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The impact of the Russian import ban on EU agrarian exports

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Abstract: The main goal of the paper is to evaluate the impact of the Russian import ban on the development of agricultural exports from EU member states. The study is based on a time-series analysis of empirical statistical indicators. The analysed period is between 2009 and 2019. The source of data for individual analyses is UN Comtrade (2021). The valuation of export performance is extended by hierarchical cluster analysis. The study quantifies the effects of the import ban on the EU and individual member states through two scenarios. Scenario 1 is based on the cumulative loss of the value of exports. Scenario 2 assumes a continuous development of the value of agricultural exports. Based on the results, it is possible to confirm that the application of the Russian food import ban had a significant impact on EU countries. The impact of sanctions varies across EU countries. Four specific clusters could be identified in the period under investigation. In the period after the ban, the distribution of individual countries among individual clusters changed significantly. The applied ban could be understood not only as an attempt at counter-sanctions. Import restrictions also aim to reduce Russia's dependence on food imports and promote national food security.

Keywords: agricultural trade; European Union; Russia; sanction

Economic sanctions are a widespread tool of foreign policy. Sanctions are used against the inaction of countries and to prevent war (Shojai and Root 2013). In a diplomatic conflict, the goal is to use economic pressure to change foreign policy (Crozet and Hinz 2016). Elliott and Hufbauer (1999) and Hufbauer et al. (2009) published comprehensive research on the effectiveness of sanctions in international relations. More than a hundred case studies of sanctions were included in these studies. The authors conclude that sanctions are more effective if their target is more modest. The likelihood of success also increases the expansion of mutual trade and the size of the target country. From the point of view of actions, it is advantageous when the affected state is smaller than the imposing country. Sanctions should be imposed promptly and decisively (Hufbauer et al. 2009).

Despite many published studies, theories and research on the economic efficiency of sanctions do not yet provide a comprehensive framework for deciding on the effect of sanctions. There are no exact data available that can be completely generalized. In addition, sanctions are imposed mainly for political reasons. Estimates of economic benefits and risks for the sending countries are therefore not the main decision-making criteria for political representatives (Shojai and Root 2013). In addition to the effectiveness of sanctions,

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it is important to consider social aspects as well. According to Neuenkirch and Neumeier (2016), long-term economic sanctions contribute to an increase in income disparities and poverty in target countries.

EU-Russia relations after 2014 are a classic example of the impact of economic sanctions on international trade. The conflict in Ukraine affected political relations and, subsequently, international trade. The USA, EU member states, Japan, Australia, Canada, Norway, and a few other countries have adopted sanctions towards Russia. In response to these sanctions, the Russian government imposed (after a decree and authorization from the president) an annual import ban on agricultural products, raw materials, and food from Australia, Canada, Norway, the USA, and the EU (Smutka et al. 2016). The list of banned products includes beef, pork, poultry, fruits, vegetables, fish, seafood, cheese, milk, and other products. Russia changed the list of banned products continuously in subsequent years. For example, items that could not replace similar products produced in Russia were excluded in the first years after the ban. Such products included, in particular, dietary supplements, vitamins, minerals, and protein concentrates. At present, the ban is valid until the end of 2021.

A series of research papers have focused directly on assessing the impact of sanctions on the economies and trade of Russia and the member states of the European Union. The authors' methodological approaches and impact estimates are different. Crozet and Hinz (2016) estimate the effects of sanctions and counter-sanctions on trade between the Russian Federation and 37 countries in 2014 and 2015 based on the Poisson model. The authors conclude that most trade losses in European countries are not directly related to Russian counter-sanctions. Statistical analysis confirmed that products outside the sanctions are more responsible. Therefore, sanctions from the international community have affected domestic companies trading in Russian goods (Crozet and Hinz 2016). Based on the gravity model, Skvarciany et al. (2020) estimate the total loss of exports of European Union countries to Russia at more than USD 226 billion. The research period was 2014–2018. Sultonov (2020) concluded that economic sanctions had a long-term negative effect on yields and exchange rate fluctuations. Fedoseeva and Herrmann (2019) argue that the import ban limited German agricultural and food exports but was not the main cause. Therefore, a simple elimination of the ban will not be enough to resume trade at the level before Russia imposed the ban. Negative effects on trade between the European Union and Russia are also reported in other studies (Dreger et al. 2016; Golikova and Kuznetsov 2016; Tyll et al. 2018).

