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Changes of EU Countries Positions in the International Trade of Mineral Fuels, Lubricants and Related Materials in 2016-2020: Influence of Coronavirus Pandemic

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Abstract:

Purpose: *The purpose of this paper is an explanation of a dependency of all countries of the European Union on fuel imports in spite of EU activities to limit this dependency by using renewable energy. Moreover, Author considers a decrease of this dependency connected with the coronavirus pandemic. Changes of positions of particular EU member-countries in the international trade of mineral fuels, lubricants and related materials, (named fuels in this article) are helpful to understand their various situations of dependency on fuel imports.*
Design/Methodology/Approach: *The design is finding the efficiency of the EU energy policy and the importance of the recession of 2020 caused by the corona pandemic to decrease the EU dependency on the fuel imports and perspectives to change this situation. The research method is a describing political-economic analysis that bases on statistical data. The approach covers a description of changing positions of particular EU countries in international trade of fuels including importance of fuels in their exports and imports of all products.*
Findings: *The following countries were the most important net importers of fuels in 2019: Germany, France, Italy, Spain, United Kingdom and Poland. In 2016, the first five countries had the same places. Poland obtained the eight position in 2016.The first four countries had the same positions in 2020. Poland obtained the fifth position in 2020 (after Brexit). Moreover, trade deficit in fuels of all EU countries deepened in 2016-2019 in spite of the pro-ecological EU energy policy. The EU energy policy and the recession caused by the coronavirus pandemic together limited the EU dependency on the fuel imports in 2020.*
Practical Implications: *The result can be considered to elaborate the short-term and long-term EU energy policy.*
Originality/Value: *Original research paper.*

Keywords: *Mineral fuels, oil, international trade, coronavirus (Covid-19).*

JEL codes: *F10, F18.*

Paper type: *Research article.*

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1. Introduction and Hypothesis

This paper analyzes changes of exports, imports and trade balance in mineral fuels, including lubricants and related materials, (named fuels in this article) of EU country-members in 2016-2020. All countries of the European Union are still dependent on fuel imports in spite of EU activities to limit the fuel dependency by using renewable energy. Britain was EU member until January 31, 2020 but the temporary period finished in the end of 2020. Therefore, Britain is considered in this paper.

Author tries to prove the first hypothesis that the EU energy policy and the recession caused by the coronavirus pandemic limit the EU fuel trade deficit and dependency on fuel imports. According to the second hypothesis, the EU energy policy before the covid-19 pandemic did not decrease the EU dependency on fuel imports.

2. EU Energy Dependency

The European Union is still dependent on the energy imports in spite of its renewable and nuclear energy production. Petroleum products were about two-thirds of the EU energy imports in 2018. Oil was mostly used to the production of transportation fuels. EU imported (extra-EU imports) crude oil from Russia (151.6 million tons, i.e. about 30%), Iraq (44.1 million tons, i.e., about 9%), Saudi Arabia (37.9 million tons), Norway (36.7 million tons), Kazakhstan (36.5 million tons) and Nigeria. Other fossil fuels were natural gas and solid fossil fuels, i.e., various kinds of coals and solid products derived from coals).

EU imported natural gas from Russia (40%), Norway (18%) and Algeria (11%) and solid fuels (mostly coal) from Russia (42%), U.S.A. (18%) and Colombia (13%). Germany, the strongest EU economy, imported 85.2 million tons of crude oil (including 31 tons from Russia) in 2018 (Eurostat, 2021a, Wettengel, 2020).

The EU production of crude oil reached 21.4 million tons in 2018 and was lower than 42.5 million tons in 2004. The biggest EU oil producers in 2018 were as follows: Denmark (5.8 million tons), Italy (4.7 million tons) and Romania (3.4 million tons), (Eurostat, 2021a). Another solution is the implementation of biofuels in transportation and agriculture.

Moreover, the agriculture produces biofuel components [Vergano and Laurenz, 2012]. However, Walter (2018) underlines a growth of regulatory measures, e.g. subsidies, taxation and legal restraints of the European Commission in the aim to introduce a share of biofuel in petrol and diesel because of the uncompetitive prices of biofuels in comparison to fossil fuels. Another problem is a nuclear energy. Germany decided to withdraw the nuclear power by 2022 because of the catastrophe of the nuclear power plant (Fukushima Daiichi, Japan) in 2011 (Knopf *et al.,* 2014).

