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Guest-Editor

- Prof. Dr. Maria-Michailidis, University of Nicosia, Cyprus

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Economic Break-Water Effects from Waves of Refugees: Quasi-Experimental Evidence from Greece

Abstract:

The turmoil in the Middle East and particularly the civil war in Syria that started in 2011, has sent waves of refugees through many regions in the world. Greece, which is a first port of entry for those who want to move further in Europe, has become something like a “holding pen” for people seeking asylum. This paper focuses on the unexpected, rapid, and large influx of refugees in Greece as a result of forced out immigration from the Middle East region and examines the effect of these influxes on the GDP *per capita*. In this paper the difference-in-differences approach is used to estimate the effect of immigration on GDP. The main outcome of the analysis is that the immigrant influx had a negative effect on the treated regions; this is demonstrated by the standard DID test as well as all of the different tests that included differing sets of covariates for robustness. Thus, the primary conclusion supports a hypothesis that the impacted regions served as a “break-water” for the immigrant waves, absorbing most of the negative economic effect.

Keywords: Immigration; Refugee crisis; Economic growth; Difference-in-Differences; Greece

JEL: C21, J11, O15

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1. Introduction

Breakwaters are offshore structures near the coast that protect harbours from the impacts of waves and longshore drift. If we imagine the recent rapid and large movement of refugees to the European Union (EU) as waves, then the analogy of the breakwater can potentially be illustrative of the potential effects of these waves to the first ports of entry, which act as the breakwater. The standard literature on immigration typically shows either small positive or negative effects on the economy of the host country under the assumption that the immigrants are coming in and defusing across an area such that the additional labour force and demand for social services is diffused across a wide area.

In the case of the EU, we might expect refugees with economic means to enter the port of first entry and then move on (diffuse) into the greater EU. However, some refugees' lack of economic means prevents them from moving on to another country, and as a result, they must stay in the first port of entry. In this way, the port of first entry acts as a breakwater, slowing the wave, reducing the speed and size of the wave to the interior, and, perhaps, absorbing refugees with the least economic means. If this analogy is accurate we should expect the port of first entry to absorb the greatest negative consequences from the immigration while smaller negative and even positive effects diffuse into the rest of the EU.

The turbulence in the Middle East, and more specifically the civil war in Syria that began in 2011, has sent proverbial waves of refugees through many regions in the world. The direct neighbours of Syria, such as Turkey, Lebanon, Iraq, and Jordan, have absorbed the largest number, but Europe has also witnessed significant influxes of refugees. Based on the United Nations High Commission on Refugee (UNHCR) reports, approximately 7 million Syrians have fled their country since 2011. Millions more have been displaced inside Syria. People escaped violence in the Middle East and South and Central Asia and thought of Greece as an entry point to Europe. Greece has become something like a "holding pen" for people seeking asylum. The thousands of refugees in Greece can no longer legally travel deeper into Europe and most will likely remain in the country.

Millions of refugees have passed through Greece since 2011, and almost all of them have reached Greece by crossing the Aegean Sea while some have travelled onwards by land over the Balkan peninsula to richer north-west EU countries. Refugees with significant resources have been able to move on into Europe, while those without resources have likely stayed in Greece, further straining the local resources to deal with refugees and jobs to integrate them into society. Those left in Greece are reportedly living in overcrowded conditions in refugee camps, unable to leave in order to find a better future in another European country, which could provide them with better prospects.⁴ Not surprisingly, the Syrian refugee movement in Greece has become a serious economic, socio-political issue that has opened up a wide debate in the country.

According to Filippo Grandi, the UNHCR High Commissioner, "Syria is the biggest humanitarian and refugee crisis of our time, a continuing cause of suffering for millions which should be garnering a groundswell of support around the world". Generally, refugee inflows have always been a source of tension and discussion among supporters of an "open door" policy and opponents of that idea, among them

⁴ According to the International Rescue Committee, 40,000 refugees live in the reception camps, which have a capacity of only 6,000. The UNHCR has required the Greek government to take action on that matter, to construct new centres, to improve the conditions in the existing ones and to increase the capacity of the ones on the mainland.

groups of “economic and social nationalists”, who think that these inflows will generate economic as well as social problems in the country (Bahcekapilli and Cetin, 2015). Various EU countries along that path have taken new, harsh measures to close their borders, prompting those further down the chain to impose similar restrictions to prevent a bottleneck.⁵ Mundell (1957) claimed that, theoretically, immigration, like free trade, will have positive outcomes for the citizenry. More specifically, it will generate surpluses that can be redistributed and will make the citizenry better off.

This paper focuses on the unexpected, rapid, and large influx of refugees in Greece and estimates the effect of these influxes on the GDP *per capita*. Thus, our objective is to examine what the causal impact of the refugee flows is in the Greek economy. The research questions that are addressed are the following: What is the overall differential effect of the refugee inflows on the output *per capita*? Is the net migration positive?

A number of authors have studied the immigration effects of the Syrian refugees on Middle Eastern countries, especially Turkey, whereas not many have examined what the effect of the refugee wave has been on European countries, especially the first ports of entry, like Greece. This paper aims to fill the research gap in the existing literature. The unanticipated, massive arrival of Middle Eastern refugees (and especially Syrians because of the civil war) has presented a natural experiment that has created an exogenous immigrant flow with potentially very different characteristics compared with other countries because of the “break water” effect that occurs due to Greece being a port of first entry. By that, we mean that immigrants of economic means pass through Greece to other destinations, leaving behind poorer, less economically mobile people. Greece hence acts as an economic “break water” to each wave of immigrants. This analysis offers a great opportunity to examine the economic effects of these flows on the host country in a quasi-causal way using a difference-in-differences approach.

The results show that the causal effect of the refugee influx in Greece was negative. Although the regions that did not receive the influx of refugees (control regions) were initially poorer than the treated ones, the two groups of regions exhibited a diminishing GDP *per capita*. After the treatment year, 2015, the treated regions continued to underperform whereas the non-treated ones experienced an increase in their GDP *per capita*, surpassing that of the treated regions.

The paper is divided into the following sections. Section 2 is a review of immigration, Section 3 shows the separation of Greece into regions and places with refugee settlements, Section 4 presents the method and the data, and Section 5 discusses the results of the analysis. Lastly, Section 6 concludes.

2. Literature Review

2.1 Literature on Immigration

The most widely studied topics in immigration economics are the impacts of immigration on the labour market, GDP, prices, and welfare. The effects of immigration on labour markets show that the outcomes are clearly connected with the purchasing power of the residents of the hosting areas as well as their welfare levels. Additionally, according to Grossman (1982) and Johnson (1980), who theoretically

⁵ In 2016, Austria proclaimed a cap on the number of transiting immigrants per day and restricted the numbers that were allowed to be in the country at the same time. Later on, Greece’s close neighbours took action, with Macedonia closing its Greek frontier to migrants and Albania employing extra police to guard its border in addition to receiving Italian assistance on both land and sea.

examined the impact of migration on the host's labour market, the impact of the citizenry's employment relies on the relationship in production between the citizenry and immigrants, specifically whether they are complements or substitutes in production. In general, though, empirical-based studies on this topic have concluded that immigrant inflows do not have a negative impact on the citizenry's labour market prospects (Dustmann et al., 2005; Pischke and Velling, 1997). Card (1990) examined the impact of the rise in the labour force that came from the massive migration from Mariel, Cuba to Miami and concluded that the immigration had no effect on either unemployment or wages. On the other hand, Cortes (2005), who studied the impact of low-skilled immigrants on the price levels in the US, found that the unskilled immigrants tended to decrease the salaries in labour-intensive markets.

An interesting aspect in the literature though is what happens to the economy when the immigrants have similar skills and characteristics to those of the local population due to their ethnic origins. Braun and Mahmoud (2014) studied the employment impacts of one of the most massive forced movements of population in modern history: the German influx from Eastern European countries to West Germany after the end of the Second World War. The paper concluded that although there was a decrease in the employment of the citizenry, this displacement effect was brief and weakened quickly over time.

Regarding the impact of immigration on GDP, theoretical studies (Barro and Sala-i-Martin, 1995) as well as empirical studies (Ortega and Peri, 2009) have reached similar conclusions; if the immigrants are skilled, their influx will eventually have a less damaging impact on the economic development of the country compared to the population's natural growth. Barro and Sala-i-Martin (1995) and Dolado et al. (1994) used a Solow growth model expanded by human capital to examine the impact of immigration on economic growth. Barro and Sala-i-Martin (1995) claim that an important factor that characterizes the impact of immigration on growth is the migrants' skills composition. In other words, the larger the number of well-educated immigrants, the more positive the impact of immigration on growth will be. The results of Dolado et al. (1994), who studied this relationship in OECD countries, showed that taking into account the content of the human capital, the effect of the migrant influx was less than half the negative effect of analogous growth on the natural population. On the other hand, Ortega and Peri (2009) also studied the effect on OECD countries and found that migration had no effect on GDP *per capita*. Relative to the current study, these results suggest that if more educated migrants have passed through Greece, while less educated, poorer immigrants remain, Greece is more likely to have suffered negative consequences than the rest of the EU.

Boubtane et al. (2013), who examined the relationship between immigration and the host country's economic growth and unemployment in 22 OECD countries, concluded that migration has a positive effect on *per capita* GDP.⁶ Similarly, the main result of Felbermayr et al. (2010) was that migration and GDP *per capita* have a positive causal relationship. Moreover, they state that the native population can take advantage of the gains that are obtained by migration while the migrants will not be excluded from a plan for redistribution.

Various authors have studied the impact of the Syrian refugees in Turkey (Balkan et al., 2018; Ceritoglu et al., 2017; Balkan and Tumen, 2016; Tumen, 2016; Bahcekapili and Cetin, 2015), which, according to the UNHCR, is the country that hosts the largest number of refugees, accounting for over 3.7 million. According to

⁶ The paper also found a negative effect on unemployment for both natives and non-natives.

Tumen (2016) and Balkan and Tumen (2016) the movement trends of the refugees from Syria can be categorized into two phases. A first shock happened in 2012 and 2013 and created an enormous and fast movement to the bordering countries. A second shock started from the latter half of 2014 and continues to the present where Syrians are seeking asylum in non-bordering countries and selectively searching for a novel, permanent home.

Bahcekapili and Cetin (2015) studied the economic effects of the Syrian refugees in Turkey and more specifically on the region of Southeastern Anatolia. Even though the authors could not measure the effect of the Syrian refugees on GDP due to a lack of available regional data, they drew some interesting conclusions. After examining seven different regions, the study found that the refugee movement brought about an improvement in trade and an increase in Turkey's exports. However, in most of the seven regions, unemployment increased above the country's average, which is consistent with Ceritoglu et al. (2015), who concluded that the refugee inflows had a negative impact on the employment of Turks who lived in the hosting areas. But there was an exception. Mundell's theory of 1957 on free foreign trade was verified by one region, because the unemployment rate fell, the foreign trade recovered and the highest inflation rate was observed.

In sum, the literature has shown that immigration has either a positive effect, (Boubtane et al., 2013; Felbermayr et al., 2010; Barro and Sala-i-Martin, 1995) or no effect, on GDP *per capita* (Ortega and Peri 2009). Would a similar study on Greece draw similar conclusions to the literature? We expect that Greece will not follow the same pattern and will not show either a positive, or no effect of immigration on GDP *per capita*, but rather a negative effect. Greece is a special case, and the results may be different because of the break-water effect, which might lead to economic impacts that are not typically expected. The massive movement of refugees in Greece was an emergency action and those with resources would have self-selected to pass through and go to another wealthier European country. Those who remain in the country are the ones with less economic means and the areas hosting them will potentially absorb a negative economic impact.

2.2 Greece's division into regions and refugee settlements

Greece is divided into 13 regions/peripheries; among them nine are on the mainland and four are island groups. The mainland regions are as follows: East Macedonia and Thrace, Central Macedonia, West Macedonia, Epirus, Thessaly, West Greece, Central Greece, and Peloponnese. And the island groups are: North Aegean Sea, South Aegean Sea, Ionian Islands, and Crete. The refugees are accommodated in different settlements according to their needs. There are 30 settlements in the country for those who seek asylum, 26 of which are on the mainland with a maximum capacity of 20,418 people, while four are on the islands of the North and South Aegean Sea.⁷

⁷ The regions and the number of settlements on the mainland along with their maximum capacity are listed below;

Attica (6): 7,493, Central Macedonia (7): 4,649, Central Greece (4): 3,007, Epirus (4): 2,287, Thessaly (2): 1,768, East Macedonia (2): 966, West Greece (1): 248.

Additionally, 22,000 people are accommodated in apartments for rent through the ESTIA programme, which is run by the UNHCR and funded by the European Commission. Moreover, about 2,000 people are hosted by the Ministry of Migration Policy at rooms to let and hotels in the cities of Grevena and Volvi in East and Central Macedonia, respectively. Lastly, the International Organization for Migration manages a hosting programme of 6,000 people in hotels and accommodation for a period of 6 months, which is managed and funded by the European Commission.