Kontsevaya and Smutka (2020) identified two factors influencing the trade flow between Russia and the European Union. With a smaller geographical distance and a more significant economic scale, the impacts on EU countries were greater. The cluster analysis revealed the impact of sanctions on absolutely all groups of agricultural products imported into Russia. Products that are not sanctioned were also affected (Kontsevaya and Smutka 2020). To evaluate the short-term impact of restrictions on imports of agri-food products into Russia, Boulanger et al. (2016) used the CGE model (the specific factor computable general equilibrium model). The study results show that Russia achieves the highest decline in revenue, while the EU compensates part of its trade losses by expanding exports to other markets (Boulanger et al. 2016). The effects of economic sanctions on the development of trade between Russia and China are confirmed in other research papers (Charap et al. 2017; Bradshaw and Waterworth 2020). Ankudinov et al. (2017) report higher risks for the Russian economy in terms of oil price volatility and stock indices after the introduction of sanctions.

The main goal of the paper is to evaluate the impact of the Russian import ban on the development of agricultural exports from EU member states. The study is based on the time series analysis of empirical statistical indicators. The evaluation of export performance is extended by hierarchical cluster analysis, which is based on Ward's method. Cluster analysis creates groups of export countries with similar characteristics.

MATERIAL AND METHODS

The Harmonized System (HS) is applied to analyse the effects of restrictions applied to the agricultural trade of EU countries by the Government of the Russian Federation. Agrarian aggregations are represented by HS01 to HS24. Table 1 illustrates the list of commodity aggregations analysed.

The analysed period is between 2009 and 2019. The source of data for individual analyses are UN Comtrade (2021) and FAOSTAT (2021). The analysis itself is processed in USD at current prices.

Items under the analyses are divided into two groups.

i) Aggregations affected by applied import ban: H3-01, H3-02, H3-03, H3-04, H3-07, H3-08, H3-15, H3-16, H3-19, H3-21.

ii) Aggregations not affected by applied import ban: H3-05, H3-06, H3-09, H3-10, H3-11, H3-12, H3-13, H3-14, H3-17, H3-18, H3-20, H3-22, H3-23, H3-24.

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The next step is to perform a cluster analysis. Cluster analysis is a powerful tool for analysing multidimensional survey data. Its aim is to identify groups of similar objects according to selected variables (Šulc and Řezanková 2019). The cluster analysis aims to divide the 28 EU states into individual clusters on the basis of common features in relation to their foreign trade activities towards Russia in 2009 and 2013, (i.e. before the ban was applied) and then in 2015 (immediately after Russia imposed agri-food import ban in relation to the EU countries) and then in 2019 (the last available data). The aim is to identify changes in the territorial structure of agricultural trade of EU countries in relation to Russia and to identify countries according to the degree of impact of the applied sanctions.

Table 1. Harmonized system – Agrarian trade aggregations

HS code	Commodity
HS01	live animals
HS02	meat and offal
HS03	fish, crustaceans, molluscs, and other aquatic invertebrates
HS04	milk, dairy products, eggs, and honey
HS05	products of animal origin, not elsewhere specified or included
HS06	live plants and floricultural products
HS07	vegetables, plants, tubers, edible roots
HS08	fruits, nuts, edible peels of lemon melons
HS09	coffee, tea, mate, and spices
HS10	cereals
HS11	mill products, malt, starches, inulin, wheat gluten
HS12	seeds, fruits of plants medicinal industry straw etc.
HS13	shellac, gums, resins, other juices, and vegetable extracts
HS14	vegetable plaiting materials and other vegetable products
HS15	animal and vegetable fats and oils
HS16	preparations of meat, of fish, of crustaceans or other aquatic invertebrates
HS17	sugar and confectionery
HS18	cocoa and cocoa preparations
HS19	cereal preparations
HS20	preparations of vegetables, fruits, nuts
HS21	various food preparations
HS22	drinks, spirits, and vinegar
HS23	residues and waste from the food industries, feed
HS24	tobacco and tobacco products

Source: CZSO (2021)

Cluster analysis is chosen due to the need to analyze the information contained in the monitored variables, and we do not know its division into individual clusters. In this respect, clusters capture the similarity of objects that are part of one group on the one hand and the dissimilarity of objects belonging to different categories on the other. Variables are first transformed using a *z*-score (Milligan and Cooper 1988). The *z*-score represents the deviation of a given variable from the mean (Elefteriades 2016). The processed article uses a hierarchical analysis of clusters with agglomeration clustering and Ward's method, also called the method of square increments (Ward 1963). The graphical representation is also used for multidimensional scaling. The distribution of particular variables is based on the similarity between the individual objects of research (Chen et al. 2008).