The EU oil production is not able to cover the demand. Therefore, the European Union is endangered by perspectives of disturbances of oil deliveries, like oil shocks caused by OPEC (El-Gamal and Jaffe, 2010; Staszczak, 2019; Zalloum, 2007). Russia and former Soviet Union were relatively reliable energy suppliers to Western Europe.

However, Russia can use energy as a tool of influence (Christie, 2007). In this way, the EU policy tries to diverse the sources of oil imports. However, there are differences between policies of particular EU countries to secure the oil and natural gas supplies. Germany and France prefer bigger deliveries from Russia because of the instable political situation in many OPEC members. Poland and many Central and Eastern European countries prefer deliveries from the U.S.A., Norway and OPEC because of their historical dependency on Russia and former Union of Soviet Socialist Rebublics.

Imports of the EU crude oil was complemented in 2018 by imports of manufactured petroleum products, i.e. diesel (gas) oil (17.7 million tons), naphta (15.7 million tons), liquefied petroleum gas (14.7 million tons) and kerosene type jet fuel (10.3 million tons). In 2018, the EU also exported some manufactured petroleum products (extra-EU exports to third countries), i.e. motor gasoline (52.9 million tons), fuel oil (10.1 million tons) and other petroleum products (i.e. lubricants, bitumen, other hydrocarbons, etc.), (Eurostat, 2021a).

3. Changes of Positions of EU Net Exporters and Net Importers of Fuels in 2016-2019

There were no EU net exporters of fuels in 2016. Denmark was the only net exporter until 2015 (Staszczak, 2017). There were twenty eight net importers of fuels in 2016 as follows:

1/ Germany with the trade balance amounting to -47.4 billion euro, 2/ France -31.7 billion euro, 3/ Italy -26.2 billion euro, 4/ Spain -16.7 billion euro, 5/ United Kingdom -12.2 billion euro, 6/ Belgium -9.4 billion euro, 7/ Austria -6.6 billion euro, 8/ Poland -6.1 billion euro, 9/ Netherlands -4.0 billion euro, 10/ Sweden -3.7 billion euro, 11/ Czechia -3.6 billion euro, 12/ Hungary -3.6 billion euro, 13/ Portugal -3.1 billion euro, 14/ Ireland -3.0 billion euro, 15/ Finland -3.0 billion euro, 16/ Greece -2.8 billion euro, 17/ Slovakia -2.0 billion euro, 18/ Romania -1.6 billion euro, 19/ Luxembourg -1.3 billion euro, 20/ Croatia -1.2 billion euro, 21/ Bulgaria -1.2 billion euro, 22/ Lithuania -1.0 billion euro, 23/ Malta -0.9 billion euro, 24/ Slovenia -0.8 billion euro, 25/ Cyprus -0.6 billion euro, 26/ Latvia -0.6 billion euro, 27/ Estonia -0.2 billion euro and 28/ Denmark -0.03 euro, (Eurostat, 2020).

There were no EU net exporters of fuels in 2019. There were twenty eight net importers of fuels in 2019 as follows:

1/ Germany with the trade balance amounting to -62.2 billion euro, (i.e., the trade deficit in 2019 was 31.2% deeper than in 2016), 2/ France -43.3 billion euro, (i.e., the trade deficit in 2019 was 36.6% deeper than in 2016), 3/ Italy -36.0 billion euro, (i.e., the trade deficit in 2019 was 37.4% deeper than in 2016), 4/ Spain -23.7 billion euro, (i.e., the trade deficit in 2019 was 40.1% deeper than in 2016), 5/ United Kingdom -13.3 billion euro, (i.e., the trade deficit in 2019 was 9.0% deeper than in 2016), 6/ Poland -12.6 billion euro, (i.e., the trade deficit in 2019 was 106.5% deeper than in 2016), 7/ Belgium -12.5 billion euro, 8/ Austria -8.7 billion euro, 9/ Netherlands -7.6 billion euro, 10/ Hungary -5.5 billion euro, 11/ Czechia -5.4 billion euro, 12/ Portugal -5.4 billion euro, 13/ Sweden -5.2 billion euro, 14/ Ireland -4.4 billion euro, 15/ Greece -4.4 billion euro, 16/ Finland -4.0 billion euro, 17/ Romania -3.8 billion euro, 18/ Slovakia -2.9 billion euro, 19/ Luxembourg -2.0 billion euro, 20/ Bulgaria -1.8 billion euro, 21/ Lithuania -1.8 billion euro, 22/ Slovenia -1.7 billion euro, 23/ Croatia -1.6 billion euro, 24/ Denmark -1.1 euro, 25/ Cyprus -0.9 billion euro, 26/ Malta -0.9 billion euro, 27/ Latvia -0.8 billion euro and 28/ Estonia -0.3 billion euro, (Eurostat, 2020).