Although there are four hosting settlements in the region of the Aegean Sea, the islands are mainly used to process incoming refugees through the Reception and Identification Centers (RICs), commonly known as “hotspots”; they register those who arrive from Turkey by sea. Each year hundreds of thousands arrive in the islands of Chios, Leros, Samos, Lesbos and Kos where they have to stay until their identity is verified and a space is found for them to stay - this process may take more than 6 months. There are 6 hotspots on those islands with a total capacity of 6,500 places. However, according to the European Commission reports, as of the beginning of June 2018, the total number of refugees present in the Greek hotspots amounted to over 16,500. The number of refugees present in the hotspots keeps increasing, and they are severely overcrowded.⁸ The RICs on the Greek islands are struggling to manage the rise in the number of refugees. It is worth noting that all asylum seekers are provided with full access to health care, and education. Regarding healthcare, all children who enter Greek territory are vaccinated.⁹ In cooperation with the Ministry of Education, there is access to education for all children of asylum seekers, either in special Refugee Education Reception Structures (EDPs) or in regular classes in the schools of the Greek education system.

Table 1 shows the sea and land arrivals of refugees in Greece and the number of those who were dead or missing from 2014 to 2019. The number of refugees that arrived by sea was much higher than that of those who arrived by land. However, the land arrivals increased gradually from 2,280 (2014) to 14,887 (2019). Also, 2015 was the year when the largest number of refugees arrived in Greece, reaching more than 860,000.

3. Method and Data

The main goal of the paper is to examine the causal effect of refugees' influx on GDP *per capita*. Non-experimental immigration data is usually characterized by selectivity problems (Borjas 1994, Borjas et al. 1992). One approach to managing the self-selection problem is to depend on migration cases that produce “forced” movements through country boundaries. Thus, refugees will not choose by themselves where to go; rather, they will be compelled to move from their homeland and then from country-to-country, dependent on “reasons orthogonal to their country preferences” (Balkan & Tumen, 2016). Immigrants' movement from the Middle East to Greece provides an appropriate setting where we can utilize a quasi-experimental estimation method.

In this case, the validity of the quasi-experiment depends on specific conditions that will be explored below: First, the refugee movements have to be driven by external factors. Second, the places where the refugees will reside in the hosting country have to be generated (at least partly) by external factors. Third, the

⁸ The situation in specific hotspots is overcrowding. RICs with a capacity of 2,000 people like the one at Moria, host 7,000 people, while Vathy RIC, whose capacity is less than 700 people, hosts 2,700. Even though more than 3,000 refugees have approval to move to the mainland, they cannot be transferred due to the fact that the reception is insufficient on the mainland. Thousands of refugees who seek asylum, among them children, have to live in tents. Actions have been taken by the UNHCR, which requests the Greek authorities to take action and transfer the eligible ones to the mainland, to create new centres, to improve the conditions of the existing ones and to raise the capacity of the settlements on the mainland.

⁹ Healthcare is provided both within the Hospitality Structures, as well as in the Health Centres and Hospitals of the National Health System.

refugee influx should not create a native internal migration wave from the regions with a high immigrant population to other regions with a lower immigrant population.

The first condition is easily satisfied. The turbulence in the Middle East, and mainly the civil war in Syria, has left millions of Syrians with no other choice but to flee the war areas and move to other countries. The second condition is satisfied as well. The Greek government -as discussed above- has created different settlements according to refugees' needs; some of them are the "hotspots" on the islands of the Aegean Sea and there are also other camps on the mainland. Almost all of the refugees that have registered reside in these camps. Of course, there is a potential unknown number of immigrants who have not registered, although the majority of them likely choose to reside in places with these kinds of settlements because the government offers them healthcare, education for their children, and some kind of social support. Moreover, the government selects settlements' location merely based on the proximity to the borders with its neighbours; the camps in the Aegean Sea are a few nautical miles from Turkey, and the majority of the camps on the mainland are on the northern Greek borders with Macedonia, Albania, and Bulgaria. Thus, the refugees' crowding in the Greek cities depends mainly on exogenous forces.

The third condition is also met. There is no evidence of significant internal migration by the citizenry in Greece. Based on the European Commission Report on Greece (2020), the internal migration trend since the refugee influx is almost the same as that before the refugee influx. Additionally, the report states that the internal migration from 1968 to 2011 was urbanization, reaching about 76% of the population in cities. However, currently the growth of urbanization is decreasing. On the other hand, from 2008 until today, Greece has experienced another "special" situation. Thousands of people have left the country to go to the USA or other countries of Central and North Europe because of the financial crisis.

With these conditions satisfied, this analysis utilizes a difference-in-differences (DID) approach to estimate the effect of immigration on GDP.¹⁰ There is a "treatment region" where migrants reside as well as a "control region" where the immigration influx is almost zero. Moreover, there is a "pre-treatment period" and a "post-treatment period". Table 2 shows the Nomenclature of Territorial Units for Statistics (NUTS) II crude change of net migration¹¹ per region in Greece in 2013 and 2018, respectively. NUTS were adopted by the EU in 2003 and Eurostat established their hierarchy (into regions, cities etc); they represent a geocode standard for referencing the subdivisions of the EU country members for statistical purposes.

As can be seen, the crude rate of net migration generally increased from 2013 to 2018. However, some island group regions (North and South Aegean) and the North-East regions (Central Macedonia and East Macedonia) were generally affected more than other territories. In the four regions mentioned above, we can see that the crude rate of net migration is positive, and the North and South Aegean Sea islands have the highest values, 48.3 and 7.5, respectively. This can be explained by the fact

¹⁰ From this point, GDP refers to GDP *per capita*.

¹¹ The description of the crude rate of net migration is given by Eurostat and is as follows: "The crude rate of total change is the ratio of the population change during the year (the difference between the population sizes on 1 January of two consecutive years) to the average population in that year. The value is expressed per 1,000 persons. The crude rate of natural change is the ratio of the natural change during the year (live births minus deaths) to the average population in that year. The value is expressed per 1,000 persons. The crude rate of net migration plus adjustment is defined as the ratio of net migration (including statistical adjustment) during the year to the average population in that year. The value is expressed per 1,000 persons. The net migration plus adjustment is calculated as the difference between the total change and the natural change of the population."

that these regions have the largest number of refugee settlements. Additionally, taking into account the geographical location of these regions, being on the border with Turkey, the influx of refugees in these places is significantly higher than in other regions. This is the most important factor that can help us decide which regions will belong in the treated group. On the other hand, Attica, West Macedonia, Thessaly and West Greece still hold negative values, meaning that they have been less affected by the immigrants' influx.¹²

4. Data

City level data were not available, so all of the data used are at a NUTS2-level. The treatment region was set by considering the following conditions: First, the crude rate of net immigration should be high. Table 2 displays the regions that have experienced the highest crude rates of net migration (in 2013 and 2018 respectively); from that we can get a clear idea of which regions to include in the treated group. Second, the region should have settlements to host refugees. Thirdly, the number of refugees in these settlements should be high enough compared to the population of the region. So, the treatment region consists of four NUTS2-level regions (North Aegean Sea, South Aegean Sea, East and Central Macedonia) where all three conditions are met, as explained by Table 2. In these four regions the concentration of migrants increased dramatically from 2013 to 2018, displaying the highest values for the crude rate of net migration throughout the nation. In addition, all four regions have various settlements and three out of the four border (by sea or land) Turkey, from where all refugees enter into Greece.

The control region consists of eight NUTS2-level regions (West Macedonia, Thessaly, Central Greece, West Greece, Peloponnese, Epirus, Crete, and the Ionian Islands) where none of the conditions is satisfied, and the migrant concentration is very low.¹³ As Table 2 displays, the crude rate of net migration for these regions did not change dramatically from 2013 to 2018 and stayed either negative or at very low levels, proving that these territories were not affected by the refugee influx that started in the mid 2010s. This is also explained by the geographical position of these regions; they are all far away from Turkey, which provides the only path to Greece. Lastly the number of refugee settlements in these regions is very small, and the number of people that they can host is very limited. The point defined as the period of treatment for the analysis is set as January 2015.

We used Eurostat's NUTS2-level dataset, which provides regional data on unemployment rate, crude rate of net migration, tertiary education, life expectancy from 2007 to 2018, and number of physicians from 2006 to 2017. The regional GDP data was taken from ELSTAT and it covers the years from 2000 to 2018. The

¹² The four territories where the crude rate of net migration is negative are the ones where there are no settlements for immigrants (West Macedonia) or the number of immigrants in the settlements is considerably lower than the total population of the region (Attica, West Greece and Thessaly).

¹³ De Chaisemartin (2018) criticized the classic version of DID, claiming that it is not always the case that the treated group is the only one that receives the treatment and the control group is untreated. In a lot of cases this basic version creates a fuzzy design where it is found that both groups get the treatment, but the treatment rate only increases more for the treatment group. In this study, we did not face this problem because the treatment regions were set only as territories that have certain amounts of settlements as well as bordering Turkey (by sea and land) and Bulgaria, and Macedonia. The number of refugees in the rest of the settlements in the country is minimal compared to the native population as well as compared to the number of refugees in the North Aegean and South Aegean Sea and in East and Central Macedonia.

outcome variable is GDP. Table 3 provides the descriptive statistics of the data used in the analysis.

5. The Model: Difference-in-Differences

A standard difference-in-differences (DID) model was used to test whether the difference between the two groups of regions - treated and non-treated - became larger after the treated regions were actually exposed to the treatment (t_1) compared to the pre-treatment period (t_0). A brief economic explanation of the specification is provided below. Without the treatment we would, most likely, observe some difference between the post-treatment ($t = 1$) and pre-treatment period ($t = 0$) even in the absence of a treatment (due to overall economic changes). Let Y_{0it} be the GDP at region i and period t , if there was no migrant influx, and Y_{1it} be the GDP at region i and period t , if there was migrant influx.¹⁴

$$Y_{it} = \beta_0 + \beta_1 * t + \zeta X_{it} + \varepsilon_{it}, \quad (1)$$

where β_0 is the baseline average, X_{it} is a vector of covariates (control variables), and $E(\varepsilon_{it} | i, t) = 0$.

However, in the presence of a treatment (if the treatment effect exists) the difference between t_1 and t_0 will not equal zero such that:

$$Y_{it} = \beta_0 + \beta_1 t + \beta_2 (t * treated) + \zeta X_{it} + \varepsilon_{it}, \quad (2)$$

where *treated* is a dummy variable that takes the value of **0** if the region belongs in the untreated group (control regions) or **1** if the region receives the treatment. In Equation 2, the difference between the periods is allowed to vary for the treated and non-treated regions. While covariates (X_{it}) partly capture the heterogeneity across regions and years, there is likely to be unobserved heterogeneity that can be attributed to time-invariant individual region-effects (different historical factors, institutions, etc.), as well as time-fixed effects (common for all regions). Given the panel structure of the data, we can additionally control for these effects by introducing the region and the time-fixed effects (γ_i and δ_t respectively).¹⁵ The extended equation becomes:

$$Y_{it} = \beta_0 + \beta_1 t + \beta_2 * (t * treated) + \zeta X_{it} + \gamma_i + \delta_t + \varepsilon_{it}. \quad (3)$$

Let $t * treated = D_{it}$ is a dummy variable for immigration influx, where regions are indexed by i and observed in period t . If we assume that $E(Y_{1it} - Y_{0it} | i, t) = \beta_2$, where β_2 represents the average treatment effect and it is a constant, then we get:

$$Y_{it} = \beta_0 + \beta_1 t + \beta_2 D_{it} + \zeta X_{it} + \gamma_i + \delta_t + \varepsilon_{it}, \quad (4)$$

Where, again, β_0 is the baseline average, β_1 is the time trend in the control group, and β_2 is the difference in changes over time.

¹⁴ From now on the variable GDP refers to GDP *per capita*.

¹⁵ Also, let's assume $E(Y_{0it} | i, t) = \gamma_i + \delta_t$ for region i and period t ; when there is no immigration influx, GDP will be determined by the summation of a region fixed effect γ_i and a time effect δ_t which is common throughout all the regions.

6. Empirical Results

We start by describing the effect of the refugee influx on GDP in the hosting regions. First, we perform a standard DID regression and then we add to it covariates to control for unemployment and education. Second, we conduct a standard DID regression analysis using the fixed effects model with region and year fixed effects. Third, we include covariates in the model to see if the result of the average treatment effect remains consistent.

The results of a standard DID regression are provided in Table 4. The coefficient of the variable “treated” represents the difference in the expected values of GDP between the treatment and control groups in the pre-intervention period. The constant term represents the expected value of GDP in the control group during the pre-intervention period only. Thus, on average, the control regions’ expected value of GDP before the treatment is \$15,419. During the same pre-treatment period, the average value of GDP in the group that would be treated was \$486.9 or about 3.2% higher. When the treatment is applied (i.e., when the influx of refugees starts taking place), the expected value of GDP in the control group decreases by \$1,762, a decrease of 11.5% from its baseline. The DID variable represents the average difference between the change in the treatment group across time from the pre- to post-treatment periods, and the change in the control group over that same time period. So, the average treatment effect on GDP is negative (-\$474.9) and statistically significant ($p < 0.05$).

