

**Foreign trade of Greece and the EU during the economic crisis (2008)
and the health crisis (2020): A comparative approach**

**Vanjska trgovina Grčke i EU tijekom ekonomske krize (2008) i
zdravstvene krize (2020): Usporedni pristup**

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Abstract: This paper examines the foreign trade of Greece compared to the foreign trade of EU28 during the Economic Crisis (2008) and the Health Crisis (2020). Based on the findings of relevant scientific literature, the quantitative

data of external trade (exports, imports, trade balance) are recorded and analyzed methodologically. At the same time, the terms of trade and the degree of extroversion of Greek commerce compared to the corresponding figures of the EU28 during the period of the economic crisis (2008-2018) and the health crisis (2020-2021) are extracted. According to previous scientific literature in times of crisis, the volume of foreign trade at international, regional and national level is also bearing, among other financial figures.

The economic crisis (2008) and the implemented harsh restrictive measures due to fiscal contraction resulted, among other consequences, in the reduction of income and internal demand, that the businesses confronted, strengthening their commercial extroversion, while for the same reasons imports decreased, resulting in an improvement in the trade balance, the terms of trade and the degree of commercial extroversion. Accordingly, from the current data, it seems that the exports of both Greece and the EU28 decreased to about the same extent during the period of the Health Crisis (2019-2020). As far as the external trade figures are concerned, it appears that the Greek degree of sensitivity to the effects of crises is greater than that of the EU28. Indeed, it appears that exports are less vulnerable to the effects of crises than imports. This behavior of Greek foreign trade can be explained by the sectoral composition of exports, in which the greatest relevance is attributed to the products with great elasticity of demand in terms of income, by the smaller size of enterprises and hence the limited access to commercial loans and external financing, but also by the lack of competitiveness of

exported products in terms of added value, quality and price, compared to those of the EU28 and especially of the most developed countries. Suggestions for further research are to expand the period of the data taking into consideration the period of 2021 and solving dilemma how the new geopolitical crisis of Russia and Ukraine will affect the international trade relations, bonds and transactions.

Keywords: Foreign Trade, Crises, Covid Trade Impacts, EU Trade, Trade of Greece

JEL Classification: F10, R10

Sažetak: Ovaj rad ispituje vanjsku trgovinu Grčke u usporedbi s vanjskom trgovinom EU28 tijekom ekonomske krize (2008.) i zdravstvene krize (2020.). Na temelju saznanja relevantne znanstvene literature evidentiraju se i metodološki analiziraju kvantitativni podaci vanjske trgovine (izvoz, uvoz, trgovinska bilanca). Istovremeno, izdvajaju se uvjeti trgovine i stupanj ekstrovertiranosti grčke trgovine u usporedbi s odgovarajućim rezultatima EU28 tijekom razdoblja ekonomske krize (2008.-2018.) i zdravstvene krize (2020.-2021.). Prema dosadašnjoj znanstvenoj literaturi iz kriznih razdoblja, osim drugih financijskih parametara, time je također zahvaćen i obujam vanjske trgovine na međunarodnoj, regionalnoj i nacionalnoj razini.

Osim drugih učinaka, gospodarska kriza (2008.) i provedene oštre restriktivne mjere zbog fiskalne kontrakcije dovele su do smanjenja prihoda i unutarnje potražnje s kojom su se poduzeća suočila, jačajući njihovu trgovinsku ekstrovertiranost, dok je iz istih razloga uvoz smanjen, što je dovelo do poboljšanja trgovinske bilance, uvjeta trgovine i stupnja trgovinske ekstrovertiranosti. Sukladno tome, prema trenutačnim podacima, čini se da su se izvozi Grčke i EU28 smanjili otprilike u istoj mjeri tijekom razdoblja zdravstvene krize (2019.-2020.).

Što se tiče podataka o vanjskoj trgovini, čini se da je stupanj osjetljivosti Grčke na učinke krize veći od onog u EU28. Doista, izgleda da je izvoz manje osjetljiv na učinke krize od uvoza. Ovakvo ponašanje vanjske trgovine Grčke može se objasniti sektorskim sastavom izvoza, u kojem se najveća važnost pripisuje proizvodima s velikom elastičnošću potražnje u smislu dohotka, manjom veličinom poduzeća, a time i ograničenim pristupom trgovinskih kredita i vanjskog financiranja, ali i nedostatkom konkurentnosti izvoznih proizvoda u smislu dodane vrijednosti, kvalitete i cijene u usporedbi s onima iz EU28, a posebno najrazvijenijih zemalja. Prijedlozi za daljnja istraživanja su proširiti razdoblje podataka uzimajući u obzir razdoblje 2021. godine i razmotriti pitanje kako će nova geopolitička kriza Rusije i Ukrajine utjecati na međunarodne trgovinske odnose, obveznice i transakcije.

Ključne riječi: Vanjska trgovina, kriza, učinci Covida na trgovinu, trgovina EU, trgovina Grčke

JEL klasifikacija: F10, R10

1 Introduction

According to the scientific literature in times of crisis, except other micro-economic and macro-economic factors, the volume of foreign trade at international, regional and national level are also affected. This paper explores the Foreign Trade of Greece compared to that of the EU28 during the Economic Crisis (2008) and the Health Crisis (2020). Methodologically, based on the findings of the relevant scientific literature, quantitative data of foreign trade (exports, imports, trade balance) are recorded and analyzed, the terms of trade and the degree of extroversion of Greece are exported compared to the corresponding figures of the EU28 during the period of economic crisis (2008-2018) and the health crisis (2020-2021).

The research queries being explored are:

- How did the two crises affect the fundamentals of Greece's foreign trade?
- Are there differences in the degree and intensity of the effects between the two crises?
- Has Greece's position during Health Crisis (2020-2021) in comparison to the Economic Crisis (2008-2018) in international trade improved or deteriorated on the basis of the terms of trade and the degree of extroversion?
- Compared to the corresponding data of the EU's external trade and the consequences of the crises, is the degree of sensitivity of Greek foreign trade different from that of the EU28 for the period of Health Crisis (Jan 2020-Dec 2021) and at the same time in comparison with the period of Economic Crisis (2008-2018)?

2 Literature Review

The international community is facing an unexpected recession in the global economy due to the Covid-19 pandemic. Comparing to the consequences of the 2008 crisis, international trade seems to be collapsing once again. The volume of world trade fell by 21% between March and April 2020, while during the crisis of 2008, the highest monthly decline was 18%, between September and October 2008. The growth rate of exports for the period December 2019 – March 2020 appears strongly negative (-7%), while for the period July 2008 – February 2009 it was at the level of -0.8%. According to the data, it appears that in 2020 the recession was less prolonged than that caused by the last crisis, as the volume of trade in August 2020 showed a decrease of only 3% compared to March 2020. The World Trade Organisation (WTO) estimated that the volume of international trade decreased by 9.2% in 2020, a number similar in size to the global financial crisis of 2008. Nevertheless, factors such as the economic environment, the origin of the crisis and the transmission channels are considered very different in the previous crisis (Gao et al., 2021; Friedt & Zhang, 2020, Mirza et al., 2020; Rizvi et al., 2020).

According to the latest WTO forecasts, the volume of global trade in goods is expected to increase by 10.8% in 2021, revised from 8.0% projected in March. At the same time, trade growth is expected to be around 4.7% in 2022, from 4.0% previously projected. International trade grew by 22.0% for Q2 2021 compared to 2020, but is expected to decelerate to 6.6% by Q4, reflecting overall the decline and recovery in 2020. Global GDP is expected to grow by 5.3% in 2021, from 5.1% initially projected in March, while in 2022 growth is expected to reach 4.1% in 2022, up from 3.8% in the past. The current WTO forecasts are close to the upside scenario originally formulated, but there are additional downside risks mainly due to the strained supply chains worldwide and the new outbreaks due to the mutations of the Covid-19 pandemic. At the same time, regional disparities are estimated to remain large. Asian imports in 2021 are expected to increase by 9.4% compared to 2019, while imports from the least developed countries (LDCs) will decrease by 1.6%. (*WTO | 2021 Press Releases - Global Trade Rebound Beats Expectations but Marked by Regional Divergences - Press/889*, n. d. ; Grant Thornton Press Releases n.d) .