All countries deepened their fuel trade deficits in 2016-2019 that confirmed the second hypothesis because the EU ecological policy before the pandemic did not decrease the EU dependency on fuel imports. Moreover, the deepening fuel trade deficits of EU countries in 2016-2019 confirmed the increasing EU dependency on the fuel imports.

The first five countries did not changed their positions. Poland advanced from eighth to sixth position with a big growth of fuel trade deficit. The above facts confirmed the growing fuel dependency of EU countries. Moreover, the EU economic growth was connected with the rising mineral fuel dependency in spite of the pro-ecological policy.

4. Positions of the EU Countries in the Exports and Imports of Fuels: Importance of Fuel Trade in the Total Exports and Imports of Particular Major Countries in 2016

The EU countries obtained the following positions in the value of exports of mineral fuels, lubricants, and related materials in 2016:

1/ Netherlands that achieved the value of fuel exports amounting to 59.0 billion euro (i.e., 11.4% of Dutch total exports amounting to 515.9 billion euro); (this country was the first one in the period from 2006 to 2015 with the value of fuel exports amounting to 738.5 billion euro, Staszczak, 2017), 2/ Belgium 24.9 billion euro (i.e., 6.9% of Belgian total exports amounting to 359.8 billion euro), 3/ United Kingdom 23.6 billion euro (i.e., 6.4% of British total exports amounting to 369.9 billion euro), 4/ Germany 23.1 billion euro (i.e., 1.9% of German total exports amounting to 1205.5 billion euro), 5/ Spain 13.8 billion euro (i.e., 5.3% of Spanish total exports amounting to 262.0 billion euro), 6/ France 11.2 billion euro (i.e., 2.5% of French total exports amounting

to 453.1 billion euro), 7/ Italy 11.5 billion euro (i.e., 2.7% of Italian total exports amounting to 417.3 billion euro), 8/ Sweden 7.6 billion euro (i.e., 6.0% of Swedish total exports amounting to 125.9 billion euro), 9/ Greece 6.9 billion euro (i.e., 27.2% of Greek total exports amounting to 25.4 billion euro), 10/ Poland 4.6 billion euro (i.e., 2.5% of Polish total exports amounting to 184.2 billion euro), 11/ Finland 4.2 billion euro (i.e., 8.0% of Finnish total exports amounting to 52.3 billion euro), 12/ Denmark 4.0 billion euro (i.e., 4.6% of Danish total exports amounting to 86.1 billion euro), 13/ Lithuania 3.2 billion euro, 14/ Portugal 3.2 billion euro, 15/ Czechia 2.8 billion euro, 16/ Austria 2.3 billion euro, 17/ Romania 2.2 billion euro, 18/ Bulgaria 2.1 billion euro, 19/ Slovakia 1.9 billion euro, 20/ Hungary 1.7 billion euro, 21/ Slovenia 1.2 billion euro, 22/ Croatia 1.2 billion euro, 23/ Estonia 0.9 billion euro, 24/ Ireland 0.8 billion euro, 25/ Latvia 0.6 billion euro, 26/ Cyprus 0.5 billion euro 27/ Malta 0,2 billion euro and 28/ Luxembourg 0.0 billion euro (Eurostat, 2020).

The biggest importance of fuel exports in total exports was in Greece and Netherlands. The smallest importance of fuel exports in total exports was in Germany, France, Poland and Italy in 2016.