Table 5 shows the impacts of adding the covariates of unemployment into model (1), and education and unemployment into model (2). For the first model, where only unemployment is added, the average value of GDP in the control group regions starts at \$19,404. The treatment group starts out about 2% higher (\$19,755). Once the treatment is applied, the control group sees a decrease of 1.8% in the average value of GDP, whereas the treatment group’s change in GDP over the same time period experiences a larger decrease, of 5.5%. When education is also added (Model 2), the treatment group starts out with almost the same average value of GDP. Moreover, the control experiences an increase of 2.4% in the average value of GDP when the influx of immigrants occurs. In both sets of results in Table 5, the average treatment effect becomes more negative than in the standard DID, yielding the values of (-1,087) and (-824.9), respectively, and is statistically significant in both cases ($p < 0.05$).

A regression analysis using the fixed effects model with both region-level individual effects and year fixed effects was estimated and the results are displayed in Table 6 (without covariates) and Table 7 (with covariates). This analysis accounts for the fact that we have panel data and, generally, panel data captures individual (in this case, regional) heterogeneity. So, we are controlling for the average differences across regions in any observed or unobserved predictors. DID is the difference between the treated and untreated regions after the immigrant influx. Even after controlling for region and year fixed effects the average treatment effect is negative and remains statistically significant.

In the simple DID analysis with fixed effects (Table 6), the DID yields a negative value (-474.9) and is statistically significant ($p < 0.05$), suggesting that during the transition from the pre- to post- treatment period, the change in GDP was almost \$475.00 less in the treatment regions than in the control group. The year coefficients represent the expected difference in GDP between the year shown in the table and the base year of the analysis (2008). So, irrespective of GDP, the model predicts an

average decrease of \$638.4 in 2009 compared to 2008. GDP decreases through time and in 2017 decreases by \$4,705 compared to the base year.

Additionally, after including migration in the model, (see Table 7), even though the average treatment effect decreases, it remains statistically significant for model (1). According to the Table 7, when migration and life expectancy are included, the effect of treatment is negative (-\$343.1) and statistically significant ($p < 0.05$). This means that in the treated regions the GDP decreased by \$343.10 compared to the untreated regions. Additionally, GDP is negatively correlated with migration and again the result is statistically significant. So, irrespective of GDP, the model predicts a decrease compared to 2008. GDP declines through time and in 2017 is \$4,705 and \$4,156 less than in 2009, respectively. However, the inclusion of the number of physicians in the place of life expectancy results in a numerically similar but not statistically significant DID estimated coefficient.

GDP decreased in both the non-treated regions and treated regions before 2015 (Figure 1), although the non-treated regions were weaker than the treated ones. They were converging, but after the treatment GDP in the non-treated regions began to increase, whereas the treated regions' GDP kept decreasing because of the exposure to the influx of immigrants.¹⁶ In 2016 the two groups of regions had equal values of GDP, but after that, the treated regions decreased, reaching lower values of GDP than in the control regions.

7. Conclusions

The turmoil in the Middle East, and particularly the civil war in Syria, that started in 2011, has sent waves of refugees through many regions in the world. Greece, which is a first port of entry for those who want to move further in Europe, has become something like a “holding pen” for people seeking asylum. This paper focused on the unexpected, rapid, and large influx of refugees in Greece as a result of forced out migration from the Middle East region and examines the effect of these influxes on the GDP *per capita* in the Greek regions. The main goal was to examine what the causal impact of the refugee flows has been on the Greek economy and to test whether a significant “break water” effect exists.

In this paper the difference-in-differences (DID) approach was used to estimate the effect of immigration on GDP. For the analysis the treatment region consisted of four regions with a very high concentration of refugees, namely the North Aegean Sea, South Aegean Sea, and East Macedonia, while the rest of the regions, which had much lower concentrations, represented the control regions. The treatment effect was set in 2015, where we observed the highest number of arrivals both by land and sea.

The main outcomes of the analysis were that the immigrant influx had a negative effect on the treated regions in the standard DID test as well as in all of the different tests that included differing sets of covariates. The GDP of the control and the treated regions were converging before 2015; however, the non-treated regions were poorer than the treated ones in terms of GDP *per capita*. After the influx of refugees in 2015 the control regions started increasing their GDP *per capita* while the treated regions' GDP kept declining because of the exposure to the influx of immigrants and they eventually reached lower values than the control regions.

¹⁶ The parallel trend assumption is satisfied even starting from 2009; we also checked the robustness of our findings by building the same models for the year ≥ 2010 and we obtained the same results.

Thus, the primary conclusion is that the impacted regions served as a break-water for the immigrant waves, absorbing most of the negative economic effect. Although it is difficult to definitively conclude that only those immigrants with the least economic means remained, the current camp conditions and previous empirical work on the impacts of immigration on GDP provide strong circumstantial evidence that this is the case. But while it is clear that the immigration negatively impacted those regions that absorbed it, it remains unclear how the refugee wave impacted the remainder of the EU. Given that the apparent impact on GDP in the other regions of Greece appeared somewhat positive (or at least not negative), the hypothesis would be that the migration into the remainder of the EU was at least neutral if not positive. Further study of the causal effect of immigration on other economic or social factors is essential. It would be interesting to work on the effect of the immigrant influx on crime rates, prices or the housing markets. This would ultimately depend on the availability of regional data.

From a broader perspective this research indicates that analyzing immigration effects at the national aggregate level can mask the impacts on localized markets and citizens. The benefits can be diffused across the broader population but the costs can be localized and felt by a much smaller subset of the population. Failure to recognize this disparity can lead to disproportionate impacts and adversely impact local social and political stability.

List of Tables

Table 1. Number of refugees arriving by sea and land, and number of missing/dead from per year (2014-2019).

| Previous years | Sea arrivals | Land arrivals | Dead and missing |
|----------------|--------------|---------------|------------------|
| 2014 | 41,038 | 2,280 | 405 |
| 2015 | 856,723 | 4,907 | 799 |
| 2016 | 173,450 | 3,784 | 441 |
| 2017 | 29,718 | 6,592 | 59 |
| 2018 | 32,494 | 18,014 | 174 |
| 2019 | 59,726 | 14,887 | 70 |

* **Source:** UNHCR Operational Portal: Refugee Situations: Greece

Table 2. Crude Change of Net Migration per region in 2013 and in 2018.

| Regions | Year: 2013 | Year: 2018 |
|-------------------|------------|------------|
| East Macedonia | 0.1 | 2.6 |
| Central Macedonia | -3.3 | 2.6 |
| West Macedonia | -5.6 | -2.9 |
| Epirus | -2.6 | 1.3 |
| Thessaly | -2.4 | -0.3 |
| Ionian Islands | -0.3 | 0.5 |
| West Greece | -4.6 | -2.6 |
| Central Greece | 3.7 | 5.7 |
| Peloponnese | 1.2 | 1.6 |
| Attica | -11.9 | -1.6 |
| North Aegean | -1.2 | 48.3 |
| South Aegean | -1.2 | 7.5 |
| Crete | 0.1 | 1.8 |

* **Source:** Eurostat - Population change by NUTS 2 region in 2013 and 2018- Crude rates of total change, natural change and net migration plus adjustment (Per 1,000 persons)

Table 3. Descriptive Statistics of the data

| Variable | Obs | Mean | Std.Dev. | Min | Max |
|----------------------|-----|----------|----------|----------|----------|
| GDP | 234 | 15415.71 | 3657.786 | 9636.124 | 29215.08 |
| unemployment | 156 | 18.17 | 7.091 | 4.7 | 31.6 |
| migration | 156 | 1.15 | 6.733 | -12.7 | 48.3 |
| education | 156 | 22.04 | 5.589 | 11.7 | 39.3 |
| life expectancy | 156 | 81.21 | .935 | 78.2 | 83.6 |
| number of physicians | 156 | 472.75 | 133.153 | 285.63 | 807.88 |
| treated | 247 | 0.231 | 0.422 | 0 | 1 |

Note: Table 3 gives the description of the data, including the number of observations, the mean values, the standard deviation, and the minimum and maximum values for each variable. Every region's GDP *per capita* fluctuated from 2000 to 2018, clearly, the financial crisis of 2007-2008 had significant consequences in every aspect of the economy, especially GDP and unemployment. The overall GDP *per capita* is still below the levels of 2008. From a regional perspective, the average GDP *per capita* is \$15,415.71, with lowest of \$9,636.12 in North Aegean in 2000, and maximum \$29,215.08 in Attica in 2008. The average unemployment is about 18.2%, whereas the maximum reached 31.6%. Education levels increased in all the regions from 2010 to 2018, Attica showed the highest percentage of tertiary education attainment of almost 40%, whereas South Aegean had the lowest 11.7%. While the number of physicians increased overallly in the country, there were territories where the number went down (i.e. North Aegean Sea, and Central Macedonia). The highest number of doctors is in Attica while the smallest was observed in West Macedonia in 2011.

Table 4. Standard Difference-in-Differences (DID) Regression Results for Immigration Effects in Greece.

| VARIABLES | (1) GDP |
|--------------|----------------------|
| t | -1,762*** (122.7) |
| treated | 486.9 (1,520) |
| DID | -474.9** (195.4) |
| Constant | 15,419*** (547.2) |
| Observations | 120 |
| R-squared | 0.119 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5. Difference-in-Differences (DID) Regression While Adding Covariates for Immigration in Greece.

| VARIABLES | (1) GDP | (2) GDP |
|--------------|----------------------|----------------------|
| t | -337.9 (313.0) | 649.1 (472.8) |
| treated | 351.8 (1,419) | 615.4 (1,145) |
| DID | -1,087** (387.7) | -824.9** (290.7) |
| unemployment | -227.2*** (53.71) | -143.2** (48.16) |
| education | | -353.9** (122.1) |
| Constant | 19,404*** (955.4) | 24,817*** (2,163) |
| Observations | 120 | 120 |
| R-squared | 0.432 | 0.638 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Note: for model (1) we included the unemployment covariate and for model (2) the unemployment and education covariates were added.

Table 6. Panel Data Analysis of Immigration in Greece Including Region and Year Fixed Effects.

| VARIABLES | (1) GDP |
|--------------|----------------------|
| DID | -474.9** (201.6) |
| year = 2009 | -638.4*** (203.0) |
| year = 2010 | -1,452*** (298.1) |
| year = 2011 | -2,849*** (426.7) |
| year = 2012 | -3,859*** (511.1) |
| year = 2013 | -4,556*** (480.1) |
| year = 2014 | -4,496*** (499.8) |
| year = 2015 | -4,313*** (446.1) |
| year = 2016 | -4,430*** (396.1) |
| year = 2017 | -4,192*** (386.8) |
| Constant | 18,131*** (353.7) |
| Observations | 120 |

| | |
|---------------------|-------|
| Number of region_no | 12 |
| R-squared | 0.911 |
| Region FE | YES |
| Year FE | YES |

Robust standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table 7. Panel Data Analysis (with Region and Year Fixed Effects), Including Covariates, for Immigration in Greece.

| VARIABLES | (1) GDP | (2) GDP |
|----------------------|----------------------|----------------------|
| DID | -343.1** (143.1) | -276.3 (174.7) |
| migration | -24.32*** (6.954) | -29.66** (9.740) |
| life expectancy | 386.4** (169.1) | |
| year = 2009 | -730.7*** (211.7) | -657.9*** (204.3) |
| year = 2010 | -1,683*** (318.7) | -1,474*** (297.1) |
| year = 2011 | -3,163*** (423.0) | -2,944*** (413.7) |
| year = 2012 | -4,176*** (514.7) | -4,018*** (499.2) |
| year = 2013 | -5,141*** (509.8) | -4,690*** (470.2) |
| year = 2014 | -5,128*** (474.5) | -4,601*** (511.2) |
| year = 2015 | -4,851*** (409.9) | -4,466*** (491.3) |
| year = 2016 | -5,002*** (403.9) | -4,418*** (443.9) |
| year = 2017 | -4,705*** (400.7) | -4,156*** (435.8) |
| number of physicians | | -2.948 (4.935) |
| Constant | -12,882 (13,637) | 19,545*** (2,120) |
| Observations | 120 | 120 |
| R-squared | 0.918 | 0.915 |
| Number of region_no | 12 | 12 |
| Region FE | YES | YES |
| Year FE | YES | YES |

Robust standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Note: Migration and life expectancy variables were included in model (1), and migration and number of physicians in model (2).