The final part of the article analyses the degree of impact of the applied sanctions on agricultural exports of individual EU member states in relation to Russia. Agrarian trade is divided into two groups of segments, i.e. aggregations affected by the applied sanctions and then aggregations that were not affected by these sanctions. In this respect, the analysis is prepared with an emphasis on both groups of agricultural exports. It is possible to identify the effects of deteriorating mutual trade relations at the level of directly affected commodity aggregations and also at the level of those not involved under the import ban. The impacts associated with the development of agrarian trade during the last ten years in relation to the EU and its members have been quantified through two scenarios. Scenario 1 is based on the cumulative loss of the value of exports in 2014–2019, assuming that agricultural exports would remain at the level of 2013 (i.e. the last year before the application of sanctions). Scenario 2 is based on the assumption of continuous development of the value of agricultural exports, i.e. the average year-on-year growth of exports in 2008 to 2013 is calculated. Subsequently, the development of the value of agricultural trade in 2014 to 2019 is calculated adjusted by this value.

RESULTS AND DISCUSSION

The analysis of statistical data confirmed that the applied ban on agricultural products significantly affected the performance of mutual trade between Russia and the European Union during the 2014–2009 period.

Tables 2–4 provide an overview of EU-Russian agricultural trade between 2009 and 2019. The year 2014 must be understood as a specific one as the trade ban

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Table 2. EU-Russian agrarian trade aggregations – Selected characteristics

	2009–2013	2009–2019	2015–2019	2013 *vs.* 2015	2013 *vs.* 2019	2013 *vs.* 2015	2013 *vs.* 2019
			(USD)			(%)	
EU28 turnover	76 085 557 996	135 427 170 420	45 081 343 852	–10 068 633 498	–7 993 421 362	44.12	55.63
Export	66 118 732 117	111 588 614 260	33 611 667 668	–9 553 108 734	–8 063 728 566	38.16	47.80
Import	9 966 825 879	23 838 556 160	11 469 676 184	–515 524 764	70 307 204	79.93	102.4
EU28 balance	–56 151 906 238	–87 750 058 100	–22 141 991 484	9 037 583 970	8 134 035 770	29.83	36.85

Source: UN Comtrade (2021), own processing

Table 3. EU-Russian agrarian trade aggregations affected by applied import ban – Selected characteristics

	2009–2013	2009–2019	2015–2019	2013 *vs.* 2015	2013 *vs.* 2019	2013 *vs.* 2015	2013 *vs.* 2019
			(USD)			(%)	
EU28 turnover	46 176 685 856	68 269 381 949	15 195 170 707	–8 042 864 976	–7 258 450 852	25.06	32.37
Export	41 158 017 726	57 778 490 545	10 501 653 242	–7 602 821 768	–7 216 167 227	20.24	24.29
Import	5 018 668 130	10 490 891 404	4 693 517 465	–440 043 208	–42 283 625	63.37	96.48
EU28 balance	36 139 349 596	47 287 599 141	5 808 135 777	–7 162 778 560	–7 173 883 602	14.02	13.88

Source: UN Comtrade (2021), own processing

Table 4. EU-Russian agrarian trade aggregations not listed under the applied import ban – Selected characteristics

	2009–2013	2009–2019	2015–2019	2013 *vs.* 2015	2013 *vs.* 2019	2013 *vs.* 2015	2013 *vs.* 2019
			(USD)			(%)	
EU28 turnover	29 908 872 140	67 157 788 471	29 886 173 145	–2 025 768 522	–734 970 510	72.19	89.91
Export	24 960 714 391	53 810 123 715	23 110 014 426	–1 950 286 966	–847 561 339	67.04	85.68
Import	4 948 157 749	13 347 664 756	6 776 158 719	–75 481 556	112 590 829	94.48	108.23
EU28 balance	20 012 556 642	40 462 458 959	16 333 855 707	–1 874 805 410	–960 152 168	58.79	78.89

Source: UN Comtrade (2021), own processing

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was applied in August 2014. The most significant impact of the applied ban could be demonstrated as the comparison between 2013 and 2015 (for details, see Table 3). Between 2013 and 2015, the value of mutual agri-food trade turnover reduced by 46%. The value of the EU's exports decreased by 62% and Russian exports by 20% (the EU did not apply any sanction for food imports from Russia).