The EU countries obtained the following positions in the value of imports of mineral fuels, lubricants, and related materials in 2016:

1/ Germany that achieved the value of imports amounting to 70.5 billion euro (i.e., 7.4% of German total imports amounting to 953.8 billion euro), (this country was the first one in the period from 2006 to 2015 with the value of fuel imports amounting to 1041.4 billion euro, Staszczak, 2017), 2/ Netherlands 63.0 billion euro (i.e., 13.9% of Dutch total imports amounting to 452.8 billion euro), 3/ France 42.9 billion euro (i.e., 8.4% of French total imports amounting to 513.1 billion euro), 4/ Italy 37.6 billion euro (i.e., 10.2% of Italian total imports amounting to 367.6 billion euro), 5/ United Kingdom 35.9 billion euro (i.e., 6.2% of British total imports amounting to 575.1 billion euro), 6/ Belgium 34.3 billion euro (i.e., 10.0% of Belgian total imports amounting to 342.8 billion euro), 7/ Spain 30.5 billion euro (i.e., 10.8% of Spanish total imports amounting to 281.0 billion euro), 8/ Sweden 11.3 billion euro (i.e., 8.9% of Swedish total imports amounting to 127.5 billion euro), 9/ Poland 10.7 billion euro (i.e., 5.9% of Polish total imports amounting to 180.3 billion euro), 10/ Greece 9.7 billion euro (i.e., 22.9% of Greek total imports amounting to 42.3 billion euro), 11/ Austria 8.9 billion euro (i.e., 6.2% of Austrian total imports amounting to 142.5 billion euro), 12/ Czechia 6.5 billion euro (i.e., 5.0% of Czech total imports amounting to 129.3 billion euro), 13/ Finland 7.2 billion euro, 14/ Portugal 6.2 billion euro, 15/ Hungary 5.3 billion euro, 16/ Lithuania 4.2 billion euro, 17/ Denmark 4.0 billion euro, 18/ Slovakia 3.9 billion euro, 19/ Ireland 3.9 billion euro, 20/ Romania 3.8 billion euro, 21/ Bulgaria 3.2 billion euro, 22/ Croatia 2.4 billion euro, 23/ Slovenia 2.1 billion euro, 24/ Luxembourg 1.3 billion euro, 25/ Latvia 1.2 billion euro, 26/ Estonia 1.1 billion euro, 27/ Malta 1.1 billion euro and 28/ Cyprus 1.1 billion euro (Eurostat, 2020).

The value of the fuel imports was bigger than the value of the fuel exports for all EU countries in 2016. The biggest importance of fuel imports in total imports was in Greece and Netherlands. The smallest importance of fuel imports in total imports was in Czechia, Poland, Britain, Austria and Germany.

The share of the fuel imports in the total product imports of the most important EU countries was bigger than the share of the fuel exports in the total product exports of these states in 2016. This facts confirmed the EU dependency on fuel imports.

Greece and Netherlands obtained the biggest share of fuel imports in total imports and of fuel exports in total exports. These facts confirms re-exports of imported fuels by these two countries. Moreover, the problem of statistics is connected with the fact that Netherlands trade data does not provide a distinction between total imports and retained imports or country exports and re-exports. According to estimates, re-exports account for about 50% of total Dutch exports (Gehlhar, 2010).

5. Positions of the EU Countries in the Exports and Imports of Fuels: Importance of Fuel Trade in the Total Exports and Imports of Particular Major Countries in 2019

The EU countries obtained the following positions in the value of exports of mineral fuels, lubricants, and related materials in 2019:

1/ Netherlands that achieved the value of fuel exports amounting to 81.2 billion euro (i.e., 12.8% of Dutch total exports amounting to 633.1 billion euro), 2/ United Kingdom 36.9 billion euro (i.e., 8.8% of British total exports amounting to 419.8 billion euro), 3/ Germany 33.7 billion euro (i.e., 2.5% of German total exports amounting to 1330.4 billion euro), 4/ Belgium 32.7 billion euro (i.e., 8.2% of Belgian total exports amounting to 399.2 billion euro), 5/ Spain 21.0 billion euro (i.e., 7.0% of Spanish total exports amounting to 298.3 billion euro), 6/ Italy 16.2 billion euro (i.e., 3.4% of Italian total exports amounting to 480.3 billion euro), 7/ France 15.7 billion euro (i.e., 3.1% of French total exports amounting to 509.9 billion euro), 8/ Greece 10.7 billion euro (i.e., 31.6% of Greek total exports amounting to 33.8 billion euro), 9/ Sweden 9.8 billion euro (i.e., 6.8% of Swedish total exports amounting to 143.4 billion euro), 10/ Finland 6.2 billion euro (i.e., 8.0% of Finnish total exports amounting to 65.6 billion euro), 11/ Poland 5.3 billion euro (i.e., 2.2% of Polish total exports amounting to 238.2 billion euro), 12/ Denmark 4.6 billion euro (i.e., 4.6% of Danish total exports amounting to 99.0 billion euro), 13/ Lithuania 4.0 billion euro, 14/ Hungary 3.8 billion euro, 15/ Portugal 3.7 billion euro, 16/ Austria 3.6 billion euro, 17/ Czechia 3.3 billion euro, 18/ Romania 2.8 billion euro, 19/ Bulgaria 2.7 billion euro, 20/ Slovakia 2.3 billion euro, 21/ Slovenia 2.1 billion euro, 22/ Estonia 1.7 billion euro, 23/ Croatia 1.5 billion euro, 24/ Ireland 1.1 billion euro, 25/ Cyprus 0.6 billion euro, 26/ Latvia 0.6 billion euro 27/ Malta 0,3 billion euro and 28/ Luxembourg 0.1 billion euro, (Eurostat, 2020).

