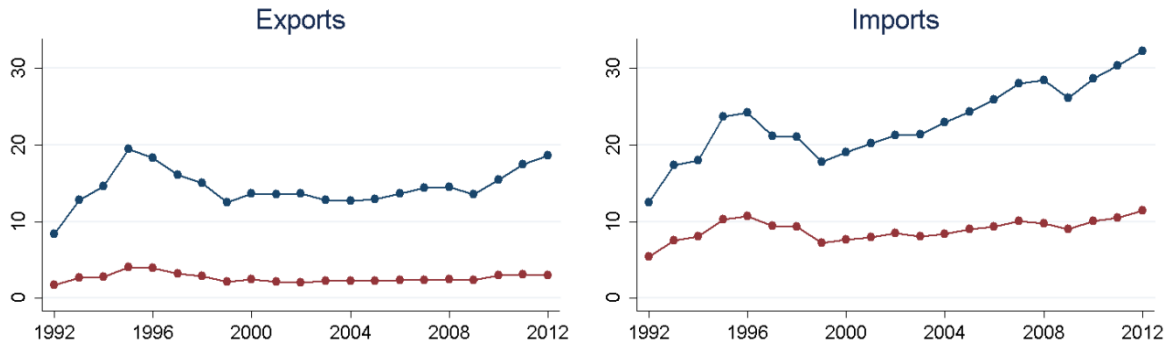
Top import goods, processed agricultural goods

1	Food preparations nes	210690	14,69	15%	1,77
2	Grape wines nes, fortified wine or must, pack < 2l	220421	13,97	30%	1,20
3	Sauces nes, mixed condiments, mixed seasoning	210390	7,50	37%	1,05
4	Beer made from malt	220300	5,18	43%	1,51
5	Grape wines, alcoholic grape must nes	220429	4,14	47%	0,82
6	Undenatured ethyl alcohol > 80% by volume	220710	3,78	51%	0,83
7	Sweet corn, prepared or preserved, not frozen/vinegar	200580	3,24	54%	0,89
8	Whiskies	220830	2,85	57%	1,25
9	Non-alcoholic beverages nes, except fruit, veg juices	220290	2,75	60%	3,17
10	Caviar and caviar substitutes prepared from fish eggs	160430	2,75	63%	1,86

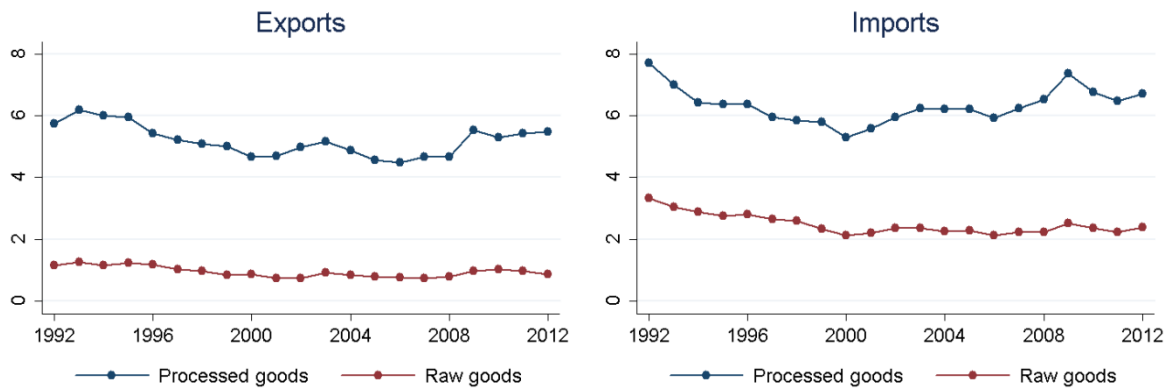
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UNITED KINGDOM

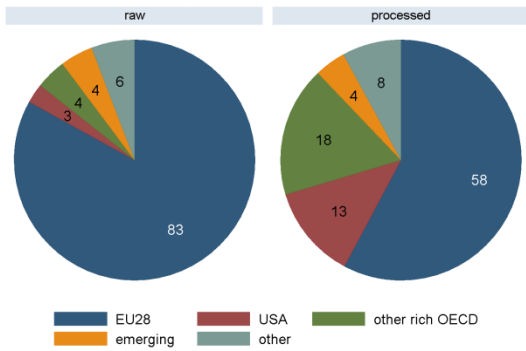
Agricultural trade, EUR billions



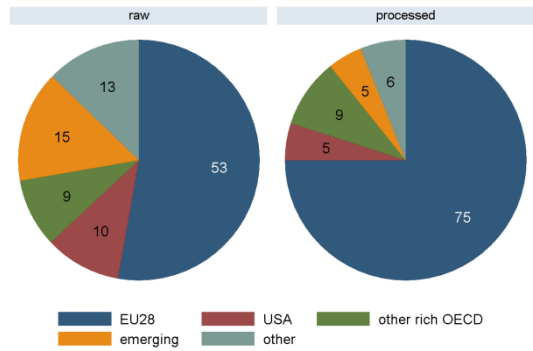
Share of agricultural goods in total trade, %