The applied ban affected majority of trade items, but as the most affected we could consider the following: HS02 (–99.3%), HS03 (–77%), HS04 (–88%), HS07 (–92.5%), HS08 (–93.5%), HS15 (–40%), HS16 (–87%), HS21 (–50%). Those commodity groups suffered export value reduction in cumulative value about USD 7 billion (i.e. 80% of the total value of exports reduction). The most affected commodity groups are those directly involved under the applied ban. Those trade items performance is demonstrated in Table 3. In the period before the ban (2009–2013), those items represented about 62% of EU export value. Later on, their share reduced to about 31%. Their export value decreased from USD 41 billion to only USD 10.5 billion in period 2015–2019. Only between 2013 and 2015, the value of commodity aggregates involved touched by ban list reduced from USD 9.5 billion to less than USD 2 billion. The only aggregates that did not suffer because of the applied ban are HS01 and HS15.

Based on available data, it is possible to highlight the following statement. The applied ban affected not only trade in products directly involved in the ban list. Also, many other items (not included in the ban list) suffered because of massive trade value reduction (for details, see Table 4). The result of the applied ban is not only the significant mutual trade reduction. As another important result of the applied ban is the significant trade balance reduction. EU agri-food trade surplus reduced from USD 12.88 billion in 2013 to less than USD 4 billion in 2015. Later on, the value of trade surplus again increased but only up to USD 4.7 billion in 2019. While in period 2009–2013, the value of cumulative EU trade surplus reached about USD 56 billion, in period 2015–2019, the cumulative surplus value reached only USD 22 billion.

The impact of the applied ban is different country by country. The processed cluster analyses' results distributed individual EU countries into several groups. Four specific clusters could be identified in the period under the investigation. While 2009 and 2013 data are relatively homogenous and only marginal changes exist. In the period after the ban, the distribution of individual countries among individual clusters changed significantly. Changes are better demonstrated through Figure 1 and its four quadrants. It is more than evident that individual countries could be divided into three basic categories: not-affected (Czechia, Romania, Slovenia, Bulgaria), marginally affected (Malta, Croatia, Portugal, Sweden, Luxemburg, Slovakia, Cyprus, United Kingdom and Austria), significantly affected (Hungary, Latvia, Greece, Italy, Ireland, Estonia, Belgium and Spain) and heavily affected (Lithuania, Poland, Germany, the Netherlands, Denmark, France and Finland).

The real impact of applied sanctions on individual EU countries' agri-food exports performance illustrates Table 5. There are two different scenarios calculated to demonstrate the impact of applied Russian food import ban on the EU and its member countries. The first scenario calculates the final value of losses as the difference between individual years (2015–2019) trade performance and trade performance in 2013. The second scenario is calculated as the difference between the theoretical value of exports (the base year 2013) multiplied by the expected growth rate of exports (based on inter-annual growth rate in period 2009–2013) and the real value of EU agrarian exports to Russia in period 2015–2019.

Based on available data, the EU countries lost exports in a cumulative value of about USD 47 billion (for the period 2014–2019). If we also consider the loss of dynamics, the cumulative value of export losses could be estimated at USD 95 billion. The impact of the applied ban varies by country. The majority of the export value reduction was recorded primarily for Germany, Lithuania, the Netherlands, Poland, Italy, Spain, France, and Denmark. These countries participated in EU exports to Russia by 72% in 2013, and their exports reached about USD 11 billion. The impact of the applied ban reduced the value of their exports to only USD 4 billion in 2015. According to the first scenario, they lost an export value of about USD 35 billion during the period 2014–2019. If we also consider the loss of trade dynamics – scenario 2 – they lost export opportunities worth about USD 76.8 billion. When examining the relative impact of the applied trade restrictions, the most affected countries are the following: Malta and Cyprus (–97%), Ireland and Denmark (–82%), Greece (–80%), Finland (–77.3%), Poland (–73.5%), Belgium (–72.8%), Lithuania (–70%).