The biggest importance of fuel exports in total exports was in Greece and Netherlands in 2019 like in 2016. The smallest importance of fuel exports in total exports was in Poland, Germany, France and Italy in 2019. Poland advanced from the third position in 2016 to the first position in 2019.

All EU countries increased their value of the fuel exports from 2016 to 2019. Netherlands did not changed their first position from 2016 to 2019 but this fact is connected with Dutch fuel re-exports. Britain advanced from the third to the second position. Germany advanced from the fourth to the third position. Belgium fell from the second to the fourth position. Poland fell from the ninth to the eleventh position from 2016 to 2019.

The EU countries obtained the following positions in the value of imports of mineral fuels, lubricants, and related materials in 2019:

1/ Germany that achieved the value of imports amounting to 95.9 billion euro (i.e., 8.7% of German total imports amounting to 1102.1 billion euro), 2/ Netherlands 88.8 billion euro (i.e., 15.6% of Dutch total imports amounting to 567.9 billion euro), 3/ France 59.0 billion euro (i.e., 10.1% of French total imports amounting to 584.7 billion euro), 4/ Italy 52.2 billion euro (i.e., 12.3% of Italian total imports amounting to 424.2 billion euro), 5/ United Kingdom 50.3 billion euro (i.e., 8.1% of British total imports amounting to 619.7 billion euro), 6/ Belgium 45.2 billion euro (i.e., 11.8% of Belgian total imports amounting to 382.0 billion euro), 7/ Spain 44.6 billion euro (i.e., 12.6% of Spanish total imports amounting to 352.9 billion euro), 8/ Poland 17.9 billion euro (i.e., 7.5% of Polish total imports amounting to 237.0 billion euro), 9/ Sweden 15.0 billion euro (i.e., 10.6% of Swedish total imports amounting to 142.0 billion euro), 10/ Greece 15.0 billion euro (i.e., 26.9% of Greek total imports amounting to 55.8 billion euro), 11/ Austria 12.3 billion euro (i.e., 7.4% of Austrian total imports amounting to 165.0 billion euro), 12/ Finland 10.2 billion euro (i.e., 15.5% of Finnish total imports amounting to 65.8 billion euro), 13/ Hungary 9.3 billion euro, 14// Portugal 9.1 billion euro, 15/ Czechia 8.7 billion euro, 16/ Romania 6.6 billion euro, 17/ Lithuania 5.8 billion euro, 18/ Denmark 5.7 billion euro, 19/ Ireland 5.5 billion euro, 20/ Slovakia 5.2 billion euro, 21/ Bulgaria 4.6 billion euro, 22/ Slovenia 3.8 billion euro, 23/ Croatia 3.1 billion euro, 24/ Estonia 2.0 billion euro, 25/ Luxembourg 2.0 billion euro, 26/ Cyprus 1.5 billion euro 27/ Latvia 1.4 billion euro and 28/ Malta 1.2 billion euro, (Eurostat, 2020).

All EU countries increased their value of the fuel imports from 2016 to 2019 that confirmed the second hypothesis because the EU ecological policy before the pandemic did not decrease the EU dependency on fuel imports. The first seven countries did not changed their positions. Poland advanced from the ninth place in 2016 to the eighth position in 2019. Sweden fell from the eight place in 2016 to the ninth position in 2019. The value of the fuel imports was bigger than the value of the fuel exports for all EU countries in 2019 like in 2016.