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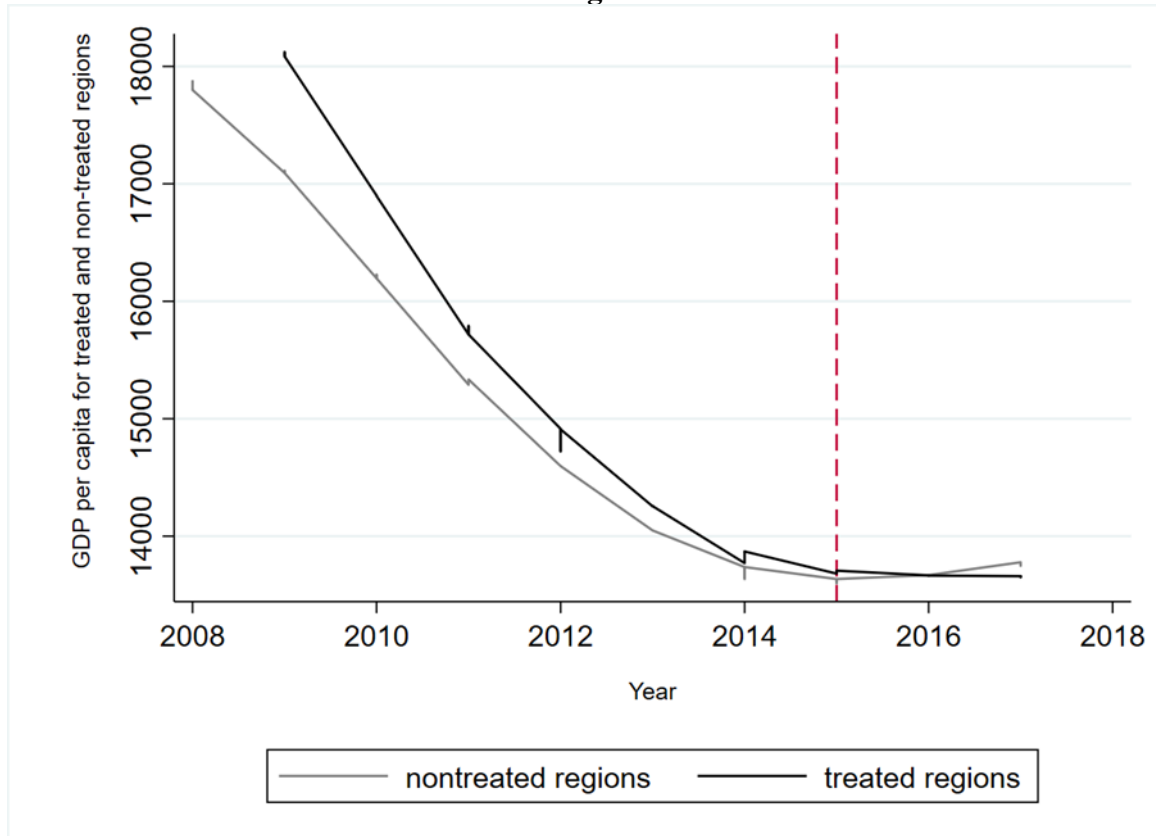


Figure 1 Differences-in-Differences illustration

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Economic and Political Deglobalization: An Overview of Arguments

Abstract:

Theoretical interest in globalization has been intense in the last decades. Notably, about 1.000 articles on globalization were published annually from 2000 to 2010 (Dobratz, Waldner, Buzzell 2021: 627). They reached to all sorts of conclusions, from dark scenarios of a world extremely polarized between powerful global elites and impoverished masses, to hyper-optimistic predictions for a common future of cosmopolitanism, global democratization, and the strengthening of international cooperation and human rights. However, recent developments such as the global financial crisis of 2008, the refugee crisis in 2015, the pandemic in 2020, and the war in Ukraine in 2022, have intensified a contrasting debate, that of "deglobalization", namely a phase of either slowing down or interrupting the practices of globalization. In this article, we overview the arguments of those suggesting an economic and a political deglobalization is unfolding. Then, we discuss some important aspects of a possible reform of globalization ("reglobalisation") and suggest that a continuation of neoliberal globalization would lead to even deeper socio-economic inequalities, the further shrinking of the welfare state and the weakening of the position of labor in the economy.

Keywords: globalization, deglobalization, reglobalization

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1. Introduction

In the 21st century, globalization was challenged in the context of different crises. First, it was challenged by the financial crisis that started in the US and spread to the Eurozone (and more intensively in Greece), leading to severe social and political tensions. Second, it was challenged by the refugee crisis in 2015, which was accompanied by border closures and a series of preventive policies. Third, it was challenged by the COVID-19 pandemic, which led to a series of state interventions to cope with the emergency, with some authors assuming the “end of the Washington consensus” (Mazzucato 2021) or the “return of government to center stage” and even “the close of an era in which power and responsibility migrated from states to markets” (Stephens 2020).

Finally, the war in Ukraine and the sanctions to Russia challenged previous practices of globalization, leading to severe geopolitical tensions and a global energy crisis. Moreover, in the post-Cold war era, it was widely believed that globalization would also bring about de-territorialization, namely the gradual diminishing of the importance of national territory, which in classical political thought constituted the core of traditional state sovereignty together with the nationally defined population and the state’s monopoly of violence. Deterritorialization caused by globalization would mean greater political interdependence, cooperation, coordination, joint resolution of crises, etc. However, the Russian invasion in Ukraine brought the revival both of territory as a core element of state sovereignty and of territorial war, which, after World War II was gradually considered an obsolete form of war.

These events have intensified the debate on deglobalization and “slowbalisation” in recent years (Schmalz 2022). There is a growing consensus that “the days of hyper-globalization are clearly behind us” (Rajanayagam 2022), and that the “sunny view of globalization” has been undermined because “rather than forcing nations to get along, globalization seems to have created new frontiers for international confrontation” (Krugman 2022). Even defenders of globalization such as Klaus Schwab, Founder and Executive Chairman of the World Economic Forum, suggest that “certainly, there are valid reasons for calling into question globalization with economic freedom as the key driver” (see World Economic Forum 2022).

“Economic globalization” referred to the expansion of the market economy, the acceleration and the deepening of its processes, the increase of foreign direct investment and trade as a percentage of global GDP, the expansion of multinational corporations and the financial sector, the economic interdependence between countries, the transmission of economic crises, etc. “Political globalization” referred to political coordination and regulation initiatives by international organizations and institutions in response to economic globalization, the sharing of state sovereignty, the expansion of the human rights agenda, global governance, as well as the promotion of legislation and political and institutional reforms regarding global issues. Economic and political deglobalization refer to countertrends, which will be overviewed in the following sections.

2. Economic deglobalization

Just like the earlier debate on globalization, the one on deglobalization is characterized by heterogeneity of views and disputes. The starting point of those arguing an economic deglobalization is unfolding, is the decline in trade and capital flows, which have been central factors to the globalization of the last decades. According to García-Herrero (2020), trade volume increased by an average of 3.5% from 2009 to 2018, namely slower than the rate before the 2008 crisis (7.6%). Similarly, Scott and Wilkinson (2020: 56) point to a slowdown in the growth of global trade from an annual average of 10.4% from 1998 to 2008 to 3.9% from 2008 to 2018. Scott and Wilkinson (ibid.) suggest that this drop is due to the rise in wages in developing economies, making the off-shoring of production less attractive for companies, which often tend to reconsider onshoring practices.

The counterargument is that the trend towards onshoring is limited. According to surveys cited by Rajanayagam (2022), 72% of American companies in China and 81% of European ones do not plan to relocate their production in the next years. Uncertainty after the pandemic's outbreak has led businesses to diversify their markets by relocating some of their operations outside China in order to shorten their supply chains and reduce risks, but the places of relocation are Asian countries again. Therefore, according to this view (*ibid.*), what takes place is not deglobalization but regionalization, as more than half of world trade remains inter-regional due to low or no tariffs. In this sense, initiatives for the promotion of free trade such as the Asian "Regional Comprehensive Economic Partnership" and the "African Continental Free Trade Area" are not signs of deglobalization, but a form of liberalization within regions. In the West, however, there is no concrete tendency towards the intensification of previous liberalization projects. It is characteristic that the Transatlantic Trade and Investment Partnership (TTIP) between the EU and the US, which aimed to eliminate industrial tariffs and promote free trade, did not succeed. The European Council of the EU (2019) stated that, after 15 rounds of negotiations, the TTIP "agreed in June 2013 must be considered obsolete and no longer relevant".

A common argument in favor of economic globalization was that it constituted an inevitable process that could not be prevented because of technology and the digitalization of modern capitalism. The counterargument is that precisely technological networking and the new technologies are a driver of deglobalization. According to Madhok (2021: 201), new technologies (robotics, artificial intelligence, platform economy, etc.) have increased productivity, without raising labor costs for businesses. Thus, relocation to countries offering cheap labor (a key trigger of globalization) is no longer necessary or attractive. Similarly, there is the view that the preventive policies in response to the refugee crisis in 2015 led to a slower increase of migration flows in recent years (García-Herrero 2020: 34). The counterargument is that despite conjunctural fluctuations, migration increases stably since the 1990s, revealing the existence of an active labor force capable of renewing globalization.

Although the admission of China to the World Trade Organization (WTO) in 2001 was considered a milestone in the country's integration in global economy and a boost to globalization itself, the US-China trade war launched by the Trump administration in 2018 is often understood as a sign of economic deglobalization. The imposition of tariffs on imports of metals, machinery and electrical equipment from China aimed to reduce the American trade deficit and increase domestic production in these sectors. The US accused China of unfair competition and China accused the US of protectionism and, in turn, imposed tariffs on transport equipment and agricultural products from the US. The result is considered a "lose-lose" economic effect: a decrease in real GDP in the US by -1.35% and in China by -1.41%, as well as a drop in global GDP by -0,3% (Itakura 2020).

Moreover, the idea that economic globalization could be achieved without triggering severe social tensions was challenged by neoliberalization and its effects. A vital part of last decades' globalization were the programs of "structural adjustment" in countries in need by the IMF's method of providing loans in return for austerity and privatization measures. Lower socio-economic strata had to pay the price of these programs during IMF's interventions in Latin America (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Honduras, Peru, Uruguay), in Africa (Gabon, Ghana, Kenya, Malawi, Mauritius, Morocco, Nigeria, South Africa, Tanzania), in Asia (Bangladesh, India, Indonesia, South Korea, Malaysia, Pakistan, Philippines, Singapore, Sri Lanka, Thailand) and elsewhere (e.g. Jamaica, Jordan and Turkey) (for the period 1975-1991 and 58 IMF programs see Garuda 2000). After 2010, the "Troika" austerity programs had dramatic consequences for the public sectors, the welfare states, and the institutions of labor protection in the countries they were implemented such as Greece (Markantonatou 2022), Portugal (Estanque 2020), Ireland (Barretta et al 2019) and Cyprus (Ioannou 2020). Consecutive financial crises and the painful interventions of creditors, who

advocated neoliberal globalization, led to the questioning of economic globalization's ideological triumph, and to the search by social movements and some political parties for new directions and policies of international cooperation.

3. Political deglobalization

Political deglobalization refers to the questioning of globalization by state and political actors and the rhetoric of a renationalization of politics. After the financial crisis in 2008, political trust in national governments and trust in the governance of globalization declined. The Eurozone crisis resulted in political upheavals and the electoral rise of political parties that, despite their programmatic differences, instrumentalized a rhetoric of nationalism and anti-globalization, such as the Alternative for Germany (Alternative für Deutschland, AfD), the Freedom Party of Austria (Freiheitliche Partei Österreichs, FPÖ), the National Front in France (Front National, FN), the UK's Independence Party, the Golden Dawn in Greece, etc. More recently, a strong anti-globalization and anti-immigration rhetoric has been renewed with the electoral rise of such parties as the Swedish Democrats (Sverigedemokraterna), and the formation of government by the Brothers of Italy (Fratelli d' Italia, FdI) led by G. Meloni in coalition with the parties Lega and Forza Italia.

Furthermore, the historic referendum in June 2016 that led to the UK's withdrawal from the EU ("Brexit") constitutes a form of advanced Euroscepticism and a sign of deglobalization. Brexit would have seemed unthinkable a decade earlier, when the idea and the optimism dominated that it would be possible for the market economy to be expanded through nation states oriented towards global markets, an idea expressed not only by liberal parties but also by social democratic "modernization" and "Third Way" policies. After Brexit, Republican D. Trump became the 45th US-President and, at least in statements, one of the main supporters of deglobalization and neo-nationalism who utilized a narrative of a supposedly national instead of globalized capitalism ("America First"). His administration amended the 2010 Dodd-Frank Wall Street Reform Act, a series of regulations for more oversight, transparency, and accountability in the financial system introduced by the Obama administration in response to the financial crisis. Also, Trump's administration lifted restrictions for some banks, and reduced corporate taxation from 35% to 21%, "the lowest tax rate since 1939" (Dobratz, Waldner, Buzzell 2021: 233). His racist and sexist rhetoric fueled the rise of anti-globalist far-right forces (white separatists and supremacists, anti-abortion and anti-immigration groups, the alt-right etc.), that often received public support from Trump and a disproportionate exposure to mass media.

What further disrupted the momentum of globalization was the COVID-19 pandemic. It was a global problem that was faced by common strategies (vaccination, lockdowns, etc.), but nation states assumed an enhanced role by closing borders, interrupting trade, tourism, transactions, education etc., and implementing economic measures. As Fuchs (2021: 12, emphasis added) puts it, in the pandemic "economies have turned inwards and focused on national economies and politics. We have experienced a rupture that brought *a certain deglobalisation of the world economy*". This poses the question "of what role global capital and trade should play in the future and if economies will in the future be more or less global, more or less regulated by the nation state" (ibid.). Obviously, the questions of "less or more" and what kind of state intervention return in every crisis, dividing policy makers and societies, sometimes to the point of polarization (for instance, in the 2010 crisis).