2.1 Economic Crises and Trade

According to Magoulios, Polychronidou, Laskaridou (2021), Greek exports are particularly vulnerable in times of crisis. A survey that studies the trade flows of Greece and the Balkan countries finds that during the period of the Greek recession (2008/2018) Greek trade exports to the Balkan countries (2018/2008) show an increase of 16.39%, which is less than in third countries (84.95%), in the world

as a whole (57.64%) and in the EU28 (39.29%). At the same time, Greece's imports from the Balkan countries (2018/2008) recorded an increase of 41.26%, compared to a decrease from the EU28 (-22.49%), the whole world (-17.47%) and third countries (-11.10%). Regarding the degree of extroversion (exports/GDP), this improved in the period 2008-2018, however, Greece appears below the average of BC throughout the period considered, while in 2018 it is located in the bottom of the ranking. Moreover, it appears that on the one hand the geographical proximity and on the other hand the degree of trade integration are important factors for the volume of foreign trade. Overall, the trade balance of Greece with the BC remains in surplus for the period 2008-2018, however, it is deteriorating, while at the same time the trade conditions of the EU, the TC and the world are improving, however remaining unfavorable (Georgios Magoulios et al., 2021. Lioliou, 2022; Liargovas, 2008).

In relevant research that studies the impact of the financial crisis of 2008 on foreign trade between Greece and the Balkan Countries (BC), taking quantitative data on foreign trade (Greek exports and imports to and from the BC, the trade balance and the volume of transactions) a correlation is carried out between the annual change in GDP and the change in Greek exports and imports to and from these countries. At the same time, there is a decrease in Greek imports and exports for the period 2009, a larger decrease towards BC compared to the EU and the rest of the world, while there is a continuous trend of decreasing Greek imports from the EU and the world in the period 2007-2010. Moreover, the decisive role of the geographical identification of Greece is noted, as for the period 2007-2010 it has a negative impact on the neighboring Balkan countries. The volume of foreign trade transactions and the terms of trade between Greece and the BC have generally deteriorated, still remaining favorable for Greece, while the terms of trade between Greece and the EU and the world as a whole are unfavourable for Greece and have deteriorated further (Bastian, 2011; George Magoulios & Chouliaras, 2014; Magoulios et.al.,2021).

A survey studying the collapse of international trade during the 2008 global crisis found that on the one hand the policy of tightening commercial credit contributed significantly to the reduction of the volume of trade, and on the other hand, the scope for political intervention through the easing of credit conditions is highlighted. In particular, the effect of credit conditions would have reduced imports into the US by 2.5% more if they remained strict, while 5.5% less if a looser credit policy were to be implemented. In addition, credit conditions have contributed to large and systematic differences in export performance between sectors at different levels of financial vulnerability. In particular, US imports into the sector most dependent on external financing would have fallen by 13.4% more and 8.2% less than imports into the less dependent sector, according to the respective scenarios. Overall, the researchers conclude that countries with higher cost of capital exported less at the peak of the crisis, the most vulnerable production sectors with the greatest impact were those that : have limited access to commercial credit, require extensive external financing, have limited assets with collateral (Chor & Manova, 2012; Amiti and Weinstein,2009; Bricongne et al.,2010).

2.2 Covid 19 Pandemic and Trade

The international literature covering the impact on international trade from the onset of the Covid-19 pandemic, records for the moment large and intense changes, but at the same time points out that the conclusions are either at an early stage or are presented unclear (Fernandes & Tang, 2021. Pelagidis, 2020).

A commonly accepted premise is that there is insufficient data for extensive research. Thus, most studies focus on the current trade shock, but are usually limited to data from individual countries. In the case of Switzerland from a study in the weekly and monthly trade data for the period January –

July 2020, it is found that during the lockdown (03/2020-07/2020), the Swiss trade decreased by 11% (14 billion in exports and 15 billion in imports) compared to the same period in 2019. It should be noted that the Swiss trade collapse was much steeper than in September 2008, in the wake of the bankruptcy of Lehman Brothers. As regards the impact on sectoral trade, it can be seen that goods from the chemical and pharmaceutical sectors have been very resilient, while all the other sectors have experienced a dramatic fall in both imports and exports. The contraction in Swiss exports appears to be related to with the number of confirmed cases of COVID-19 in importing countries, while Swiss imports are more strongly linked to the severity of government measures on the export economy. It is also recorded that the impact on foreign trade has been negative both on the demand and supply side (Baldwin, 2020; Gruszczynski, 2020; Büchel et al., 2020).

In Spain, looking at the monthly data on trade in goods and services for the period March – August 2020, compared to the same period in 2019, there is a decrease in exports by 31.0%, three quarters more than that of the EU22 (17.6%). Exports also decreased more to Spain than to Germany (16.6%), France (26.0%) and Italy (23.1%). These evidence show that COVID-19 had been more a particularly negative effect on Spanish exports. Looking at exports of goods, separately from exports of services, it can be seen that for exports of goods the decrease in Spain (19.5%) was also greater than that of the EU-22 (16.6%), but the difference was lower. The negative impact on exports of goods was more pronounced in Spain than in Germany (16.3%), at the same level as in Italy (19.9%), and softer than in France (28.0%). Finally, with regard to export trade, there has been a large decrease (52.5%), more than double the decrease in the EU22 countries (20.3%). Italy also saw a very large decrease in exports of services (36.0%). However, these decreases were much smaller in France (22.1%) and Germany (17.8%) (de Lucio et al., 2020b; Minondo, 2020).

In the case of China, using a model of gravity in China's exports, for the period January 2019 - December 2020, there is a 10% drop in exports, the negative impact of the pandemic on trade as a whole is reflected, it appears that the negative effects were more painful on demand than the negative impact of the pandemic on supply, significant heterogeneities are found as the export sector in medical and pharmaceutical products remains unaffected, at the same time the impact is much milder for products with a high share of "working from home" or for products exported with a significant contribution to the processing sector and capital goods (Liu, X, Ornelas, E and Shi, 2021).

From January to June 2020, U.S. exports of U.S. products fell by nearly 25%, while imports of goods fell by about 17%. The U.S. trade deficit — the gap between imports and exports — grew by about 20%, reaching a value of \$8.65 billion.

During a recession, imports tend to decline faster than exports, narrowing the trade deficit, as during the Great Depression, U.S. exports fell by 24.6% and imports by 34.3%. However, the trade shock from the pandemic has had the opposite effect with the trade deficit widening, with the sector “essential medical goods” to contribute significantly (41.46%) to this deterioration (Baldwin, 2020; Leibovici & Santacreu, 2020).

Turkey, one of the world's largest economies in terms of GDP (the 19th largest economy in the world, with a GDP of \$771 billion), in March 2020 experienced a decrease in its exports by 17.81% and an increase in its imports by 3.13% compared to the same period in 2019, while Turkey's current account deficit was recorded in the 1.804 million dollars marking an increase of \$1.528 million compared to January of the previous year (Açikgöz & Günay, 2020).

On the first impact of the COVID-19 pandemic on bilateral trade flows, Barbero, Lucio, Rodriguez-Crespo (2021), using a modern trade gravity model and relying on the monthly trade data of 68 countries exporting to 222 destinations for the period January 2019 – October 2020, come to three main conclusions. First, they found greater negative impact on bilateral trade for those countries that were members of regional trade agreements before the pandemic, secondly the impact of COVID-19 is

negative when indicators related to government actions are considered, third the negative impact is more pronounced when the exporting country and importer share the same levels of income, with the highest negative impact being found on exports between high-income countries (Barbero et al., 2021; Kejzar, 2020; Hayakawa 2021).