Speaking about the trade diversion effect, it is necessary to understand this phenomenon from two different points of view. First, the possibility for local (Russian) producers to increase the volume of their production,

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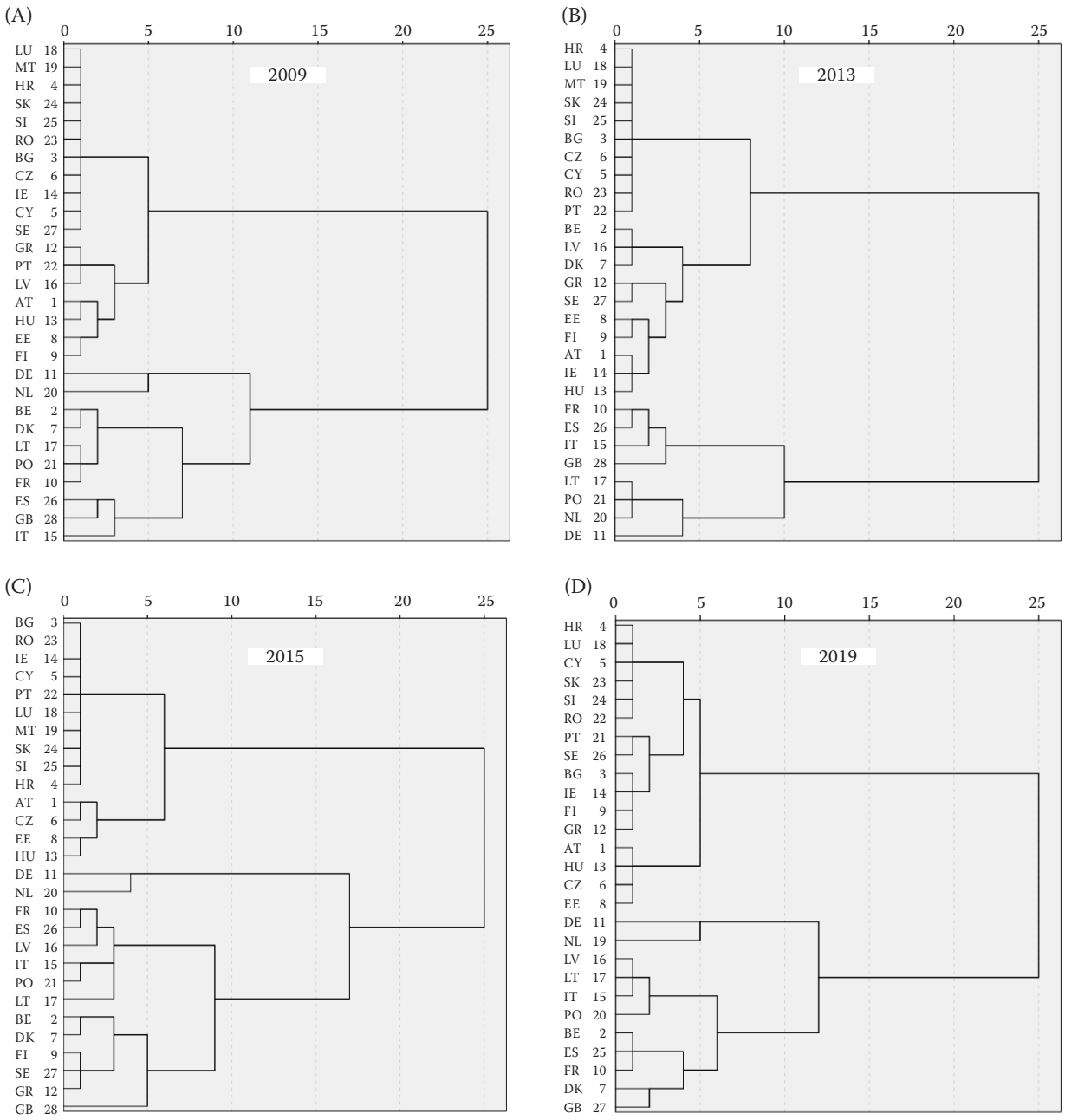

Figure 1. EU-Russian agrarian trade cluster analysis in (A) 2009, (B) 2013, (C) 2015, and (D) 2019

AT – Austria; BE – Belgium; BG – Bulgaria; HR – Croatia; CY – Republic of Cyprus; CZ – Czech Republic; DK – Denmark; EE – Estonia; FI – Finland; FR – France; DE – Germany; GR – Greece; HU – Hungary; IE – Ireland; IT – Italy; LV – Latvia; LT – Lithuania; LU – Luxembourg; MT – Malta; NL – the Netherlands; PO – Poland; PT – Portugal; RO – Romania; SK – Slovakia; Sl – Slovenia; ES – Spain; SE – Sweden; GB – Great Britain

Source: UN Comtrade (2021), own processing

and to sell their production on the local market for a better price because they do not need to compete with much cheaper imports from abroad. A surplus on the production side can be confirmed; nevertheless, Russian consumers suffered due to significant growth in food prices. Based on available data, the Russian domestic food supply increased significantly. In the period 2014–2019, the Russian food supply increased well above average for some commodity groups: cereals (14.8%), meat (19.8%), sugar crops (62.2%), oil crops (76.9%) and fruit (20.4%). The majority of key food items recorded significant production growth, except