In the pandemic, political leaders who previously advocated neoliberal globalization had to change their policies and apply "interventionist" policies. As Pleyers (2020: 305) notes, while the welfare state was discredited after decades of shrinking and considered incompatible with the principles of competition and globalization, after the pandemic's outbreak, political leaders suddenly "stated they considered welfare state and public hospitals as crucial features of their country's national identity". Economic measures included spending

on medical procurement in the healthcare sector; temporary cash transfers to thousands of self-employed professionals and 'suspended' workers in the sectors of tourism, commerce, arts/culture, sports, transportation, and education; liquidity support and loan guarantees to closed businesses; reductions to taxation and rent, and the deferment of tax payments and social security contributions (IMF 2021). Even if they do not constitute a radical break with neoliberalism, these interventions do not necessarily conform with the orthodoxies of the minimal state and competitive globalization that dominated before the pandemic. Indeed, "even the least likely have rolled out major economic aid packages in the name of care for the nation" (Chatzidakis et.al 2020: 11).

In the next section, we briefly overview some arguments, which seek to go beyond the globalization-deglobalization debate and highlight some important aspects of a possible reform of globalization ("reglobalisation").

4. Reglobalisation

Both in the globalization and deglobalization debates there is no homogeneity in views as regards their structural processes, intensity, and socio-economic effects. Those who see a deglobalization unfolding, have a right-wing and a left-wing starting point, and both have been criticized. For instance, Bishop and Payne (2021) argue that right-wing deglobalization promotes economic nationalism, racism, border-closures to the detriment of people in need, and a conservative social order, and left-wing deglobalization mistakenly hopes that resistance to globalization will automatically take a democratic or socialist direction. Deglobalizers are, thus, criticized as follows:

"For all the characteristic, anti-globalist, Trumpian rhetoric, they embody a contradictory mix of authoritarian populism and economic libertarianism, seeking simultaneously to extend and intensify the worst excesses of the neoliberal era via the destabilization of the very global institutions that underpinned its expansion previously, and to entrench the most malign of its current tendencies. [Left-wing deglobalizers] offer undeniably purposeful critique: they are right that neoliberal globalization was and remains deeply problematic in many respects, and they have unquestionably catalogued to great effect its many failures which have only intensified in the era of financialized rentier capitalism. But they are wrong to advocate retreat" (Bishop and Payne 2021: 120).

Bishop and Payne (2021) advocate a "reglobalization" and believe that globalization is here to stay; contemporary problems inevitably transcend national borders; progressive norms and political strategies are required to achieve not a neoliberal but a "post-neoliberal" globalization. This "progressive reglobalization" (ibid.: 126), as they term it, will be "'re-embedded' once more in enhanced multilateral institutions" (ibid.: 121) and targeted in the regulation of international migration, climate change and the financial system to avoid such crises as that of 2008. Additional emerging problems calling for global re-regulation are the financialization of the global food system that sharpens poverty and inequality, the virtual world of "big data" and digital capitalism, the transnational organized crime, and the sophisticated forms of global surveillance with the use of new technologies, which were also used during the pandemic and the lockdowns around the world. For Bishop and Payne (2021: 125), the policy gaps "do not necessarily have to be filled by the creation of new institutions along the lines of, say, a 'World Big Data Organization', not least since many of these issues intersect and overlap with existing concerns around trade, finance, labour, environment and so on". They suggest (ibid.) that the "existing panoply of global governance bodies needs to be upgraded and expanded (...) in ways that embed a broader range of issues, permit a more penetrating set of interventions and support relentless democratic scrutiny".

Scott and Wilkinson (2020: 56) advocate a reglobalization that would lead to the reform of the World Trade Organisation, a key driver of globalization in the previous decades. They suggest that globalization has created a significant economic wealth, but its social distribution has been unfair, leading to broad social inequalities and the intensification of

social tensions. Scott and Wilkinson (ibid.) suggest a reglobalization through structural changes to the negotiating process, the WTO's opening up to non-state actors, and "the transformation of global trade governance within the context of a thorough process of reglobalization wherein the primary public mechanisms of global governance are reoriented towards the delivery of progressive social and environmental outcomes".

Eder and Novy (2021: 6) reject the globalization-deglobalization dichotomy and argue that this dichotomy presents nationalist capitalism as the only, supposedly, viable alternative to the hyperglobalization of the last decades. They (ibid.) propose a "third strategy", which they describe as a "foundational economy in a multi-level governance model" that "implies selective forms of economic deglobalization as well as efforts at deepening international cooperation", and "has the potential for broader alliances in favour of the many". Such an economy would be spatially organized at the communal, regional and national levels, providing basic social services (hospitals, schools, utilities, etc.) with access to all. It would also create innovative forms of public ownership, which would not seek to create profit, but to upgrade the quality of services that has worsened by chronic privatization. According to Eder and Novy (2021: 8-9), cooperatives, public enterprises, and local economies could shorten supply chains, and strengthen local and community development, in terms of a new socio-ecological contract that would focus on social needs and economic egalitarianism, rather than the endless competition that globalization requires and generalizes, as well as the "useful production" instead of the constant search for technological innovation and competitive advantage.

5. Final Remarks

The recent debate on the dynamics of deglobalization attempts to understand the economic and political developments since 2008 and discusses how the financial, refugee and pandemic crises have challenged globalization. Despite the view that political rather than economic deglobalization is more advanced because economic data are still mixed (James 2018), no complete picture can yet emerge regarding both forms of deglobalization. Within political sociology, different theoretical approaches provide various answers to the question of when, where, and why globalization was set in motion², and similar disputes can be expected as regards the study of current globalization's transformations towards deglobalization or reglobalization.

During the last phase of neoliberal globalization, despite variations between countries, common policies were implemented: liberalization, privatization, public sector reforms, weakening of the institutions and practices of labor protection, budget cuts for public healthcare and education, expansion of capitalized pension systems, policies to attract foreign investments, etc. (Höpner et al 2014: 27). They resulted in the spread and intensification of economic and social competition. If this trend continues, there can be no radical break with the previous form of market expansionism and neoliberal globalization. Social majorities and the working classes instead of the economic elites could only gain advantages from a deglobalization or a reglobalization which would contribute to economic democratization, the reduction of social inequalities, a strong welfare state, the safeguarding of public goods, and the strengthening of the position of labor in the economy.

² The first view sees globalization as a process with a "longue durée" that began in the 16th century with European colonialism and intensified under the British Empire. The second view suggests that globalization began in the 18th century with the emergence of industrial capitalism, and the pursuit of economic growth. The third view suggests that globalization began after the 1970s crisis and led to the growth of financial capitalism (for an overview Schmalz 2022: 353-355).

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A 19th Century Historical Atlas: Ivan Petrov's "Atlas of the Holy Struggle of the Greeks for Independence"

Abstract:

The "Atlas of the Holy Struggle of the Greeks for Independence, 1821-1828", by the great Russian philhellene Ivan Petrov, was published in 1887 in Leipzig, Germany, and represents an amazing sample of historical cartography of the late 19th century. The bulk of the historical information that the Atlas incorporates comes from an extensive bibliography consisting of 494 sources, in French, German, English, Russian, Italian and Latin. Petrov used different primary sources for the topographical maps in his Atlas, something that is evident from the very different quality and accuracy of the topographical depiction. Even though this work has been largely overlooked in the years that followed, Ivan Petrov's contribution both to history and to cartography remains of great importance.

Keywords: Ivan Petrov, historical cartography, 19th century atlas, Philhellenism

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1. Introduction

Ivan (Ioannis) Petrov has been a representative offspring of Russia's strong philhellenic movement, which emerged at the period of the "Orlov revolt" (1770), peaked during the Greek Revolution, and continued to be strong throughout the 19th century.

Despite the significant differences of Russian Philhellenism with the corresponding Philhellenic movements of Western Europe, the same "paradoxical" fusion of the two poles of the intellectual and political worlds, the conservative and the revolutionary, can be established in both cases. In the case of Russian Philhellenism, the conservative pole definitely advocated the common Byzantine origins of the two nations, totally disregarding the "anti-Byzantine" attitude of a small portion of the pro-Western "neo-hellenic enlightenment".

However, in this same conservative movement, philhellenism was also associated to a large extent with admiration for the classical Greek culture, at a time when great intellectuals of traditional Russian nationalism, such as Sergey Uvarov, Nikolay Gnedich and others, were decisively promoting the translation and propagation of classic Greek literature, with an emphasis on the glorification of Homer and his poetry, as the primeval model representing all traditional and patriotic values. On the opposite side of the political spectrum, the intellectuals of the Decembrist movement, with the most emblematic representative being the greatest poet and philhellene Alexander Pushkin, a close friend of Alexander Ypsilantis and all the prominent "Friends of Odessa", despite the fact that they were historically a precursor movement of pan-Slavism, always fully empathized with the Greek case and with the ideals of the Greek revolutionaries.

2. A cartographer devoted to the Greek cause

Ivan (Ioannis) Petrov was born in Moscow in 1849 and died in Athens in 1922. According to the Greek literary historian Georgios Valetas, Petrov's mother was of Greek origin, a fact that has not been confirmed to this day by archival sources or other testimonies. He had studied at the Imperial Military Academy of Saint Petersburg and became an artillery officer, from which he resigned a few years later (in 1875), as his ardent philhellenism led him to devote himself to the study and promotion of Greek History - initially the ancient, before the modern history of the Greek Revolution and the redemptive struggles of Hellenism finally won him over. For seven years he had been the co-editor of the magazine "Anatoli", through which he promoted and supported the "Greek rights", as he also did through his numerous lectures to the Muscovite audience. Given that Petrov's maternal Greek descent has not been confirmed, it would seem more reasonable to attribute his passionate philhellenism and militant Greek nationalism to the influence of the profound philhellenic movement that marked the Russian society of his time, a movement that, although clearly born out of the Greek Independence Struggle of 1821, remained influential throughout the second half of the century, leaving an indelible mark on the Russian intellectuals.

In 1876, just one year after resigning from the Russian army, Petrov made his first trip to Athens, looking for a Greek wife, which he soon found in the person of Despina Kalaitzakis, a student of the Arsakeion College from Rethymnon, Crete, daughter of a hero of the 1821 War for Independence from Kastelo, Emmanuel Kalaitzakis and sister of the pioneer printer of Crete Stylianos Kalaitzakis. Their wedding took place in 1877, with Despina's graduation, and they immediately left for Moscow, from where they returned five years later, for the definitive settlement of the family in Athens, after Petrov sold his entire property. The young couple, together with the daughter they had, Cleopatra, essentially divided their time between Athens and the (still Turkish-occupied) city of Rethymnon. (In fact, during the years 1886-1887, it seems that Rethymnon was his permanent residence, as he mentions in the preface of the Atlas of Crete). To this strong personal bond with Crete can also be attributed Petrov's special interest in the island, although it has never been the sole of the unredeemed Hellenic homelands that won a special place in his historical and cartographic work.

As an ardent Philhellene and passionate historian, Petrov had already started, from the time he was still living in Russia, to compile an extremely rich and multilingual library, specialized in Greek History, with an emphasis on the great Struggle for Independence. He was also collecting and cataloguing thousands of unpublished publications in newspapers and magazines of the time, while from an early age he was also involved in the art of making maps and atlases. He used to post this material during his lectures in support of Greek rights, which were held in many cities in Greece, but also in Alexandria of Egypt, and Cyprus. A large part of this material, together with a large number of notes and/or complete anecdotal manuscripts of Petrov are kept in the Library of the Hellenic Parliament (in three bundles, with archive numbers, 294, 294a and 294b).

3. A remarkable and unique historical Atlas

The "Atlas of the Holy Struggle of the Greeks for Independence, 1821-1828", which is the first published work of Ivan Petrov, was printed in 1886 and published in 1887 in Leipzig, Germany, in the "Chromolithography" firm owned in that city by a Greek, the native in Siatista of Macedonia Ioannis Nerantzis. The other two historical atlases of Petrov were also published in the same Chromolithography firm of Nerantzis. They concerned the two great struggles of irredeemable Greek homelands, the selected "Atlas of the Megalonisos Crete" (1887) and the "Historical-ethnological Atlas of Macedonia » (1903).

The "Atlas of the Holy Struggle of the Greeks for Independence" represents a monumental work to which the author devoted three years of hard work, as he mentions in his preface. The language used is of course the puristic *katharevousa*, as Petrov (in the standards of the majority of scholars of his time) despised the vernacular *dhimotiki*, which he called "corrupt vulgar language". The large volume (folio format) consists of 55 pages, of which 44 are map sheets, while all of the pages are calligraphic and decorated by the author himself. The last sheet is folding, and consists of a lithograph with sixty-four portraits of Independence heroes, national benefactors and Philhellenes created by Petrov himself. In particular, the 44 sheets of maps contain -according to the author's words- "all the topographical places that have been the theaters of the Struggle, but also the names of the men who starred there, various artworks, symbols and historical informations".