2.3 Covid 19 Pandemic and Greece's first estimations

Regarding the forecasts for the Greek economy, according to an OECD study, losses in the country's GDP may reach the level of (-35%) due to the partial or total "closure" of commercial activity. The tourism industry also seems to have been hit hard, especially in places where the sector supports many jobs and businesses. Estimates of the impact of COVID-19 show a 60% decrease in international tourism. Of course, domestic tourism will recover faster, but it cannot fully compensate for the decline in international tourism. (Regional Policy of Greece after 2020 Executive summary, 2020)

At the same time, the decline in consumer spending is expected to be around 30% in many major advanced economies, including the Greek one. Fiscal conditions in Greece and globally deteriorate rapidly in 2020 (estimated primary fiscal deficit in Greece above -7% of GDP, compared to a surplus of +3.5% in 2019) and the fiscal situation is expected to remain challenging in 2021. In this context, the Greek public debt as a percentage of GDP will approach 200%, the highest in the Eurozone, a medium-term threat to the country's fiscal stability and growth dynamics (Pandemic & Economic Recovery: The challenges ahead | Grant Thornton Greece, n.d.).

Regarding the impact of the pandemic on the Greek Economy, a relevant survey by Grant Thornton has shown that companies representing 69% of the total turnover of Greek businesses were directly affected by the Covid-19 pandemic as a result of the restriction or even the interruption of their operation. In total, companies generating a turnover of € 32.9 billion. (11% of total turnover) and employ approximately €1.1 million. employees (25% of the total) stopped their activity due to the pandemic. The initial estimate of the data shows that GDP is expected to decline by 8.5% in 2020. At the same time, the impact of the pandemic on sectors of high added value for the economy, related to tourism, such as transport, accommodation and catering, contribute to the additional reduction of GDP (Study of the impact of Covid-19 on Greek businesses & the Greek economy| Grant Thornton Greece, n.d.).

What is found, as the threat of the Covid-19 pandemic is not fully over and the global community continues to operate under the weight of its presence, is whether the restructuring in world trade will be temporary or permanent in nature (Lioliou, 2022. Pelagidis, 2020)

3 Methodology

Methodologically, based on the suggestions of the international literature, the approach of comparative data analysis was chosen for the case of foreign trade of Greece, on the one hand for the period 2008-2018 and on the other hand for the period 2020-2021. Through this methodological approach, an attempt is made to record and analyze the similarities and especially the diversions that are identified as early consequences of the pandemic crisis. The analysis focuses mainly on the formation of the conditions of international trade, the extroversion of the country and the change in the degree of sensitivity of foreign trade for the two above periods and simultaneously paralleling the country's data with the corresponding figures of the European Union. The choice of this methodology came from the need to compare the two periods that mark respectively the financial and the pandemic crisis (even at a primary stage as the covid-19 health crisis is considered a dynamic and constantly evolving event), the

emergence of similarities in the reaction of the Greek economy at the level of foreign trade as well as the identification of differences mainly in the early effects of its foreign trade.

It is a fact that with the outbreak of the pandemic, significant effects were observed in all countries internationally and many studies focused on capturing and analyzing the first effects for the current period, as it has been established in the scientific literature that in times of crisis, among other things, the sizes of foreign trade at international, regional, and national level are affected. On the other hand, the comparative approach with pandemic crises of similar magnitude is considered extremely difficult as a similar health crisis at the pandemic level is considered to be the Spanish flu in the early 19th century. Next, in this article it was considered appropriate to conduct a comparative approach at the level of crises (not exclusively health) and in particular in the case of Greece of the global economic crisis of 2008 and the health crisis of 2019. The added value of this research, in addition to capturing the current situation at the level of international trade, lies in the identification of similarities and variations in the trade of Greece, the degree of differentiation of the effects of the economic from the health crisis and the expected degree of recovery as well as the restructuring of the conditions of Greece's foreign trade.

4 Foreign Trade of Greece and the EU during the Economic Crisis (2008-18)

Greek exports seem to be strongly affected during the periods of global recessions, based on the course of Greek exports in the last three decades (1980-2007). During the world recession of 1981-1983, exports fell by 17% in 1981, stagnated in 1982, rose very slightly in 1983 (4%) and finally exceeded the levels they had reached in 1980 six years later. For the recession of 1991-1993, any effects are lagging behind: exports in 1991 compared with 1990 increased by 8% and increased by 14% again in 1992, but declined by 15% in 1993. Turning to the recession in 1996-1998: exports fell by 6% in 1997 and approached 1996 levels in 2000 alone. With regard to the 2000-2002 recession, exports declined by 2% in 2001 compared to 2000 and fell by 1% again in 2002. Their recovery begins in 2003 and continues until 2007. From the above, it becomes clear that Greek exports are adversely affected by the global recessions in the last three decades. However, the duration of the recession or its depth show that the decline in economic activity around the world is not the only cause of this negative development. Export activity is also affected by endogenous causes, such as competitiveness, but also the composition of exports, since for most exported Greek products the elasticity of demand in terms of disposable income is high (e.g. olive oil) or because many of them are directly linked to industrial and construction activity (e.g. aluminium, copper, iron and steel products), there is no doubt that the fall or the severe weakening of economic activity will lead to a decrease in import demand in developed countries (and not only) and a restriction of international trade, with an adverse effect on Greek exports. Sluggish economic activity around the world and the limited expansion or stagnation of international trade will affect Greek exports as a whole, as the vast majority of exported Greek products are not essentials. In particular, the following will be affected: products linked to industrial production (e.g. non-ferrous metals) and products directly related to building activity and construction (e.g. cement, steel, aluminium products), due to the reduction of industrial and construction activity, products for which the elasticity of demand in terms of income is high (e.g. clothing and most of the food exported by Greece), due to the increased international competition and the decrease of international demand (Panhellenic Exporters' Association, Center for Export Research & Studies, 2008, pp. 4-7).

According to a survey by IOBE, the economic crisis affects the entire business community of Greece, with the decrease in sales to large enterprises reaching cumulatively 20% in the period 2009-2011. Businesses appear quite exposed to the lack of liquidity, but mainly due to a similar problem faced by

their customers / suppliers (48% of businesses), but also due to the limited to non-existent funding from the bank system (36.5% of enterprises). A key determinant of good economic performance of businesses is extroversion. Those who export manage to show higher resistance to the economic crisis and substitute part of their losses in turnover from the domestic environment. It is indicative that the enterprises that expect sales growth in 2011 are the exporting enterprises. However, there is significant room for improvement both in the base of the exporting enterprises and in the intensity of exports, since only 45% of the of the country's largest companies' exports (70% in manufacturing) (SEV, IOBE, NTUA-EBEO, 2011).

Table 1. Foreign Trade of Greece 2008-2018 (million EUR, current prices)

Year	Exp. (X)	d(X)	d(X)%	d(X) 2008 /2018	Imp. (I)	d(I)	d(I)%	d(I) 2008/ 2018	Trade Bal. (B)	Δ(B) %
2008	21,227.7	-	-	-	65,529.4	-	-	-	-44,301.7	-
2009	18,015.1	-3,212.6	-15.1	-15.1	53,138.2	-12,391.2	-18.9	-18.9	-35,123.0	-20.7
2010	21,161.2	3,146.1	17.5	-0.3	49,648.9	-3,489.3	-6.6	-24.2	-28,487.2	-18.9
2011	24,242.5	3,081.3	14.6	14.2	47,888.2	-1,760.7	-3.5	-26.9	-23,645.7	-17.0
2012	27,478.4	3,235.9	13.3	29.4	47,966.7	78.5	0.2	-26.8	-20,488.3	-13.4
2013	27,223.0	-255.4	-0.9	28.2	45,823.0	-2,143.7	-4.5	-30.1	-18,600.0	-9.2
2014	27,085.5	-137.5	-0.5	27.6	46,695.2	872.2	1.9	-28.7	-19,609.7	5.4
2015	25,753.7	-1,331.8	-4.9	21.3	42,211.4	-4,483.8	-9.6	-35.6	-16,457.7	-16.1
2016	25,445.8	-307.9	-1.2	19.9	42,317.0	105.6	0.3	-35.4	-16,871.3	2.5
2017	28,863.0	3,417.2	13.4	36.0	47,355.9	5,038.9	11.9	-27.7	-18,492.9	9.6
2018	33,472.4	4,609.4	16.0	57.7	54,119.8	6,763.9	14.3	-17.4	-20,647.4	11.7