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Table 5. Impact on EU member states' agricultural exports to Russia (2015–2019)

Part A – Aggregations under the sanction list				Part B – Aggregations not covered by the ban			
optimist		pessimist		optimist		pessimist	
Total	–40 569 986 635	Total	–70 282 299 005	Total	–6 651 233 159	Total	–25 107 499 149
Lithuania	–6 473 984 376	Poland	–18 205 791 228	The Netherlands	–1 777 241 985	Latvia	–7 414 868 376
Poland	–6 170 663 551	Lithuania	–14 710 835 235	Germany	–1 043 996 460	Lithuania	–7 355 419 369
Germany	–4 818 781 754	Ireland	–11 429 392 294	France	–988 638 993	The Netherlands	–2 934 571 627
The Netherlands	–3 525 578 321	The Netherlands	–5 554 316 813	Estonia	–910 480 154	Italy	–2 929 413 524
Denmark	–3 402 170 121	Denmark	–5 483 500 318	Latvia	–526 538 739	France	–2 682 330 965
Spain	–2 844 441 616	Germany	–5 003 111 449	Denmark	–454 338 274	Germany	–2 611 755 370
France	–2 136 426 272	Spain	–4 759 628 143	Italy	–308 593 694	Estonia	–2 291 897 096
Finland	–2 113 849 841	Italy	–4 085 094 984	Finland	–306 317 931	Romania	–1 829 896 793
Belgium	–1 989 370 535	Finland	–3 269 955 621	Lithuania	–292 035 985	Denmark	–1 697 184 011
Italy	–1 610 521 895	Greece	–3 042 300 664	Sweden	–201 635 176	Sweden	–958 534 098
Ireland	–1 319 288 305	France	–2 457 432 400	UK	–145 016 920	Hungary	–624 597 744
Greece	–924 248 259	Belgium	–2 321 572 599	Poland	–77 176 234	Poland	–594 330 936
Austria	–817 950 810	Hungary	–1 566 411 032	Greece	–64 902 086	Finland	–563 397 627
Hungary	–705 342 654	Latvia	–1 561 994 256	Slovakia	–48 832 105	UK	–423 910 820
Latvia	–573 034 136	Austria	–1 369 873 558	Bulgaria	–45 774 172	Slovakia	–394 722 761
Estonia	–424 311 323	Estonia	–633 220 159	Hungary	–21 345 346	Portugal	–273 183 079
UK	–270 953 948	Czechia	–589 827 564	Luxembourg	–10 159 334	Czechia	–103 815 222
Portugal	–107 767 605	Portugal	–560 868 135	Ireland	–7 231 627	Austria	–84 282 201
Cyprus	–95 811 112	UK	–191 683 565	Slovenia	–6 293 164	Bulgaria	–67 799 220
Croatia	–73 490 446	Cyprus	–174 909 307	Malta	–153 383	Greece	–61 361 684
Slovakia	–66 085 219	Croatia	–132 437 986	Cyprus	1 056 185	Slovenia	–34 740 515
Bulgaria	–41 597 380	Bulgaria	–130 929 213	Portugal	11 673 612	Ireland	–30 487 695
Luxembourg	–34 950 232	Slovenia	–121 006 653	Belgium	20 962 363	Malta	–1 203 454
Czechia	–34 773 288	Slovakia	–120 358 842	Czechia	41 612 558	Cyprus	1 163 115
Slovenia	–18 449 154	Sweden	–88 398 390	Croatia	58 946 809	Spain	2 935 015
Romania	–4 581 710	Romania	–7 726 980	Romania	74 324 680	Croatia	48 866 852
Malta	–2 655	Malta	8 808	Austria	162 318 949	Belgium	209 702 042
Sweden	28 439 883	Luxembourg	N/A	Spain	214 573 447	Luxembourg	N/A