In the individually decorated preface to the volume, Petrov had selected five different passages from the sources he had used, which are calligraphically listed in the four corners of the page. The text that composes the preamble of the atlas should - by presumption - be considered that echoes Petrov's view and perspective towards the world-historical event of the Greek Revolution (War of Independence). Particularly indicative is the first passage, with which the author chose to open the prologue, as well as the last one:

The first excerpt is taken from the "History of Greece" by Karl Mendessohn-Bartholdy, which was translated and published in Greek by Angelos Vlachos, and specifically, from the introduction of the work in question. The eminent German-Jewish historian refers in this particular passage to an extremely important double finding: First, to the fact that, as he characteristically states, "the fall of Constantinople did not involve the fall of the Greek nation(...)". And secondly, to the idea that "after the Turkish conquest, the Greek nation found its political and spiritual unity, which it had really risked losing following the (earlier) conquest of the Latins".

The quote with which Petrov closes his elaborately calligraphic prologue is perhaps even more indicative, as it does not come from a historical source, but from the literary work "Attic Nights" by Spyridon Vassiliadis: "Such had been that Revolution (Independence War), a stage of martyrs and a struggle of titans, bleeding and burning, whose waves in naval battles were bigger than mountains and mountains smaller than hearts beating in battles, causing the holiest and sweetest of feelings, Liberty, but one alone word, fighting and exhaling the most beautiful and modest they pronounced, 'Constantinople!!'"

The choice of both the initial and the final passage in the prologue of the work confirms something ascertained by the whole of Petrov's work and life: The fact that the author fully embraces the Greek historical and national view, while rejecting the perceptions of many western philhellenes, who did not see the continuity of the Greek nation since 1453, but on the contrary, through the prism of their own countries' policies, perceived the Holy Struggle of 1821 rather as the effort to liberate and reconstitute the small nation in the classical cradle of Western civilization. "Constantinople" therefore, as an exclamation and an epithet, "Constantinople" as the last word of the preface to the Atlas, solemnly validates the finding that the Sacred Struggle of the Greeks was for Petrov exactly what it was for Kolokotronis, Ypsilantis, and all the other Greek leaders and heroes.

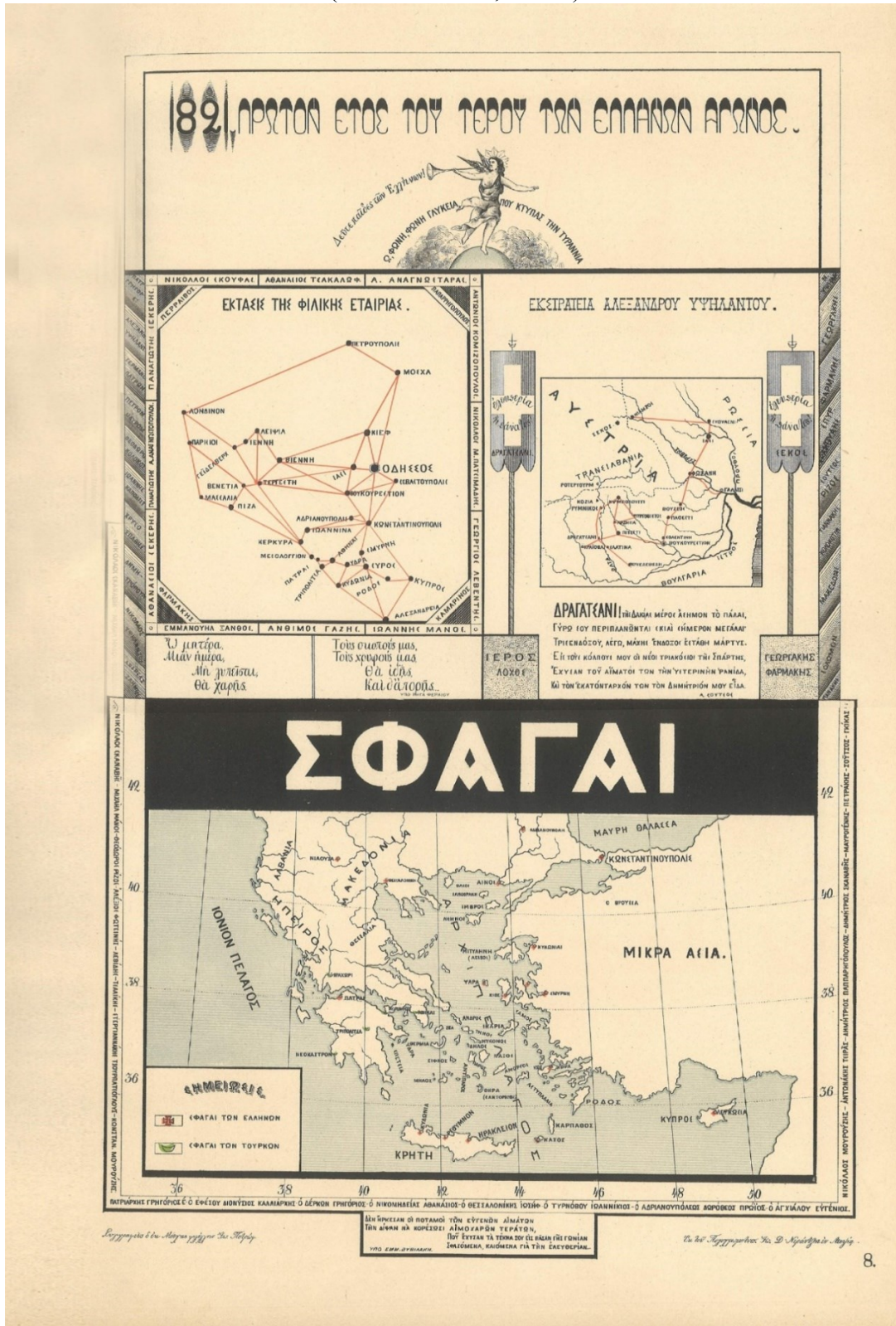
The admirably extensive bibliography consisting of 494 sources, listed in the Atlas, attests to Petrov's deep historical knowledge and is commensurate with the magnitude of the work to which he devoted three years of intellectual toil. Of course, all the sources are not exclusively historical, as many of them have a more geographical, ethnological and -even-literary nature, while it is clear that the bulk of the historical information that the Atlas incorporates mainly comes from the corpus of the most basic sources, such as the works of Paparrigopoulos, Kolokotronis, Rizos Neroulos, Satha, Pouqueville etc. Also important is the fact that the author's great knowledge of languages allowed him to include, in addition to the Greek sources, many works in French, German, English, Russian, Italian and Latin, as he also did in later historical and cartographic works.

The pages that follow the citation of the extensive bibliography, are those successively devoted to the list of the heroes of the Holy Struggle ("the Greeks who excelled in the renaissance of the homeland", as they are mentioned), the Benefactors of the nation and the "fallen Philhellenes". These particular drawings, which - like the map sheets - are framed by the author's calligraphic sketches, could certainly not be absent from a work of this kind, as Petrov's Atlas "balances" between the character of a historical-geographical work and that of a "honorary album".

The folio which follows the three separate 'rates' in the Atlas is of exactly the opposite character, and corresponds to the highly elaborate sixth page of the volume, with the profuse title 'Betrayed', written in capitals, and in a style strongly suggestive of the "Nashville font", typical of the wanted signs. The word is framed by the phrase "curse of the nation". The author has designed here a polygonal advertising kiosk, modeled on the iconic "Morris columns" (colonnes Morris) of Paris. Of the three depicted sides of the polygonal column, the central one corresponds to the column with the names of the thirteen traitors, the left bears the title "traitor's homeland", and the right the title "place of the betrayal". At the bottom of the column is written the evangelical "father let them go, for they know not what they do", while at its base crawls an adder, as the eternal symbol of betrayal. The calligraphic quote by Diodorus Siculus, which adorns the top of the page in the preface of the Atlas, also refers to this: "I am the guardian of history, the guardian of meritorious virtue, the witness of evil vice, and the benefactor of the common human race". Of particular interest is the seventh page of the Atlas, in which Petrov attempts a brief assessment of the respective role played by each of the four Great Powers of the time (England, France, Russia and Austria) vis-a-vis the Greek struggle for independence. The author particularly glorifies the decisive, positive attitude of his home country Russia (but also that of France), while in the contrary he denounces the adverse role played by England - in particularly critical moments of the war - and of course, the extreme hostile attitude of Austria.

Figure 1. Three thematic maps in Petrov's Atlas

(Source: Petrov, 1887a)



The purely cartographic part of the Atlas begins on the eighth page, which includes three different thematic maps (figure 1): The first map, entitled "Span of the Filiki Etaireia (Society of Friends)", depicts thirty-two cities throughout the European and Mediterranean area, which he connects with each other, giving exactly the character of the vast network that

the secret Society actually formed in this vast area, spreading from Alexandria, to the south, to London, to the north-west, and St. Petersburg to the north-east. The second map depicts the campaign of Alexander Ypsilantis in the Danubian countries of Moldavia and Wallachia. Of particular interest is the third map, which shows the places of the great massacres of the Greeks, in Crete, Kasos, Kos, Cyprus, Patra Naoussa, Thessaloniki, Chios, Smyrna, Kydonias, Ainos, Adrianople and Constantinople. Something that deserves special mention in this map, is that the massacres of the Turks by the rebel Greeks in Tripolis, Corinth, Athens and Vrachori (Agrinio) are also listed. This means that, even though Petrov's philhellenic ardor and Greek nationalist feelings have been so intense – throughout all his works – costing him the accusations of partiality and lack of historical objectivity, he still proves that he respects the truth of the historical facts.

As far as the purely cartographic part of the atlas is concerned, it is interesting to note that all the historical regions of the current Greek state are represented by at least one sheet (map), with the sole exception of Thrace (where no battles took place during the Revolution). The only maps that cover areas outside the current Greek territory are those of Cyprus, Imvros and Tenedos. The campaign of Ypsilantis in Moldavia and Wallachia (modern time Romania) represents of course a completely special case, which is why the relevant map is listed separately from the others. Of the 44 map sheets, exactly half (22) concern islands (either individual islands or island groups) and the rest 22 refer to mainland areas. Of the latter, 11 maps refer to places in Roumeli, 8 to places in the Peloponnese, and one each to the regions of Thessaly, Epirus and Macedonia. Of particular interest is the separate map that Petrov dedicates to the four islands with strong Catholic communities (Syros, Tinos, Naxos and Santorini), in order to "denounce" their abstention the Greek "Holy Struggle". The "biting" logo that adorns the upper part of this page, represents a star with the names of the four islands, and in its center a heart that encloses the Turkish crescent. However, he does not fail to add right below that, "the following behavior of these islands expiated the shame of the past"...

All the maps in the Atlas comply to the basic rules of cartography (which Petrov had apparently been taught at the St. Petersburg Military Academy) in that they include a proper scale and a legend, which is referred to as "explanation of signs" (**figure 2**). The various signs refer to the mountains, the fortresses, the "dioceses", the cities, the villages, the "ruins of ancient cities", while the maps are also accompanied by one or more boxes with the chronological list of events, as the thematic (historical) character of the Atlas entails. The various toponyms, with the exception of the "ruins of ancient cities", are mentioned on the maps in the spoken language of the region, which makes sense, since the massive official renamings of toponyms by the Greek state took place much later (by a royal decree of 1909).

Figure 2. Map of Lakonia during the Greek war of independence (Source: Petrov, 1887a)



The primary cartographic background on which Petrov relied for this thematic Atlas can't be easily traced, and it appears certain that he used more than one primary sources, since no topographical map of the century covered this wider area, spreading from the Greek state of the time to the European part of Turkey, Crete and Cyprus. The fact that he used different

primary sources is also evident from the very different quality and accuracy of the topographical depiction of the various regions - especially the islands.

In any case, the second half of the 19th century has not been particularly productive for the topographic cartography of the Greek area. However, a brilliant exception to this was the "Map of Greece" of 1852, from the French Military Cartography, as its author, topographer Eugène Peytier, was the first to apply the modern scientific mapping techniques to the Greek area. However, it included the then Greek state, within its narrow limits. For decades, the most perfect maps of the wider region remained the two maps of the Prussian cartographer Heinrich Kiepert, from 1853: The "Map of Greece" (which, however, also included the regions of Thessaly, Epirus and Ionia), and the "Map of European Turkey". In particular, however, for many of the leaves of the insular area, Petrov seems to have used older backgrounds. In the case of Lesbos, for example, the outline and topography of the island show great imperfections and deviations, and refer to Turkish maps of the time, which are clearly more imperfect than Kiepert's 1853.