Source: Eurostat, <https://ec.europa.eu/eurostat/>, International trade, by reporting country, total product, Processed data, 2022

Table 1 shows the evolution of Greece's foreign trade - exports, imports, trade balance - for the period 2008-2018, which was a period of recession for Greece after the global financial crisis of 2008. Regarding exports, it is noted that during the first year of the recession (2009) they were reduced by 3,212.6 million euros, this implies a reduction of 15.1%. In fact, this decrease was the largest in the entire period 2008-2018. In 2010, exports returned to almost the same level - slightly below - in 2008, since they increased by 3,146.1 million euros. euro. In the next two-year period 2011-2012, there is an annual increase of 3,081.3 mil. or 14.6% and 3,235.9 mil. or 13.3% respectively, while for the years 2013-2014 there is a stagnation with small annual losses of 0.9% and 0.5% respectively. In the two-year period 2015-2016 there is a further decline in exports by 1,331.8 mil. and 307.9 million euros respectively. For the years 2017-2018, there is a significant increase in Greek exports by 3,417.2 or 13.4% and 4,609.4 or 16%. In fact, in 2018 is noticed the most significant improvement in Greece's export trade for the period 2010-2018, with the exception of the recovery of 2010 due to the losses of the previous year.

Regarding imports in the first year of recession (2009), there is a very significant decrease of 12,391.2 million euros, which means a decrease percentage of 18.9% per annually. In fact, this decrease is the largest, both in terms of transaction volume and percentage, for the entire period of the recession 2008-2018 and moreover it should be noted that in no year for the entire period under consideration the annual percentage of reduction exceeded 10%. Subsequently, for 2010 imports decreased by 3,489.3 mil. until 2013 there has been a continuous decline, with the exception of 2012, there is a stagnation - an increase of 0.2%. For the year 2015, while there is a small increase in imports by 1.9%, in 2016 there is again a significant decrease in Greek imports by 9.6% or 4,483.8 mil. euro. Then, for

the two-year period 2017-2018 there is an increase in imports by 5,038.9 or 11.9% and 6,739.9 or 14.3% respectively.

Looking at Greece's trade balance, it is found that it remains in deficit throughout the period considered 2008-2018. However, while remaining in deficit, it improves, as from a deficit of 44,301.7 million EUR in 2008, it is limited to 20,647.4 million EUR in the year 2018. In fact, for the period 2009-2015 it is constantly improving as the deficit decreases, with the exception of 2014, while from 2016 to 2018 it deteriorates again. What someone observes about external Greece's trade for the period 2008-2018 is that exports were affected to a lower extent – with smaller annual rates of change – as opposed to imports that showed more pronounced changes. For 2009 both exports and imports showed the largest negative change compared to the previous year and this is reflected in the largest annual change in the trade balance for the same year. What should be noted, however, is that Greek exports recovered very soon, in the space of a year – in 2010 exports were at the same level as in 2008. In fact, looking at the change of 2008/2018, it is found that exports more than doubled, presenting an increase of 57.7%. On the contrary, imports throughout the period considered decreased significantly and it is important that they never returned to the levels of 2008, while looking at the change of 2008/2018 it is observed that they were reduced by 17.4%.

Table 2. EU-28 external trade²⁸, 2008-2018 (million euro, current prices)

Year	(X)	d(X) %	d(X)% 2008/2018	(I)	d(I) %	d(I) % 2008/2018	(B)	d(B) %
2008	1,309,129.60	-	-	1,585,410.40	-	-	-276,280.80	-
2009	1,184,116.70	-9.5	-9.5	1,193,316.80	-24.7	-24.7	-9,200.10	-96.7
2010	1,435,577.80	21.2	9.7	1,471,032.30	23.3	-7.2	-35,454.40	285.4
2011	1,624,461.10	13.2	24.1	1,666,126.60	13.3	5.1	-41,665.50	17.5
2012	1,770,879.80	9.0	35.3	1,702,497.70	2.2	7.4	68,382.10	-264.1
2013	1,780,148.30	0.5	36.0	1,630,801.50	-4.2	2.9	149,346.80	118.4
2014	1,796,802.30	0.9	37.3	1,625,426.50	-0.3	2.5	171,375.80	14.8
2015	1,876,328.30	4.4	43.3	1,648,068.30	1.4	4.0	228,260.00	33.2
2016	1,866,812.70	-0.5	42.6	1,602,470.10	-2.8	1.1	264,342.70	15.8
2017	1,994,260.50	6.8	52.3	1,772,081.20	10.6	11.8	222,179.30	-16.0
2018	2,059,766.90	3.3	57.3	1,912,116.70	7.9	20.6	147,650.20	-33.5

Source: Eurostat, <https://ec.europa.eu/eurostat/>, International trade, by reporting country, total product, processed data, 2022

In comparison, Table 2 shows data on the EU 28's external trade for the period 2008-2018. With regard to EU 28 exports, it can be observed that in 2009 - the first year of the recession - there was a decrease of 9.5%, while the following year exports show a recovery, which in terms of trade volume exceeds the levels of 2008. Then, for the whole period 2010-2018, exports show a continuous increase, which implies the strengthening of the EU 28's export trade, with the exception of 2016, when it stagnates (a decrease of 0.5%). In fact, looking at the change of 2008/2018, one finds that exports more than doubled, presenting an increase of 57.3%. On the other hand, EU28 imports in 2009 show the largest annual percentage decrease (-24.7%) for the whole period 2008-2018, and on the other hand the decrease in imports is greater as a percentage and as a volume of trade from exports for the corresponding period. Indeed, at current prices the decrease in import trading volume was almost double the decrease in export trading volume; this is reflected as a percentage change in the EU28 trade balance for 2009 (-96.7%). Imports for the period 2010-2018 showed an increase, except for the year 2013 (-4.2%), 2014 (-0.3%) and 2016 (-2.8%) and looking at the change of 2008/2018 it is found

that in 2018 they exceeded the levels of trade volume of imports of 2008 by 20.6%. The EU 28 trade balance for the years 2008-2011 remains in deficit, but trade conditions improve, and from 2012 to 2018 the trade balance is in surplus. In fact, in 2015 there was the largest surplus for the period under review, while in 2018 compared to 2008, the trade balance improved by 423,931 million euro.

5 Foreign Trade of Greece during the Health Crisis (2020-21)

Based on the results of a survey by ELSTAT, Greek exporting companies expect that in the year 2021 the value of their exports for goods will show an increase, compared to the year 2020, by 3.3%. At the same time, the product category in which Greek exporting companies expect that the largest percentage increase in the value of their exports will take place compared to 2020 is category SITC 3: "Fossil fuels, lubricants, etc." by 15.1%. Accordingly, the companies expect that the largest percentage decrease will be recorded for the category SITC 7 'Machinery and transport equipment' by 10.9%. The three main countries to which Greek exporting companies intend to have the largest volume of exports of goods in the year 2021 are Germany, Cyprus and Bulgaria, while the three countries with the highest percentage of exports of the total value for the year 2020 was Italy (10.6%) Germany (7.8%) Cyprus (6.4%) (*Press Release Qualifications of Greek Export Enterprises for the Year 2021-1st Evaluation Series of Experimental Statistics, 2021*).