Source: UN Comtrade (2021), own processing

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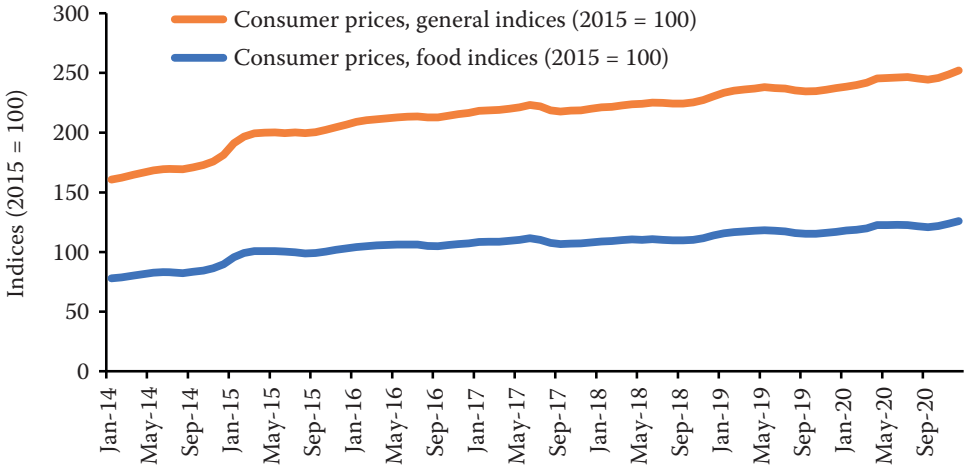

Figure 2. Russian consumer prices development
Source: FAOSTAT (2021), own processing

for beef, milk, and vegetable production. In addition, food prices increased rapidly (for details, see Figure 2).

Another way to understand the impact of trade diversion is through changes in the territorial structure because the territorial structure changed significantly. It is more concentrated and more focused on trade with strategic partners. Countries considered as possible political partners, and who support Russian ambitions, secure key roles in trade activities. The impact of the applied ban can be seen mainly at the level of trade in items on the import ban list. Russian imports under the ban declined in value by USD 6.5 billion (2014–2019). The territorial structure became more concentrated, and the role of EU member countries in the TOP 20 importers was significantly reduced. On the other hand, as the EU is still an important trade partner, and as the applied sanctions are focused not only on EU countries but also on affecting the trade of some other countries, EU imports to Russia still play an important role, mainly in relation to processed foodstuff products (the full impact of the applied ban on the territorial structure of Russian agrarian imports can be seen in Table 6).

The applied ban can be understood not only as an attempt at counter-sanctions, but also as an attempt to reduce Russian dependency on food imports from Western countries and to support the growth of national production capacities and national food security/self-sufficiency through better protection of local food producers. In this case, we have to understand that the list of items under the applied import ban is nearly the same as what is mentioned in the Russian food doctrine approved by the Russian government in 2010 (USDA 2010). The doctrine establishes the following minimum production targets for the share of domestic production in the total supply of commodities (USDA 2010): grain – 95%, sugar – 80%, vegetable oil – 80%, meat and meat products (based on meat) – 85%, milk and dairy products – 90%, potatoes – 95%.

On the other hand, the applied ban covers nearly the same items as the EU agri-food products on Russia's import ban list: meat and sausages (meat of bovine animals, swine, and poultry, whether fresh, chilled or frozen); dairy products including milk, cheese/skimmed milk powder, condensed milk and some food preparations containing milk components; vegetables and fruits (except for prepared vegetables and fruits); and fish and crustaceans (European Parliament 2020).

Finally, it is necessary to understand the applied ban as an instrument of Russian foodstuff policy (with the goals of food security and food independence). It is a result of long-term development and planning, and the Crimean crisis itself can probably be understood as merely a good opportunity to apply trade sanctions, rather than as a side effect of political tensions because activities run under political sanctions are not within WTO competencies and cannot be judged by WTO authorities.

The study creates assumptions in terms of further research. Possible directions for further research include analysis of the structure and productivity of agricultural products; analysis of the surpluses and losses of producers and consumers; analysis of changes in the commodity structure of exports from the EU to Russia; and analysis of the role and importance of re-exports in trade between Russia and EU countries.

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Table 6. TOP 20 Russian trade import partners (agrarian imports full commodity list) (USD)