4. Conclusion

The "Atlas of the Holy Struggle of the Greeks for Independence" remains to this day an extraordinary book, with character, and a unique historical testimony, which reflects both the spirit of that period and of this unique personality, the great philhellene Ivan (Ioannis) Petrov, who had been called an "eccentric genius. It is true that this great cartographic and publishing work has less the character of an original historical source, and rather the one of a synthesis of historical knowledge, as is also the case with the other two atlases of the great Philhellene - but also with all thematic atlases of this kind, in general. Petrov closely collaborated with the greatest Greek historian of the time, Konstantinos Paparrigopoulos, and the "Association for the propagation of Greek Letters", which he presided over, in order to offer to the Hellenic world of his time this extraordinary gift (and "spiritual weapon"). As was the case with many other great Greeks and Philhellenes, his work has been largely overlooked in the years that followed. But perhaps the most important thing is that this work has survived to our time, reminding us of the great contribution of Ivan (Ioannis) Petrov, both to history and to cartography.

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From Development and Sustainability to Sustainable Food Consumption

Abstract:

This paper aims to examine sustainable food consumption. Starting with a brief history of development theories and continuing to sustainable development before unpacking the term “sustainable food consumption”. Sustainable food consumption is a crucial aspect of sustainable development that only recently came into focus. Food is how the modern human, living in the urban environment, connects with the natural environment. Sustainable food consumption is a topic that needs further attention; the world faces tremendous environmental threats, the transition to sustainability becomes urgent. Consumer awareness in this direction is essential.

Keywords: development; sustainable development; sustainability; sustainable food consumption; environmental awareness.

JEL: Q01, Q18, Q56

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1. Introduction

In the context of sustainable development discussions, particularly regarding climate change, depletion of natural resources, and environmental degradation, it is crucial to highlight the urgency of sustainability. The purpose of this paper is to examine briefly the history of “development,” a concept that has changed over time during political climates, continuing with the relationship of environment and development and concluding with the importance of sustainable development and, specifically, sustainability in food consumption.

Food systems, apart from the environmental impact they cause, are responsible for social inequalities combined with the Coronavirus pandemic and climate crisis. The fragility of modern food chains requires planning, and understanding of the responsibility for change, from governments and businesses to civil society. Food research concerns the intersection between geography and social and environmental sciences, but also is a cultural process since food is an essential part of our daily life.

Consumers are key actors as their choices shape the world. Therefore, they should become more aware of sustainable food consumption.

2. The History of Development

The concept of development has always been vital for societies and individuals over time. Development, as a concept, has been studied and interpreted by various scholars, but its meaning has evolved rapidly since the Second World War (Goldin, 2018). The term “development” appears in the dictionary as progress and growth. In the field of Economics, economic development is defined as “the process by which the real per capita income (or the standard of living) of a country increases over a long period of time” (Korres & Chionis, 2003, p. 475). It is an interdisciplinary subject involving politics, geography, history, psychology, anthropology, and sociology.

Development as an academic discipline is relatively new, but the concept of development concerns issues introduced by ancient philosophy and classical political economy. According to Aristotle, the goal of human life was “eudaemonia”-in greek: “εὐδαιμονία”- and it means doing and living well, somewhat similar to the “well-being”, the highest good and the goal of human life.

The concept of Development was influenced by another pioneer of his time, Adam Smith, twenty-one centuries later from Aristotle, who wrote the *Wealth of Nations* (1776), which analyses the economic development of England in the 18th century. According to Adam Smith, progress or overall social well-being is the sum of individual well-being. In 1817, David Ricardo developed the theory of comparative advantage. According to this theory, countries benefit from trade when they produce goods and services according to their relative efficiency, even if they do not have an absolute advantage.

Continuing the classical tradition and following Adam Smith and David Ricardo, Thomas Robert Malthus, in 1820, emphasizes the factors slowing down growth and limiting population growth. Malthus mentions “absolute limits” and the creation of a “steady-state economy” (Mitoula et al., 2006). In particular, Malthus became known for the equation: that the population increases with geometric progression while food products with numerical progression. Malthus rejected the hitherto universal knowledge formulated by Jean-Baptiste Say in 1803, which has come to be known as Say's Law, that demand always equals supply. In the 19th century, Karl Marx used relations of production to explain that capitalist production shapes people's social interaction. Around the same time, in 1848, John Stuart Mill speaks of limits and restrictions on economic development for environmental protection and the emancipation of women (Goldin, 2018).

3. Beyond Growth

The relationship between environment and development is interlinked, and it has raised many debates about the ecological limits of development. The growth of human activities is estimated as an increase in per capita income, and it is seen as a clear threat to environmental degradation. The book “Silent Spring” by Rachel Carson (1962) is considered the flagship of the modern environmental movement and led to the establishment of important environmental legislation in the 1960s and 1970s.

The publication “The Limits to Development” (1972) by the Club of Rome showed that growth is the primary source of environmental degradation due to the resources it depletes for the industrial economy. Therefore, there is imperative to slow down growth. The concepts of “Development” and “Growth” are often confused. However, the term “Economic Growth” means the expansion of the economy’s productive potential, while the term “Development” apart from the increase in production - of goods and services - considers the quality of life.

Development theories laid the foundations for new global partnerships, with a flagship in the year 2000, when 189 countries signed the historic Millennium Declaration, which set global targets for 2015 to combat poverty and hunger and ensure environmental sustainability, amongst others (World Health Organization, 2023).

4. Sustainable Development

Sustainable development is a term with many definitions, which in recent years is often used in a broad field of disciplines, as it is a one-way street meeting the global challenges of the 21st century. The difficulty in defining sustainable development lies in the concept of development itself, which is complex and multi-faceted (Adams, 2009).

The Brundtland Report (1987), also known as “Our common future”, defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (p. 41). Sustainable Development was shaped in the 1970s as the limits of the environment came into focus and became a popular term when ideas of environmental constraints and limits were explored in the 1980s under the label “eco-development” (Sachs, 1979; Riddell, 1981; Adams, 2009). In 1992, governments supported environmental and economic development at the United Nations Conference on Environment and Development in Rio “Earth Summit”.

Today the transition to sustainability becomes urgent since, with the acceleration of globalization in recent decades and the acute problems of environmental degradation and poverty, the response must be global and interdisciplinary. Sustainability includes three core dimensions: the environmental (protection of natural environment and resources), the social and cultural systems, and the economics (promoting decent human living conditions).

The 12th goal of the United Nations of Sustainable Development refers to responsible consumption and production. It concerns that responsible consumption and production includes eating habits in the production, processing, and consumption of food and ensures the food system's sustainability - meaning all the relevant actions will be environmentally friendly.

5. Sustainable Food Consumption

Population growth and economic development will increase energy, water, and food use. As estimated, food systems produce 30% of global greenhouse gas emissions (Garnett et al., 2015). The transition to sustainability refers to large-scale societal changes deemed necessary to solve major societal challenges. Eating habits and food production processes significantly affect the environment (Goodland, 1997). After all, food remains one of the “most critical consumption sectors in terms of environmental sustainability” (Tukker et al., 2010, p. 13). Food consumption is affected by accessibility, food availability, but also personal choices.

Furthermore, these factors depend on geography, demography, culture, urbanization, globalization, marketing, consumer behavior, and disposable income (Kearney, 2010). The processes related to the production of food and its consumption aggravate climate change and cause a series of environmental problems: water pollution, water scarcity, soil degradation, eutrophication of water bodies, loss of habitats, and the reduction of biodiversity (Reisch et al., 2013). Today, it is essential to record current trends and adopt sustainable practices due to the impact of food on the environment, the economy, and the well-being of societies.

Ethical and “green” consumption emerged in the 1990s. The term “sustainable consumption” has been referred to as “community sustainability” by Voronoff (2005) and as “sustainable behavior” by McKenzie-Mohr and Smith (1999). “The possibility of adopting sustainable behaviors presupposes understanding the practices, demography, values and also the behaviors of consumers” (Rex, 2020). Environmentally Sustainable Food Consumption can be defined as “the use of food products that meet basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants against the duration of the life cycle, so as not to jeopardize the needs of future generations” (Oslo Roundtable on Sustainable Production and Consumption, 1994).

The sustainable consumption of food is an issue that concerns both the local and the global environment.

The solution to how to change practices and behaviors of food production and consumption lies in redefining our relationship with nature, food, and with each other. “A sustainable food system contributes to all three pillars of sustainability - environmental, economic, and social - in a balanced way and requires the system to be fair” (European Commission, 2020). It is therefore understood that to achieve this system in the EU, policies and evaluation must address all three pillars. As the European Commission states, the UN’s food-related sustainable development goals (SDGs) must be aligned with the EU’s.

A considerable amount of research has focused on sustainable food consumption. Some examples of green consumption studies (Shrum et al., 1995; Verbeke & Viaene, 1999; De Boer et al., 2007; Barbarossa & De Pelsmacker, 2014; Kumar & Ghodeswar, 2015; Chekima et al., 2016; Maniatis, 2016 ;). Most research focuses on studying the consumption of organic products compared to conventional products that have yet to be researched to the same extent (Vermeir & Verbeke, 2008).

Sustainable food consumption covers a wide variety of issues from the environment, the purchase of organic products (Magnusson et al., 2003; Hughner et al., 2007; Scalvedi & Saba, 2018), the consumption of fruits and vegetables (Cox et al., 1998), the well-being and the living conditions of animals (Verbeke et al., 1999; Hansen et al., 2003), reducing meat consumption (Hoek et al., 2004; Mylan, 2018), fair trade products (Raynolds, 2002), supporting the local market (MacGregor & Vorley, 2006), consumption of seasonal products (Macdiarmid, 2014), the increase in the consumption of plant foods (Lea et al., 2006) but also the limitation of food waste (Derqui et al., 2018; Lagorio et al., 2018) and in general the consumption of food with a small carbon and water ecological footprint. Furthermore, adopting the Mediterranean diet, found among others in Greece, Italy, Spain, and North Africa, is a critical element of sustainable food consumption (Bach-Faig et al., 2011; Pairotti et al., 2015).

The decision-making process is quite complex regarding green consumption (Young et al., 2010). Furthermore, the literature reports that an ever-increasing segment of consumers is buying ethical and sustainable products, specifically fair trade, locally produced, and with respect for animals (Crane, 2001). Consumers interested in local and organic products “place a positive value on local economic and social connectivity, environmental preservation and known origin and quality - in other words, authenticity - and taking into account the negative

costs of global food transport, pesticide use and industrial agriculture” (Seyfang, 2005, p. 300).

6. Conclusion

This paper has offered a brief analysis of the history of development in order to introduce the concept of sustainable development and, specifically, the concept of sustainable food consumption. Development practices have ancient roots and evolved into sustainable development, which is more important today as the world faces global environmental challenges and climate disruptions. Food systems need to be transformed and developed into a sustainable and equitable manner, as they deplete natural resources and affect social cohesion.

Sustainable food consumption is a concept that has only recently been studied. However, it covers many topics, from organic food and seasonal products, to reducing meat and limiting food waste, amongst others.

It is essential to raise awareness on this topic and adopt sustainable practices due to the environment, the economy, and the well-being of our societies. Identifying and highlighting consumers’ trends and habits can contribute to achieving a sustainable food system.

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Maritime Spatial Planning: Reviewing the Effects for the Regions of North - South Aegean & Crete¹

Abstract:

Maritime spatial planning is an integrated strategic plan aiming to integrate the maritime zone and coastal activities and targeting to succeed sustainable and balanced development. Maritime spatial planning emphasizes and focuses on the issues of planning, managing and connecting of marine and coastal space, in order to succeed resource utilization, balanced and sustainable development, and furthermore, social cohesion.

There is a huge literature for maritime spatial policy and planning. The issues of spatial, economic and social development can be usually measured and illustrated by main economic and social indicators and can be measured at national or regional level. In most of the literature, using time-series and benchmarking analysis with economic, spatial and social indicators, we can measure the implications and reach in safe conclusions on the issues of maritime spatial planning and furthermore to determine the key factors for economic and social development.

This article aims to examine, analyze, and present the framework of marine spatial planning and the implications towards sustainable development. In particular, this article will emphasize in the periphery of Aegean Sea, and especially in the North Aegean, the South Aegean and Crete regions.

Key-Words: Maritime Spatial Planning, Sustainable Development, Economic-Social Development, North Aegean, South Aegean, Crete, Regions

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1. Introduction

Maritime spatial planning refers to an integrated strategic framework aiming to examine and analyze the main activities of marine and coastal zones and their implications on sustainable and balanced development. The maritime spatial strategy planning is directly affected by both internal (local) factors and also from external (global) economic, social, technological and political environment and factors (Cicin-Sain, and Knecht, 1998).

Maritime spatial planning is usually determined through the relevant national policies and legislation. One of the main objectives of maritime spatial strategy planning is to enforce the utilization of maritime and coastal activities and furthermore to succeed and to enhance sustainable development (Korres, Pavlogeorgatos and Kokkinou, 2015).

This article intends to examine and analyze the context of marine spatial planning and coastal areas and its contribution to sustainable development, using mixed methodology, i.e. literature review and use of secondary statistical data with descriptive statistics. Moreover, this article will emphasize in the periphery of Aegean, and especially in the North Aegean, the South Aegean and Crete regions.