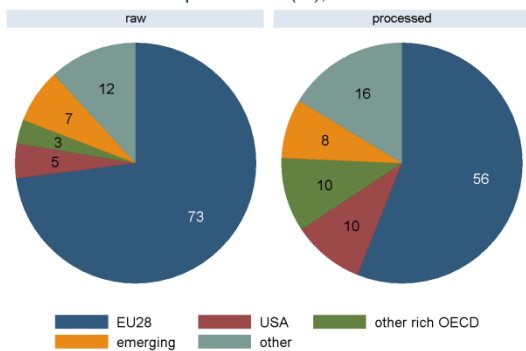
Export shares (%), 1992



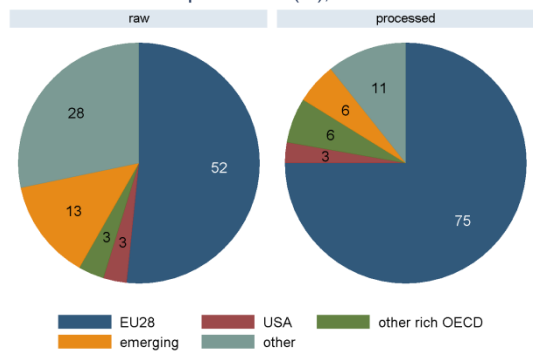
Import shares (%), 1992



Export shares (%), 2012



Import shares (%), 2012



Top products traded with the US, in the area of raw and processed agricultural goods

Top export goods, raw agricultural goods

Rank	Product	HS 6 code	Value (EUR Mio.)	Cumulated share in total raw ag exports	Value (EUR) per unit
1	Salmon fresh or chilled, whole	30212	78,83	62%	1,08
2	Wheat except durum wheat, and meslin	100190	18,92	77%	0,96
3	Salmonidae, not trout or salmon, fresh or chilled whol	30219	3,89	80%	1,24
4	Gum arabic	130120	3,25	82%	0,88
5	Hop cones, ground, powdered or pelleted and lupulin	121020	2,44	84%	1,58
6	Bulbs, tubers, corms, crowns and rhizomes, dormant	60110	2,20	86%	1,42
7	Trout, fresh or chilled, whole	30211	1,56	87%	0,89
8	Seaweeds and other algae,	121220	1,31	88%	0,93
9	Semen bovine	51110	1,20	89%	n.a.
10	Plants & parts, pharmacy, perfume, insecticide use ne	121190	0,93	90%	1,89

Top export goods, processed agricultural goods

1	Whiskies	220830	863,05	55%	1,50
2	Gin and Geneva	220850	186,22	66%	1,24
3	Beer made from malt	220300	109,04	73%	1,01
4	Alcoholic liqueurs nes	220890	98,33	80%	1,76
5	Food preparations nes	210690	58,56	83%	2,63
6	Fish fillet or meat, fresh or chilled, not liver, roe	30410	31,61	85%	1,20
7	Cheese except fresh, grated, processed or blue-veined	40690	25,60	87%	2,15
8	Animal feed preparations nes	230990	16,13	88%	n.a.
9	Communion wafers, rice paper, bakers wares nes	190590	11,50	89%	1,36
10	Chocolate/cocoa food preparations nes	180690	11,39	89%	0,97

Top import goods, raw agricultural goods

1	Soya beans	120100	37,11	10%	0,99
2	Almonds, fresh or dried, shelled	80212	34,36	20%	0,93
3	Grapes, dried	80620	31,49	29%	1,06
4	Sweet potatoes, fresh or dried	71420	19,64	34%	0,92
5	Nuts edible, fresh or dried, nes	80290	17,05	39%	1,30
6	Wheat except durum wheat, and meslin	100190	16,53	44%	1,10
7	Apples, fresh	80810	13,78	48%	1,36
8	Walnuts, fresh or dried, shelled	80232	13,04	51%	0,94
9	Grapes, fresh	80610	12,85	55%	1,05
10	Birds eggs, in shell, fresh, preserved or cooked	40700	11,99	58%	2,04

Top import goods, processed agricultural goods

1	Whiskies	220830	101,22	12%	1,35
2	Grape wines nes, fortified wine or must, pack < 2l	220421	91,85	22%	0,79
3	Food preparations nes	210690	70,24	31%	2,67
4	Grape wines, alcoholic grape must nes	220429	68,70	39%	0,93
5	Animal feed preparations nes	230990	55,62	45%	0,62
6	Salmon prepared or preserved, not minced	160411	54,00	51%	0,93
7	Soya-bean oil-cake and other solid residues	230400	40,92	56%	1,12
8	Dextrins and other modified starches	350510	19,47	58%	0,84
9	Protein concentrates and textured protein substances	210610	19,28	61%	1,75
10	Hop extract	130213	18,94	63%	n.a.

n.a.: value not available

DIRECTORATE-GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT **B** STRUCTURAL AND COHESION POLICIES

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