According to Eurostat data on intra-Community trade and external trade with third countries over the period 2019-2020, in 21 Member States imports outside the EU fell between 0 and 20 %. The most frequent range was between -10 % and -15% (8 Member States). In four Member States imports fell by more than 20%. These were Luxembourg (-43%), Malta (-33%), Greece (-23%) and Lithuania (-21%). Imports increased only in Slovenia (+1%) and Croatia (+2%). As regards exports outside the EU to 23 countries, the decrease ranged between 0 and 20%. The most frequent range was between -5% and -10% (9 Member States). In three Member States exports fell by more than 15%. These were France, Luxembourg (both -20%) and Greece (-19%). Exports increased only in Slovenia (+12%), Estonia (+6%) and very slightly in Latvia (+0.05%). At intra-Community trade levels, 25 Member States experienced a decrease in imports into the EU of between 0 and 20%. The most frequent range was between -5 % and -10% (14 Member States). In Malta alone imports fell by more than 20%. Denmark was the only Member State with a slight increase in imports within the EU (+0.12%). At the same time, there were 24 Member States whose exports within the EU fell between 0 and 20%. The most frequent range was between -5% and -10% (13 Member States). In Cyprus (-30%) and Malta (-21%) exports fell by more than 15%. Exports increased only to Ireland (+13%) and very slightly to Latvia (+0.38%) (*Impact of COVID-19 on International Trade by State Member - Statistics Explained*, 2020).

Table 3, which presents the imports and exports of Greece for the period 2019-2021, shows that Greek exports during the first year of the Covid 19 pandemic, showed a decrease by 3,078.6 million EUR or 9.1% compared to the year 2019, while imports decreased by 6,814.6 million EUR or percentage -12.2%, which implies that they were affected to a greater extent. Greece's trade balance, which remains in deficit, but showed an improvement of 3,736.1 million EUR or 17.1%. For 2021, there is a significant increase in exports by 9,126.3 million EUR or 29.64%, while imports also recorded a significant increase of 15,323.4 million EUR or 31.33%. However, despite the strong growth of Greek exports in 2021, the recovery of the economy also caused a significant increase in imports, resulting in the widening of the trade deficit, which stood at 24,323.3 million EUR this means that it increased by 34.19% compared to 2020 and 11.3% in the two-year period 2019-2021.

Table 3. Greece's Foreign Trade 2019-2021 (million EUR, current prices)

Year	(X)	d(X)%	d(X)% 2019/2021	(I)	d(I) %	d(I)% 2019/2021	(B)	d(B)%
2019	33,864.5	-	-	55,726.7	-	-	-21,862.3	-
2020	30,785.9	-9.1	-	48,912.1	-12.2	-	-18,126.2	-17.1
2021	39,912.2	29.64	17.86	64,235.5	31.33	15.27	- 24,323.3	34.19

Source: International trade, by reporting country, total product, *Statistics / Eurostat*, n.d.,2022.

Looking at the impact on external trade of the EU 27 presented in Table 4, it is found that in 2020 EU exports decreased by 198,934.30 million EUR or by 9.3%, while imports decreased by 223,882.9 million EUR or by 11.5%, which implies that the trade balance for EU countries remains in surplus, improved at current prices by 24,948.8 million EUR or 13.1% in percentage terms. Thereafter, for 2021, exports improved by 247,342.0 million EUR or 12.8%, while imports increased significantly more, by 395,453.9 million EUR or 23%. The large difference in the recovery of imports compared to EU27 exports results in the Union's trade balance, although in surplus, deteriorating significantly, presenting a trade surplus of 67,944.1 million EUR, down by 68.6% compared to 2020 and by 64.4% in the two-year period 2019-2021. This also follows from the observation that in the two-year period 2019-2021, EU27 exports increased at much lower levels, 2.27% compared to imports which increased by 8.84%.

Table 4. EU external trade 2019, EU27 2020-2021 (million EURO, current prices)

Year	(X)	d(X)%	d(X)% 2019/2021	(I)	d(I)%	d(I)% 2019/2021	(B)	d(B)%
2019	2,131,994.0	-	-	1,940,886.7	-	-	191,107.2	-
2020	1,933,059.7	-9.3	-	1,717,003.8	-11.5	-	216,056.0	13.1
2021	2,180,401.7	12.8	2.27	2,112,457.7	23.0	8.84	67,944.1	-68.6%

Source: International trade, by reporting country, total product, *Statistics / Eurostat*, 2022.

The comparative analysis of Tables 3 and 4 shows that the decrease in Greek exports, in the first year of the pandemic, is almost at the same level as those of the EU and slightly lower – comparatively 0.2% less decrease. On the contrary, regarding imports for the same period (2019-2020), Greece showed a more significant fall than the EU levels by 0.7%. The trade balance, although on the one hand in the Greece remains in deficit, while in the EU it is in surplus, but it is found that for the period 2019-2021 it has improved in both cases.

Regarding the period 2020-2021, both the Greek economy and the EU27 economy are showing a significant recovery, which leads to an increase in foreign trade. What is observed is that on the one hand, Greek exports are increasing to a very large extent compared to the EU27 (29.4% versus 12.8%) while Greek imports have also increased much more than EU exports (31.33% versus 23%). The trade balance in both cases is deteriorating, however, the deterioration is more pronounced for the EU27.

Overall, for the two-year period 2019-2021, it is found that Greek imports are more sensitive than exports as they show greater changes. The same applies to the EU's external trade²⁷. Also, in both cases, foreign trade has returned and surpassed trading levels before the pandemic due to the pandemic, but Greece seems to have had a more pronounced recovery in foreign trade. Regarding the trade balance in Greece, on the one hand, it remains in deficit and in the EU27 in surplus, and on the other hand, in both cases it has deteriorated, but the deterioration in the EU27 is more pronounced.

Figure 1, above, shows graphically Greece's external trade, imports, exports and trade balance for the period 2019-2021 on a monthly basis. What one observes initially is that imports are consistently higher than exports and on a monthly basis, secondly, it appears that they have the same trend in their

monthly changes, thirdly, any change in external trade seems to have the same effect on the volume of trade for both exports and imports, and finally imports appear to be more sensitive to changes than exports on a monthly basis.

Looking at the first quarter of 2020, when the first restrictive measures were actually applied in our country due to the outbreak of the Covid-19 disease, and especially in the months of March-April 2020, there is an immediate and intense decline in the foreign trade of Greece. Specifically, in April/2020 imports decreased by 22.5% compared to the previous month and by 30.5% compared to April/2019, recording monthly losses of 933.0 million EUR. May/2020 saw the largest monthly drop in imports (-36.6%) compared to the previous year. At the same time, exports in April/2020 decreased by 14.2% compared to the previous month and by 28.8 compared to April/2019. Also, for exports, May/2020 is the month with the largest losses in trading volume with a decrease rate of 30.5% compared to the same month in 2019. From the above data the deterioration appears to be more pronounced for imports than for exports. Then, on 05/2020, it seems that foreign trade stabilizes, while from then on and until 12/2020, a trend of strengthening foreign trade appears. What is found overall is that imports for the whole period from March/2020 to December/2020 show a decrease compared to the previous year. At the same time, exports for the same period (03/2020-12/2020) also show a decrease, but the following two observations should be made: on the one hand, the percentage decrease in exports is less than the imports, with the exception of August/2020 and on the other hand, exports in December/2020 show a positive change (+4.3%) compared to the corresponding month of 2019 which reinforces the view that exports are affected to a lesser extent by imports and that foreign trade will be affected by foreign trade will shows a type V recovery.

Then, looking at the volume of foreign trade on a monthly basis for 2021, a clear trend of strengthening imports and exports of Greece is found, which according to other researchers would probably be more intense, but the additional restrictive measures, the new mutations and outbreaks of the Covid-19 pandemic, both in our country and worldwide, are important deterrents.

What one finds regarding imports is that since February/2021 they show a significant monthly increase in the volume of transactions (+34.5%) and in fact from March/2021 they return to 2019 levels. Accordingly, exports are moving at the same time, recording a monthly increase in March/2021 (+35.6%) while already from February/2021 they have surpassed the corresponding – pre-Covid – export levels of 2019. An observation that should be noted is that in August a drop in imports and exports is recorded. This decline occurs in all three years (2019-2020-2021) and is more attributed to the suspension of production operations during the month of August due to the summer holidays and not as the main impact of the pandemic.