The share of the fuel imports in the total product imports of the most important EU countries, except Britain, was bigger than the share of the fuel exports in the total product exports of these states in 2019 like in 2016.

The importance of the fuel imports in the total product imports of the most important EU countries was higher in 2019 than in 2016 that confirmed the second hypothesis because the EU ecological policy before the pandemic did not decrease the EU dependency on fuel imports. Moreover, the above facts confirmed the increasing EU dependency on the fuel imports in 2016-2019.

The biggest importance of fuel imports in total product imports was in Greece and Netherlands in 2019 like in 2016. The smallest importance of fuel imports in total imports was in Austria, Poland, Britain, and Germany in 2019.

6. Positions of EU Net Exporters and Net Importers of Fuels in 2020

There were no EU net exporters of fuels in 2020. There were twenty seven net importers of fuels in 2020 as follows:

1/ Germany with the trade balance amounting to -42.3 billion euro, (i.e., the trade deficit in 2020 was 32.0% lower than in 2019), 2/ France -26.4 billion euro, (i.e., the trade deficit in 2020 was 39.0% lower than in 2019), 3/ Italy -21.7 billion euro, (i.e., the trade deficit in 2020 was 39.7% lower than in 2019), 4/ Spain -14.7 billion euro, (i.e., the trade deficit in 2020 was 33.0% lower than in 2019), 5// Poland -8.2 billion euro, (i.e., the trade deficit in 2020 was 34.9% deeper than in 2019), 6/ Belgium -7.6 billion euro, 7/ Austria -5.4 billion euro, 8/ Netherlands -3.8 billion euro, 9/ Sweden -3.6 billion euro, 10/ Portugal -3.4 billion euro, 11/ Czechia -3.3 billion euro, 12/ Croatia -3.3 billion euro, 13/ Hungary -3.0 billion euro, 14/ Greece -3.0 billion euro, 15/ Ireland -2.6 billion euro, 16/ Romania -2.6 billion euro, 17/ Finland -2.2 billion euro, 18/ Slovakia -2.0 billion euro, 19/ Luxembourg -1.3 billion euro, 20/ Bulgaria -1.3 billion euro, 21/ Lithuania -1.2 billion euro, 22/ Denmark -1.2 euro (i.e., the trade deficit in 2020 was 9.1% deeper than in 2019), 23/Slovenia -0.9 billion euro, 24/ Cyprus -0.7 billion euro, 25/ Malta -0.7 billion euro, 26/ Latvia -0.5 billion euro and 27/ Estonia -0.1 billion euro, (Eurostat, 2021).

The first four countries maintained their positions from 2019 in 2020. Poland obtained the fifth position in 2020 (after Brexit). Twenty six EU member countries decreased the fuel trade deficit in 2019-2020. Only Denmark deepened its fuel trade deficit in 2019-2020. The above proves the first hypothesis that the EU ecological energy policy and the recession caused by the coronavirus pandemic together limit the EU fuel trade deficit and dependency on fuel imports.

There are no information about United Kingdom in 2020 in Eurostat. However, UK was net importer of fuels in 2020 (Statistical Release, 2021).

7. Positions of the EU Countries in the Exports and Imports of Fuels: Importance of Fuel Trade in the Total Exports and Imports of Particular Major Countries in 2020

The EU countries obtained the following positions in the value of exports of mineral fuels, lubricants, and related materials in 2020:

1/ Netherlands that achieved the value of fuel exports amounting to 51.9 billion euro (i.e., 8.8% of Dutch total exports amounting to 590.3 billion euro), 2/ Germany 24.3 billion euro (i.e., 2.0% of German total exports amounting to 1207.5 billion euro), 3/ Belgium 21.7 billion euro (i.e., 5.9% of Belgian total exports amounting to 369.4 billion euro), 4/ Spain 12.3 billion euro (i.e., 4.5% of Spanish total exports amounting to 270.4 billion euro), 5/ Italy 9.4 billion euro (i.e., 2.2% of Italian total exports amounting to 433.6 billion euro), 6/ France 8.7 billion euro (i.e., 2.0% of French total exports amounting to 427.0 billion euro), 7/ Greece 6.7 billion euro (i.e., 22.3% of Greek total exports amounting to 30.1 billion euro), 8/ Sweden 6.6 billion euro (i.e., 4.8% of Swedish total exports amounting to 136.2 billion euro), 9/ Finland 4.3 billion euro (i.e., 7.4% of Finnish total exports amounting to 57.9 billion euro), 10/ Poland 3.6 billion euro (i.e., 1.5% of Polish total exports amounting to 236.8 billion euro), 11/ Austria 2.8 billion euro, 12/ Denmark 2.7 billion euro (i.e., 2.0% of Danish total exports amounting to 95.0 billion euro), 13/ Hungary 2.7 billion euro, 14/ Lithuania 2.1 billion euro, 15/ Portugal 2.5 billion euro, 16/ Czechia 2.1 billion euro, 17/ Slovakia 1.8 billion euro, 18/ Estonia 1.6 billion euro, 19/ Romania 1.6 billion euro, 20/ Bulgaria 1.3 billion euro, 21/ Slovenia 1.3 billion euro, 22/ Croatia 1.3 billion euro, 23/ Ireland 0.8 billion euro, 24/ Latvia 0.5 billion euro, 25/ Cyprus 0.4 billion euro, 26/ Malta 0.1 billion euro and 27/ Luxembourg 0.0 billion euro, (Eurostat, 2021).

All EU countries decreased their value of fuel exports and total exports from 2019 to 2020 because of the recession caused by covid-19 pandemic.

Netherlands did not changed their first position in the value of fuel exports from 2019 to 2020. A lack of data in Eurostat concerning Britain in 2020 (after the Brexit) moved Germany from the third to the second position and Belgium from the fourth to the third position in the value of fuel exports from 2019 to 2020, etc. A share of fuel exports in total exports dropped in all major EU member countries from 2019 to 2020.

The biggest importance of fuel exports in the total exports was in Greece and Netherlands in 2020 like in 2019 and 2016 but it can be connected with a high re-exports. The smallest importance of fuel exports in the total exports was in Poland, Germany, France, Denmark and Italy in 2020. Poland advanced from the third position in 2016 to the first position in 2019 and maintained the first position in 2020.

The EU countries obtained the following positions in the value of imports of mineral fuels, lubricants, and related materials in 2020:

1/ Germany that achieved the value of imports amounting to 66.5 billion euro (i.e., 6.5% of German total imports amounting to 1024.3 billion euro), 2/ Netherlands 55.7 billion euro (i.e., 10.7% of Dutch total imports amounting to 521.8 billion euro), 3/ France 35.2 billion euro (i.e., 6.9% of French total imports amounting to 509.6 billion euro), 4/ Italy 31.1 billion euro (i.e., 8.4% of Italian total imports amounting to 370.0 billion euro), 5/ Belgium 29.3 billion euro (i.e., 8.4% of Belgian total imports amounting to 347.7 billion euro), 6/ Spain 27.0 billion euro (i.e., 9.4% of Spanish total imports amounting to 286.8 billion euro), 7/ Poland 11.8 billion euro (i.e., 5.2% of Polish total imports amounting to 224.8 billion euro), 8/ Sweden 10.2 billion euro (i.e., 7.8% of Swedish total imports amounting to 131.1 billion euro), 9/ Greece 9.7 billion euro (i.e., 19.9% of Greek total imports amounting to 48.7 billion euro), 10/ Austria 8.2 billion euro (i.e., 5.4% of Austrian total imports amounting to 150.9 billion euro), 11/ Finland 6.5 billion euro (i.e., 10.9% of Finnish total imports amounting to 59.7 billion euro), 12/ Portugal 5.9 billion euro, 13/ Hungary 5.7 billion euro, 14/ Czechia 5.4 billion euro, 15/ Romania 4.2 billion euro, 16/ Denmark 3.9 billion euro, 17/ Slovakia 3.8 billion euro, 18/ Ireland 3.4 billion euro, 19/ Lithuania 3.3 billion euro, 20/ Bulgaria 2.5 billion euro, 21/ Croatia 2.4 billion euro, 22/ Slovenia 2.2 billion euro, 23/ Estonia 1.7 billion euro, 24/ Luxembourg 1.3 billion euro, 25/ Cyprus 1.1 billion euro, 26/ Latvia 1.0 billion euro and 27/ Malta 0.8 billion euro, (Eurostat, 2021).

All EU countries decreased their value of the fuel imports from 2019 to 2020 that confirmed the first hypothesis that the EU energy policy and recession caused by covid-19 pandemic together limit the EU fuel trade deficit and the EU dependency on fuel imports.