2014		Share in imports (%)	2019		Share in imports (%)
World	39 904 990 698	100.00	World	29 965 221 218	100.00
Belarus	3 750 014 042	9.40	Belarus	4 289 058 867	14.31
Brazil	3 593 949 648	9.01	China	1 725 128 455	5.76
China	1 916 667 111	4.80	Brazil	1 475 860 566	4.93
Turkey	1 765 309 093	4.42	Germany	1 334 078 043	4.45
The Netherlands	1 551 370 819	3.89	Turkey	1 329 810 495	4.44
Germany	1 519 860 087	3.81	Ecuador	1 284 818 950	4.29
USA	1 393 861 659	3.49	Italy	1 080 079 602	3.60
Italy	1 300 661 805	3.26	Indonesia	837 677 035	2.80
France	1 290 681 672	3.23	France	834 767 389	2.79
Ecuador	1 240 539 348	3.11	Argentina	768 697 104	2.57
Poland	1 158 550 894	2.90	Chile	726 975 567	2.43
Paraguay	1 152 898 434	2.89	India	717 023 288	2.39
Ukraine	1 005 619 885	2.52	The Netherlands	696 805 671	2.33
Spain	959 598 291	2.40	Paraguay	670 618 787	2.24
Argentina	939 258 759	2.35	Azerbaijan	574 454 761	1.92
Indonesia	817 311 669	2.05	Spain	557 038 603	1.86
Chile	754 488 626	1.89	United Kingdom	480 816 561	1.60
India	666 662 094	1.67	Viet Nam	477 228 396	1.59
Norway	625 983 878	1.57	Iran	454 902 217	1.52
United Kingdom	564 279 206	1.41	Poland	452 938 528	1.51
TOP 20	27 967 567 020	70.09	TOP 20	20 768 778 885	69.31
TOP 20 – EU members	8 345 002 774	20.91	TOP 20 – EU members	5 436 524 397	18.14

Source: UN Comtrade (2021), own processing

CONCLUSION

Based on the results, it is possible to confirm that the application of the Russian food import ban had a significant impact on the EU countries. The Russian Federation ceased to be the key pillar of the European Union's agricultural trade expansion. The value of EU exports to Russia declined by more than 60%, and the positive trade balance also significantly declined by 60% of the value before the import ban was applied. The applied ban, already running for about six years, significantly reduced the role of the EU as a food-exporting Russian trade partner only in the period 2014–2019 (before the Covid-19 crisis). The Russian Federation reduced its dependency on EU exports, both those included under the ban and those not listed on the ban list. The value of trade in the following items, representing the core of the applied import ban, declined by the respective amounts: H3-02 (–99%), H3-03 (–81%), H3-04 (–87%), H3-07 (–95%), H3-08 (–93%), H3-16 (–90%) or HS21, and HS19 (–37% respectively –27%). On the other hand, several aggregations unaffected by the applied ban recorded a massive reduction in value, including HS10 (–55%), HS05 (–41%), HS03 (–24%) and HS22 (–22%).

The main impact of the applied ban is associated with EU exports of meat, meat products, milk, milk products, fruits, vegetables, fruit and vegetable products, and fishery production. The export reduction associated with those food items represented between 70–80% of the total export value reduction. Despite the Russian decision to revise the ban list in recent years, mutual trade between the EU and Russia in meat, milk, fruits and vegetables is still rather marginal. One very important feature of the applied ban is its side-effects on agri-food products not included on the ban list. The export value reduction cut trade in banned food items by about 60% (the value of non-banned food ex-

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ports declined by 30%). Since the applied ban was introduced, we have seen some export-value recovery, as the export of aggregations under the ban increased between 2015 and 2019 by USD 400 million (i.e. by 20%), and exports unaffected by the applied ban increased their value by USD 1 billion (i.e. by 25%).

The impact of the applied ban is significantly associated with the EU-Russian trade territorial structure. The impact of the applied ban must be understood in three dimensions. First, the impact on export value performance; second, the impact on mutual trade performance with respect to the share of Russia in the agrarian trade export activities of individual countries; and third, the loss of export value dynamics. With respect to the first criterion, the most affected are Lithuania, Poland, Germany, the Netherlands and Denmark. Speaking about the second criterion, the most affected are Poland, Lithuania, Latvia, Estonia and Finland. According to the third criterion, the most affected countries are Portugal, Slovenia, Luxembourg, Czechia, Bulgaria, Lithuania, Greece, Latvia and Poland. If we make a synthesis of the findings, the following could be highlighted: Russia's neighbours can be considered the most affected countries, with respect to both the share of Russia in their trade activities and the trade reduction value. The main losers are primarily Poland and the Baltic countries – especially Lithuania.

To conclude, we can sum up our analysis with the following statement: The applied Russian import ban affected nearly all EU countries. On the other hand, the impact of the sanctions varies by country, and while the impact for some countries is nearly negligible, for some other countries the applied ban resulted in significant problems and losses in value. The applied ban can be understood not only as an attempt at counter-sanctions but also as an attempt to reduce Russian dependency on food imports from Western countries.

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