Moreover, regarding the monthly evolution of the trade balance, what is observed is that on a monthly basis it remains a permanent deficit for the whole period under consideration (2019-2021). From the beginning of 2019 to February/2020, the deficit moves by average to -1,822.0 million EUR per month, while with the onset and outbreak of the pandemic, a temporary improvement is evident, with March/2020 recording the lowest deficit of -1,082.7 million EUR and overall, for 2020 it moves by average in -1,512.3 million EUR per month. However, as of March/2021, the difference in imports and exports seems to be narrowed again, Greece's foreign trade conditions are deteriorating and the monthly deficit exceeds the corresponding levels of 2019, while by average it moves to -1,884.1 million EUR.

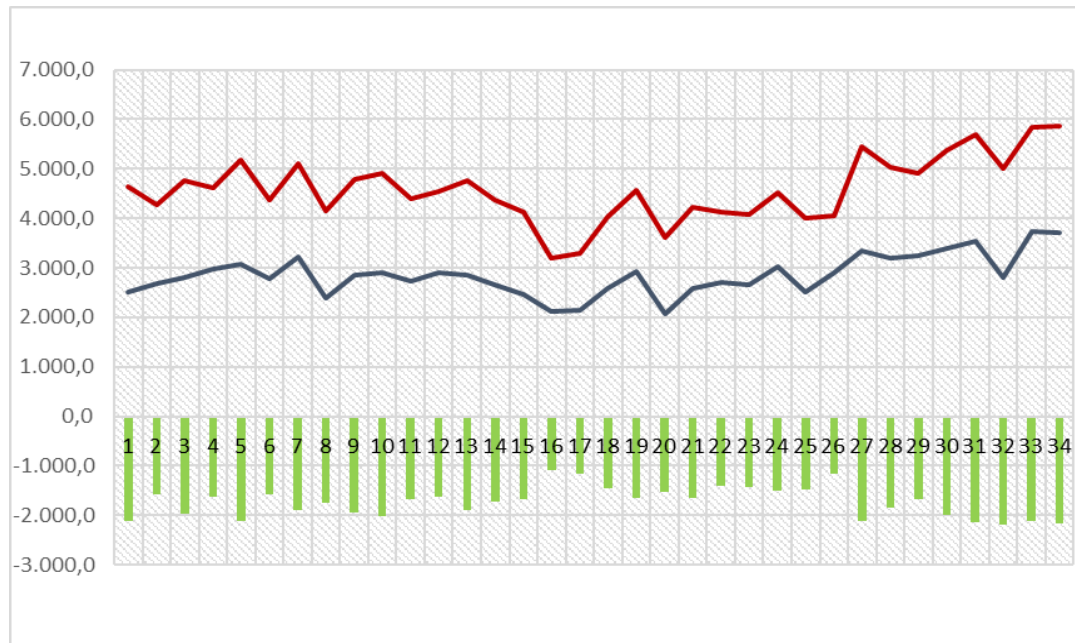


Figure 1. Foreign Trade of Greece, Imports - Exports - Trade Balance, monthly data for the period 2019-2021 (Oct)

Source: Division of Business Statistics, Section of International Transactions Statistics, Last update: 08.12.2021

Looking at the EU's external trade on a monthly basis for the period 2019-2020, Figure 2 shows the decline in EU external trade due to the restrictive measures taken in relation to the Covid-19 virus. Since the last two months of 2019, when the Covid-19 virus first appeared and the seriousness of the situation worldwide was highlighted, there have been downward trends in the EU's external trade. The decline in foreign trade between February/2020 and April/2020 was the largest recorded throughout the period 2019-2021. Specifically, exports decreased by 29.7% (or 73,438.3 million EUR) and imports by 28.9% (or 70,613.9 million EUR), leading to the lower trade surplus in April 2020. Exports appear to be recovering a little stronger than imports, creating an increasing surplus in the coming months. However, neither imports nor exports appear to have reached pre-crisis levels in December 2020.

Regarding the monthly imports and exports of the EU for the period January/2021 - October/2021, the first quarter recorded a strengthening of foreign trade which reaches higher pre-crisis levels. Specifically, in March/2021, EU exports are recorded at 307,539.20 million EUR and imports to 300,529.9 million EUR, this is the highest prices in terms of trading volume for the period considered. Then in the second quarter of 2021 there is a trend towards stabilization, in the third quarter there is a decline but at the same levels of the pre-crisis period and the last quarter of 2021 shows a resurgence in foreign trade. The EU's monthly trade balance remains in surplus, with the exception of December/2019 and December/2020, which is basically due to bureaucratic pricing and trade clearances at the end of the year and the management period, and not as an impact due to the Covid-19 pandemic.

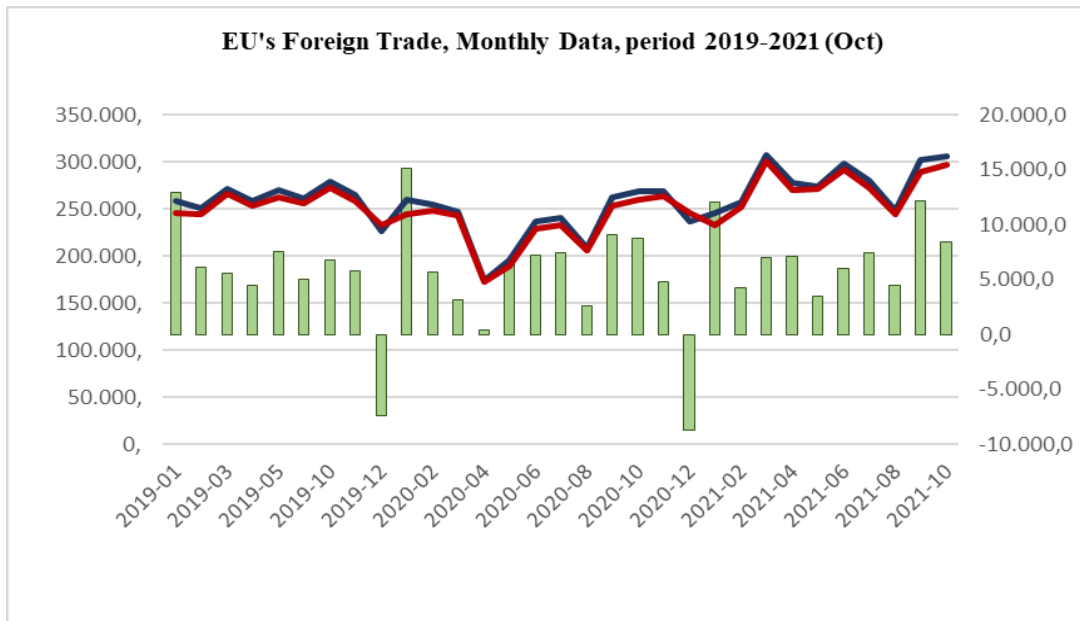


Figure 2. EU Foreign Trade, Imports- Exports- Trade Balance, Monthly data for the period 2019-2021 (Oct), euro million current prices
 Source: Division of Business Statistics, Section of International Transactions Statistics, Last update: 08.12.2021

6 Comparative analysis of data

Table 5 presents comparative data on changes in Greece’s and EU’s 28 foreign trade for the period 2008-2018. What is being find out is that Greece's exports in the first year of recession were reduced by 15.1%, while after 10 years they show that they have recovered, showing an increase of 57.7% compared to the year 2008. On the contrary, imports on the one hand decreased by 18.9% in 2009, the first year after the global crisis of 2008, and on the other hand in 2010 they seem to have remained almost at the same level as in 2009, that is less by 17.4% based on 2008.