The first four countries, i.e., Germany, Netherlands, France and Italy did not changed their places in the value of the fuel imports from 2019 to 2020. The next six countries, i.e., Belgium, Poland, Sweden, Greece, Austria and Finland moved about one position high in the value of the fuel imports from 2019 to 2020 because of Brexit and a lack of United Kingdom's data at Eurostat. The value of the fuel imports was bigger than the value of the fuel exports for all EU countries in 2020 like in 2019 and 2016.

The share of fuel imports in the total product imports of the most important EU countries was lower in 2020 than in 2019 that confirmed the first hypothesis that the EU energy policy and coronavirus pandemic together limit the EU dependency on fuel imports.

The share of the fuel imports in the total product imports of the most important EU countries, except Greece, was bigger than the share of the fuel exports in the total product exports of these states in 2020 like in 2019 (except Britain) and in 2016.

The biggest importance of fuel imports in total product imports was in Greece, Finland and Netherlands in 2020. The smallest importance of fuel imports in total imports was in Poland, Austria, Germany and France in 2020.

8. Conclusions and Perspectives

Deficits on trade balance in fuels of all EU countries confirm the dependency of European Union on imports of fuels. Positions of particular EU countries (net importers) in the international trade of fuels were relatively stable in 2016-2019 and in 2020. The fuel trade deficits of all EU countries deepened in 2016-2019 and the share of the fuel imports in the total product imports of the most important EU countries was higher in 2019 than in 2016.

The above facts confirmed the second hypothesis that the EU energy policy before the covid-19 pandemic did not decrease the EU dependency on fuel imports. Twenty six EU member countries reduced their fuel trade deficit in 2019-2020, i.e. during the recession caused by the coronavirus pandemic.

The share of fuel imports in the total product imports of the most important EU countries was lower in 2020 than in 2019. These facts prove the first hypothesis that the EU energy policy and the recession caused by the coronavirus pandemic limit the EU fuel trade deficit and dependency on fuel imports.

The recovery since 2021 causes a growing demand for fuels and a growth of imports. Between the first quarter of 2021 and the third quarter of 2022 imports of petroleum oils and liquefied natural gas rose both in value and in volume. Imports of natural gas in gaseous state increased in value but decreased in volume. Imports of coal rose in value but fluctuated strongly in volume, (Eurostat, 2025).

However, in the third quarter of 2024 compared with the first quarter of 2021, imports of petroleum oils rose by 74% in value and only by 9% in volume, imports of liquefied natural gas increased by 189% in value and by 42% in volume, imports of natural gas in gaseous state increased by 51% in value but decreased by 37% in volume and imports of coal rose by 55% in value but dropped by 36% in volume, (Eurostat, 2025).

The above mentioned facts confirm that Green Deal of the European Union limits EU imports dependency on fuels.

Moreover, Russian invasion on Ukraine in 2022 caused sanctions against Russia and fluctuations of fuel prices. Therefore, Russia is not the main supplier of fuels to European Union. In the third quarter of 2024, the main suppliers of petroleum oils to EU were the following states U.S.A. (15.2%), Norway (13.9%), Kazakhstan (11.7%), Libya (7.2%), Iraq (6.8%), Saudi Arabia (6.4%) and Guyana (3.3%). In the same time period, the main suppliers of liquefied natural gas to EU were as follows:

U.S.A. (37.8%), Russia (18.9%), Algeria (14.3%), Qatar (10.3%), Norway (7.1%), Nigeria (4.4%), Trinidad and Tobago (2.9%). Whereas, the main suppliers of natural

gas in gaseous state to EU were the following countries: Norway (42.0%), Russia (17.6%), Algeria (16.0%), Britain (14.3%) and Azerbaijan (6.7%), (Eurostat. 2025). There is an interesting fact that Kuwait, which is an important exporter of crude oil and refined petroleum, sends only a small part of its exports to the European Union. France, the first EU importer form Kuwait, ranked only seventh (3.23%) in Kuwait's global exports after China (24.5%), India (13.4%), Japan (12.9%), Taiwan (6.68%), Britain (4.66%) and Egypt (3.91%) in 2023, (The Observatory, 2025).
According to Author's point of view, there are chances to increase a share of OPEC members in the EU imports of fuels in the near future.

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