In comparison, Greece seems to be following the same trend in export trade as the EU, which showed a decrease of 9.5% in 2009 and an increase of 57.3% in 2018 compared to 2008. Of course, the decrease in Greek exports in 2009 was much more pronounced than in the EU. At the same time, EU imports decreased in 2009 by 24.7%, but overall, for the period 2008/2018 they increased by 20.6%. Regarding the change in the trade balance, it is noted that Greece, remaining in deficit in terms of trade balance, showed an improvement by 53.4% while for the same period 2008/2018 the EU from a deficit trade balance until then, presented in 2018 (already since 2012 had a surplus in foreign trade) an increase of the surplus by 153.4% compared to 2008.

Table 5. Change of Exports, Imports of Greece, EU 28 period 2008-2018 (%)

Countries	d(X)% 2018/2008	d(X)% 2009/2008	d(I)% 2018/2008	d(I)% 2009/2008	d(B)% 2018/2008
Greece	57.7	-15.1	-17.4	-18.9	-53.4
EU 28	57.3	-9.5	20.6	-24.7	-153.4

Source: Eurostat, <https://ec.europa.eu/eurostat/>, Gross domestic product at market prices, Processed data, 2022.

In Table 6 from the comparative presentation of foreign trade of Greece and the EU we find that for 2020 Greece's exports decreased (-9.09%) to the same extent and slightly less than EU28 exports (-

9.33%). At the same time, Greece's imports decreased (-12.23%) on the one hand to a greater extent than exports, and on the other hand more than EU imports which decreased by -11.5%. Regarding the trade balance, Greece's deficit fell by -17.09%, improving the trade balance. The EU's trade balance also improved for 2020 but to a lesser extent +13.01%.

For 2021, from the comparative presentation of the data for Greece and the EU27 respectively, it is found that the economy has recovered significantly, with this fact being reflected in terms of foreign trade. Greek exports improved by 29.64%, compared to exports at EU level, where they increased by 12.8%. At the same time, the increase in Greek imports by +31.33% and by 23.0% in the EU imports is more pronounced. The trade balance is expected to deteriorate in both cases, but the deterioration is more pronounced for the EU27. It should be noted that the improvement in the terms of trade in Greece was initially due to the fact that exports were less affected by imports. Already, since the crisis of 2008, there has been a shift to foreign trade in search of new markets, which were not in as deep a recession as the Greek economy (Magoulios et al., 2021). At the same time, it is an indication that the contraction of the Greek economy in terms of GDP on the one hand affected domestic production, and on the other hand limited disposable income, resulting in a decrease in imports.

Table 6. Change of Exports, Imports of Greece, EU 28 2019, EU 27 2020-2021 (%)

Countries	d(X)% 2019/2020	d(X)% 2020/2021	d(I)% 2019/2020	d(I)% 2020/2021	d(B)% 2019/2020	d(B)% 2020/2021
Greece	-9.09	29.64	-12.23	31.33	-17.09	34.19
EU 28/27	-9.33	12.8	-11.5	23.0	13.01	-68.6

Source: Eurostat, <https://ec.europa.eu/eurostat/>, Gross domestic product at market prices, Processed data, 2022.

Table 7 shows that the degree of extroversion (exports/GDP) of Greece for the entire period of recession 2008/2018 is improving. Initially, the improvement is at marginal levels, +0.59% for the two-year period 2008-2010, while in the next two years it shows an improvement of almost 5% and finally in 2018 it has surpassed at double (+145.8%) the levels of 2008. Regarding the extroversion of the EU, it is observed that from 2008 to 2014 there is an increase in extroversion by 5.55%, while then there is a stagnation, with minimal deviations, at 15%, while the overall improvement for the period 2008/2018 is 36.1%. What should be noted, however, is that in the case of Greece there is an improvement in extroversion, which on the one hand is due to a significant increase in exports and on the other hand to a deterioration in the GDP produced for the corresponding period. In contrast, for the EU there is an improvement in both exports and total GDP for the 2008/2018 recession.

Table 7. Degree of Extroversion (Exports/GDP) of Greece and the EU28, (%) 2008-2018

Countries	2008	2010	2012	2014	2016	2018	d 2018/2008 (%)
Greece	8.77	9.36	14.37	15.16	14.41	18.10	145.8
EU 28	10.00	13.07	15.55	15.25	14.87	15.22	36.1

Source: Eurostat, <https://ec.europa.eu/eurostat/>, Processed Data, 2022.

Table 8, similarly, presents comparatively the degree of extroversion of Greece and the EU for the period 2019-2021. It is found that Greece has a higher degree of extroversion than the EU28 in 2019. At the same time, in the first year of the crisis due to the pandemic, Greece seems to be marginally

improving the degree of extroversion to 18.62 while the EU28 is deteriorating. For 2021, it is observed that Greece is again improving its extroversion to 21.83, while at the same time the EU27 shows an improvement to the levels of 15.09. What is important is that Greece on the one hand improves its extroversion during the two years of the crisis, and on the other hand, overall exceeds the levels of 2019 before the health crisis. On the contrary, the EU27, although at the end of 2021 seems to have improved the levels of extroversion, it is moving marginally below the levels of extroversion. Pre-Covid-19 crisis levels. Based on the data so far it should be noted that Greece has a higher starting base than the EU28 in terms of the degree of extroversion, it seems that exports are less vulnerable than imports to the effects of the crises, the improvement in the degree of extroversion on the one hand is due to the lower change in exports and on the other hand to the significant deterioration in GDP conditions. Of course, overall for the period 2019-2021, Greece's economy has recovered and in terms of GDP it is almost at the same level as in 2019, following the improvement of Greece's extroversion is mainly due to the strong increase in exports.

Table 8. Degree of Extroversion (Exports/GDP) of Greece and Greece EU28, (%) 2019, EU27 2020-2021

Countries	2019	2020	2021	d (%) 2019/2020	d (%) 2020/2021
Greece	18.48	18.62	21.83	0.76	17.24
EU 28	15.21	14.43	15.09	-5.13	4.57

Source: Eurostat, <https://ec.europa.eu/eurostat/>, Processed Data, 2022.

Table 9 shows the terms of trade (Exports /Imports) in the period of recession 2008/2018 for Greece with the EU28, third countries and the whole world. What is being observed is that throughout the period the terms of trade remain unfavorable for Greece with both the EU28 and with third countries and countries of the world. However, remaining unfavorable, the degree of disfavor decreases at almost the same rate throughout the period and in 2018 it seems that the foreign trade conditions of +82.35% have improved significantly with the EU28, +110.3% with Third Countries, +90.62% with the total of the World. It should be noted that the biggest improvement is shown in foreign trade with third countries, mainly due to the fact that in 2008 they had the greatest degree of disfavor, while the least improvement was shown by trade with the EU28, which as expected, in 2008 had the most favorable conditions for Greece compared to the other associations (third countries, world).

Table 9. Terms of Trade (Exports/Imports) of Greece, 2008-2018

Countries	2008	2010	2012	2014	2016	2018	d (%) 2018/2008
EU 28	0.34	0.42	0.53	0.56	0.59	0.62	82.35
Third countries	0.29	0.43	0.60	0.59	0.61	0.61	110.3
World	0.32	0.42	0.57	0.58	0.60	0.61	90.62

Source: ELSTAT, Processed Data, 2022.

Table 10 shows the terms of trade of Greece with the EU, third countries and the whole of the world for the period 2019/2021. For 2020, the terms of trade improve with both the EU, the TC and the whole world, of course with the TC are improving the most. For 2021, it is observed that trade conditions are improving with the EU27, which means that intra-EU trade is strengthened, while at the same time the terms of trade with third countries deteriorate, and they are approaching 2019 levels and

is deteriorating with the whole world. Overall, for the period 2019-2021, it is found that the terms of trade between Greece and the EU27 are improving sharply and even at higher levels before the health crisis trade conditions remain stable and almost unchanged, while trade conditions with the whole of the world are improving.

Table 10. Terms of trade (Exports/Imports) of Greece, with EU, Third countries, total World, period 2019-2021, EU28 2019, EU27 2020-2021

Countries	2019	2020	2021	d(%)	d(%) 2019/2021
EU 28/27	0.62	0.63	0.65	1.61%	4.84%
Third Countries	0.59	0.62	0.59	5.08%	0.00
World	0.61	0.63	0.62	3.28%	1.64%

Source: (Statistics - ELSTAT, n.d.), 2022.

Table 11 shows the changes in foreign trade and GDP in Greece and the EU compared to the two periods 2008/2018 and 2019-2021. What is observed regarding Greece's GDP is that it deteriorates significantly (-23.66%) during the recession period 2008/2018, in contrast to the EU28 where it shows an improvement (+21.52%). At the same time, the increase in exports is at the same level for both Greece and the EU (+57%), while imports are moving in the opposite direction, as Greece did not recover from the crisis of 2008, remaining at low levels (-17.4%), compared to the EU28, which showed an increase (+20.6%). This fact is also reflected in the change in the trade balance as it seems that the foreign trade of both Greece and the EU28 is improving, however, in the case of Greece it remains in deficit, while in the case of the EU28 it is in deficit in 2008, it improves significantly, whenever in 2018 it appears in surplus. At the same time, for the period of the health crisis 2019-2021, Greece's GDP shows a marginal decline (-0.23%), while the EU 27 shows a growth of 3.08%. What is next is that at GDP levels, although there was a significant decrease in the first year of the crisis, economies in the second year fully recovered and returned to growth. Greek exports seem to have strengthened for the period 2019-2021 to a much more intense degree (+17.86% of the EU27 (+2.27%)), the same can be seen in imports, which have strengthened to a greater extent (+15.27%) compared with (8.84%) in the EU27. Finally, the trade balance deteriorated in both, Greece and the EU27, but in the EU27 the deterioration was much more pronounced. Overall, it appears that the covid-19 crisis has affected Greece's foreign trade more strongly, with exports appearing less sensitive than imports, the economy recovered and returned to the same levels in terms of GDP, while in terms of foreign trade it showed more intense dynamics, the trade balance remaining in deficit over time showed a lower deterioration than the EU27.

Table 11. Change in GDP, Exports (X), Imports (M), Trade Balance (X-M), Greece, EU 2008-2018 and 2020-2021(%)

Country	GDP	GDP	GDP	X	X	X	M	M	M	X-M	X-M
	2018/ 2008	2009/ 2008	2019/ 2021	2018/ 2008	2009/ 2008	2020/ 2021	2018/ 2008	2009/ 2008	2019/ 2021	2018/ 2008	2019/ 2021
Greece	-23.66	-1.84	-0.23	57.7	-15.1	17.86	-17.4	-18.9	15.27	-53.4	11.3
EU 28	21.52	-5.78	3.08	57.3	-9.5	2.27	20.6	-24.70	8.84	-153.4	-64.4

Source: Eurostat, <https://ec.europa.eu/eurostat/>, *<https://unctadstat.unctad.org/> Foreign direct investment: Inward, Processed Data, 2022.

7 Conclusion

From the investigation of the data during the period of the Economic Crisis (2008-2018), it appears that Greece's exports increased with a larger annual percentage change than those of the EU28, which also increased, reaching almost the same levels at the end of the recession. Greece's imports decreased, while that of the EU28 for the same period increased. Greece's trade deficit decreased, but the improvement was less than that of the EU28. Greece has a trade deficit over time, unlike the EU28, which boosted its foreign trade during the recession and turned its trade balance into a surplus. The terms of trade between Greece and the EU28 and the world have improved, but they remain unfavorable for Greece. Greece's degree of extroversion has improved to a greater extent than that of the EU28, but it should be noted that in the case of Greece there is an improvement in extroversion, which on the one hand is due to a significant increase in exports and on the other hand to a deterioration in the GDP, unlike the EU, which is seeing an improvement in both exports and total GDP for the recession period 2008/2018. The economic crisis (2008) and the harsh restrictive measures with the onerous memorandum conditions implemented, resulted, among other things, in a reduction in income and domestic demand, which, in order to cope with it, businesses have reinforced their extroversion, while for the same reasons imports decreased, resulting in an improvement in the trade balance, the terms of trade and the degree of extroversion.

Accordingly, from the data to date, during the period of the Health Crisis (2019-2020), it appears that exports of both Greece and the EU28 decreased to about the same extent during the first year of the crisis, but in the second year of the crisis, the exports of both the EU27 and Greece showed a significant recovery, surpassing the levels of 2019. In fact, the recovery momentum of foreign trade was much stronger for Greece than the corresponding pace of the EU. Also, imports for both, Greece and the EU28 initially declined, but Greece's to a greater extent, but they fully recovered at the end of 2021 with Greece showing stronger recovery. The same applies to Greece's trade balance, which initially declined to a greater extent than that of the EU28, but overall for the period 2019-2021 for the EU27, the deterioration in the trade balance, although it remained in surplus, was significantly more pronounced.

At the same time, it appears that exports are less affected by imports and that foreign trade will show a V-type recovery compared to the recession period of 2008/2018. This phenomenon is reflected more strongly in Greek foreign trade than in the European Union's external trade. Indeed, the strengthening of foreign trade in Greece, the EU countries and worldwide, according to the international literature, it would probably be more pronounced, as the external trade of the Member States is strengthened, among other things, thanks to the enhanced implementation and enforcement of trade agreements and global rules for the implementation of the regulatory framework and the lifting of protectionist measures, but the additional restrictive measures, the new mutations and outbreaks of the Covid-19 pandemic, are significant inhibitors. At the same time, according to the literature, the so-called twin deficits are expected to remain high in 2021, as the economy is still in the early stage of transition, from the onset of the health crisis to the new normality, a process in which expansionary fiscal policy plays a catalytic role, on the one hand, and the recovery of the tourism industry to pre-covid levels on the other (Gogos, 2021).

As regards the size of foreign trade, it appears that the degree of sensitivity of Greece to the effects of the crises is greater than that of the EU28. This behavior of Greek foreign trade can be interpreted by the sectoral composition of exports, in which special weight is borne by products for which the elasticity of demand in terms of income is high, by the smaller size of enterprises and hence the limited access to commercial credits and external financing, but also by the competitiveness deficit of the exported products in terms of added value, quality, price, compared to those of the EU28 and

especially of the most developed countries. As pointed out in a relevant report of the National Bank of Greece (Crompas, 2021), the problem is not only quantitative but also qualitative as SMEs export their products mainly to the Balkan countries and Eastern European countries, in contrast to large companies that have better access to Western European countries, where profit margins are higher. The Greek economy continues to exhibit characteristics of an emerging economy, where there are strong comparative advantages, while on the contrary it has no characteristics of a developed country in terms of productive structure and external trade structure (George Magoulios & Athianos, 2013). Foreign trade data indicate that Greece's intra-Union trade has been affected to a much lower extent compared to foreign trade between Greece and third countries since the outbreak of the pandemic. Both imports and exports towards and from EU countries have suffered small losses compared to the collapse of imports and exports towards and from third countries. At the same time, demarcating the period 2019-2021, it appears that there is a restructuring in the external trade of Greece with a significant strengthening of intra-Union trade. Among other things, this change is due to the fact that the existence of an institutional framework in intra-Union trade, the conditions of free trade, trade confidence, creditworthiness, no restrictive measures, security of transactions and knowledge of the supply chain developed through European integration contributed significantly to the maintenance of the volume of intra-Union trade in Greece.

Suggestions for further research are to make a comparative analysis, taking into account methodologically the terms of exports, imports and extroversion of the Greek economy by extending the time period of the sample for the period 2022-2023, in order to highlight new differentiations due to the geopolitical crisis between Russia and Ukraine, which is expected to affect the terms of international trade. At the same time, it would be interesting to analyze the sectors of international trade (according to SITC) for the period following the pandemic, using methodological weighting factors and weightings per sector of foreign trade in the country's economy in order to investigate the restructuring of Greece's foreign trade, both by sector and destination, and whether these changes have a transient or permanent basis. The results could be taken into account on the one hand to strengthen and support the country's commercial competitive advantages, and on the other hand to highlight opportunities in new commercial sectors and markets.

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