2. The Maritime Policy and Spatial Planning

The maritime policy and spatial planning aims to focus and manage the maritime and coastal areas and the related activities, in order to succeed the efficient and productive use of local resources of energy production, maritime transport, fishing, aquaculture, tourism, and the extraction of raw materials with multiple positive socio-economic effects, such as, in growth, investment, employment, social cohesion and sustainable development.

Legal framework of maritime spatial planning refers to all relevant sectors and related activities for both maritime and coastal areas, including the following main activities (Korres, Pavlogeorgatos and Kokkinou, 2023):

- activities related to fishing,
- activities related to aquaculture,
- the creation of facilities and infrastructure for subsea projects,
- the exploitation and extraction of oil, natural gas, and other energy resources, raw materials, and minerals for the production of energy from renewable and conventional sources,
- transport, infrastructure,
- the protected areas for biodiversity,
- activities related to scientific research in the maritime space and coastal areas,
- activities related to submarine cables and pipelines,
- activities related to tourism,
- the protection of natural and cultural environment and the protected marine archaeological sites and marine monuments.

The main axes of maritime spatial planning concerns with management, strategy, and information activities in the maritime and coastal space, in order to succeed in multiple positive effects and furthermore to achieve coherent and sustainable development (Korres, Pavlogeorgatos and Kokkinou, 2015). The maritime spatial planning is a managing process for the maritime and coastal space and related activities, as illustrated in Figure 1.

Furthermore, the main objectives of maritime spatial planning are (Smith, et al., 2011):

- To enhance balanced sustainable development by increasing the production and utilization of local resources, and also affecting employment, income and competitiveness.
- To enforce spatial and social cohesion, and furthermore the connectivity and collaboration between maritime and coastal areas and related activities.
- To enhance rational and integrated spatial maritime and coastal activities, with respect to environmental protection

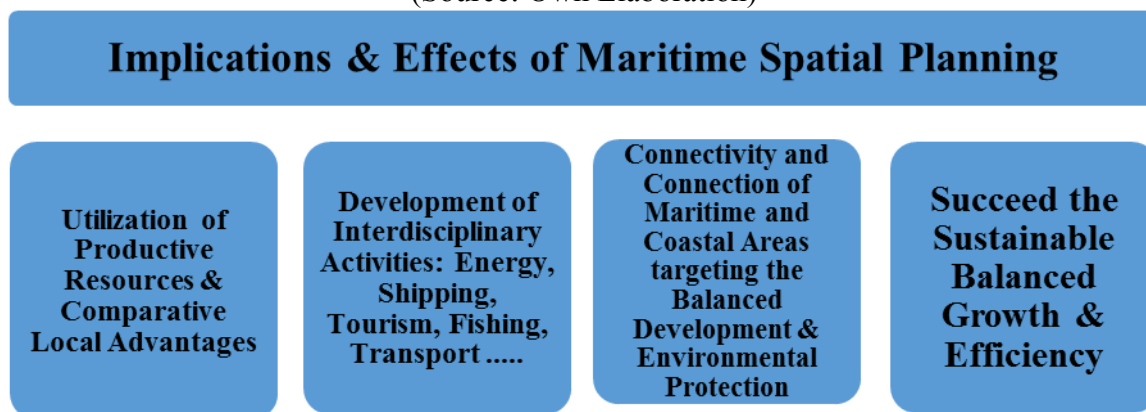
- To succeed efficient utilization of local resources, such as, energy resources and the extraction of raw materials, maritime transport, shipping, the protection of marine cultural heritage, fishing and aquaculture, tourism, and the protection of natural and cultural environment.

Figure 1: The Flows of Maritime Policy and Spatial Planning
(Source: Own Elaboration)



Figure 2 illustrates the main micro-effects and macro-implications from maritime spatial planning:

Figure 2: Implications and the Efficiency of Maritime Policy and Spatial Planning
(Source: Own Elaboration)



The European Union introduced the Integrated Maritime Policy (IMP) policy, as a policy framework, aiming to promote sustainable development of all maritime and coastal activities. The Integrated Maritime Policy (IMP) will develop and enhance the collaboration between different national and European and International policies (European Parliament, 2022).

The Integrated Maritime Policy (IMP) is a policy framework aiming to promote sustainable development of all related activities in maritime and coastal areas, by improving the coordination of policies, affecting oceans, seas, islands, coastal and outermost regions and

maritime sectors, as well as cross-sectoral tools (European Parliament, 2022), mainly focusing on the main objectives and axes of Integrated Maritime Policy (IMP):

- to maximize the capacity and sustainable use of oceans and seas, in order to develop maritime and coastal areas;
- to build a knowledge and innovation base for maritime policy, through an integrated European strategy for maritime research (Horizon 2020 program);
- to create a European strategy for maritime policy and to improve the quality of life in coastal areas by encouraging coastal and maritime tourism;
- to promote the EU leadership in international maritime affairs and to enhance the collaboration in maritime and coastal areas;
- to increase the collaboration and participation in the "European Atlas of the Seas" web application, and to promote European maritime heritage.

3. The Greek Maritime Policy and Spatial Planning: A Benchmarking Analysis for the North-South Aegean and Crete Regions

Sustainable development includes long-term economic development and also, environmental protection, social development, social cohesion and social integration. On this matter, spatial, economic and social level can be captured and measured using main economic and social data and related indicators for both national and regional levels. The main indicators and measures for economic development are the GDP (Gross Domestic Product) and investment rates, whereas the corresponding measurement and indicators for social development are the employment and the GDP per Capita level (Per Capita Income), respectively. (Korres, Pavlogeorgatos and Kokkinou, 2023)

Regarding the evolution of GDP, there is an apparent rapid negative decrease following the 2004 Olympic Games. By the end of the Olympic Games and the subsequent financial crisis of 2008-2018, growth rate in Greece has presented a significant decrease. By the end of the financial and pandemic crises, and due to budgetary and financial changes, growth rate seems to be recovering in recent years.

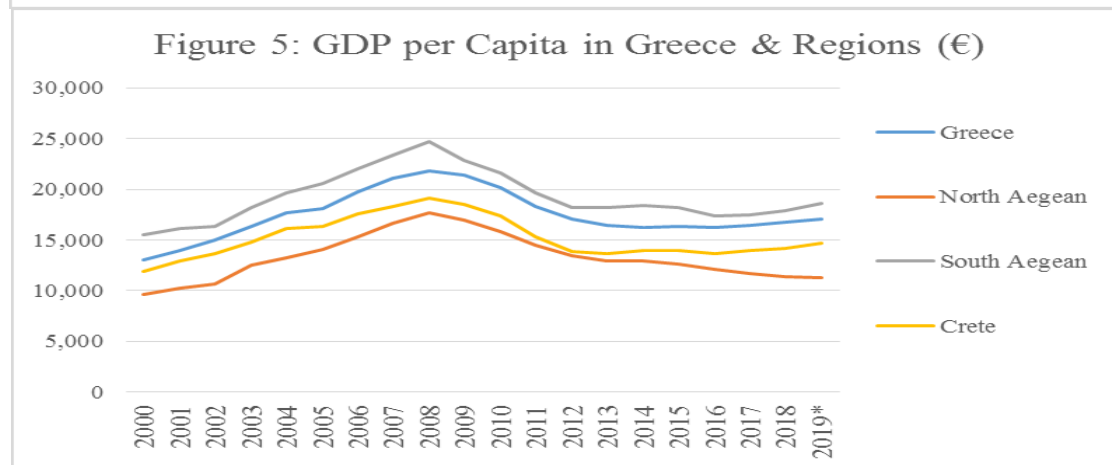
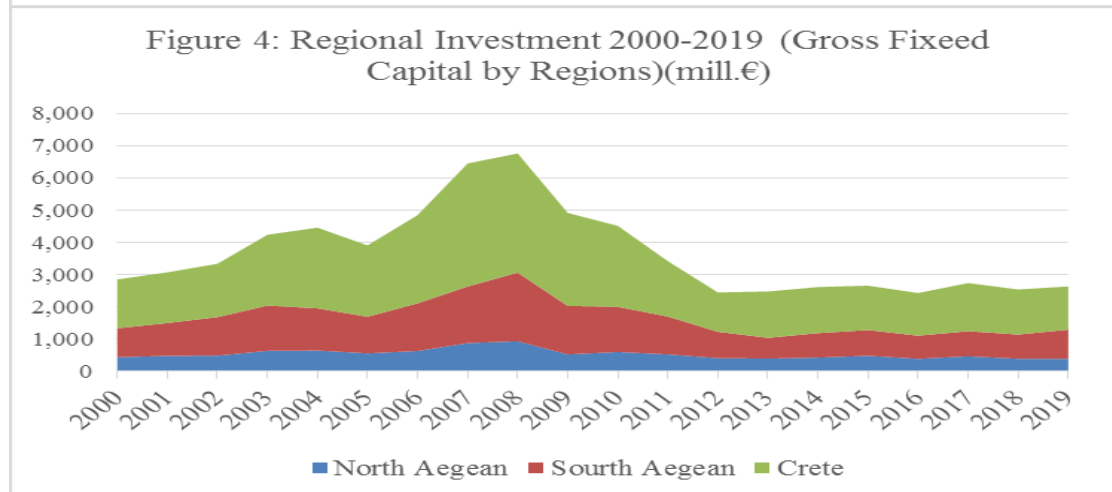
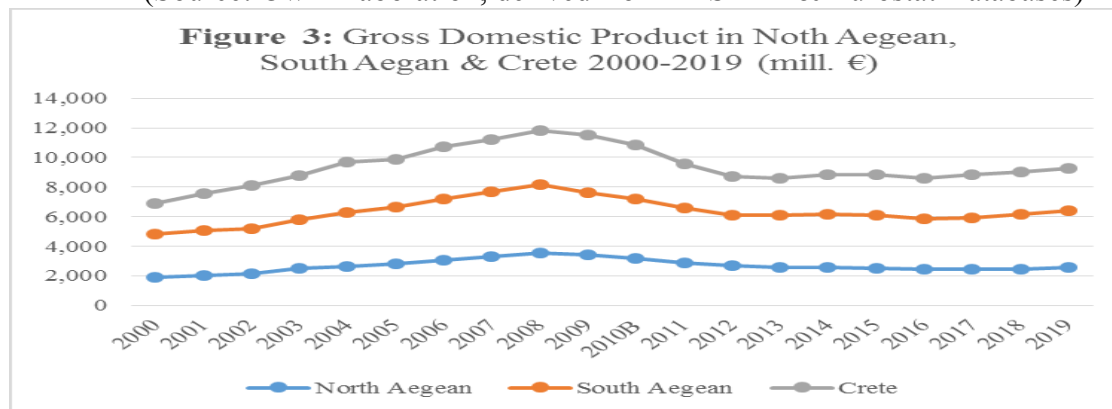
Figures 3-7 illustrate the main basic socio-economic indicators for the period since 2000, regarding GDP (Gross Domestic Product) and investment rates, employment rate and the GDP Per Capita (Per Capita Income) level, for the regions of North-Aegean, South-Aegean and Crete, respectively.

Using the above figures and according to these data, the same path is followed by the regions of Crete and South Aegean, while the region of North Aegean continues to show a downward trend. However, there is a positive correlation for the investment factor that seems to be stronger in the region of Crete and the Aegean, and less strong in the region of the North Aegean.

A contemporary maritime spatial policy planning will certainly affect both the main macroeconomic and socio-economic indicators, and furthermore will determine the level of sustainable development. Figure 8 illustrates the evolution of GDP, both at national and regional level, with emphasis on the studied regions of Crete, South Aegean and North Aegean.

Figures 3-7: Main Indicators for Benchmarking and Cross Regional Analysis for North Aegean, South Aegean and Crete regions

(Source: Own Elaboration, derived from ELSTAT & Eurostat Databases)



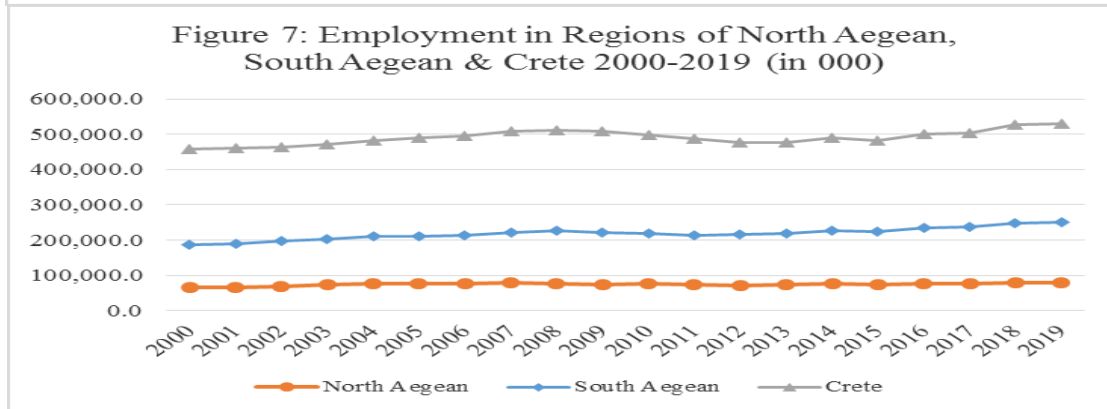
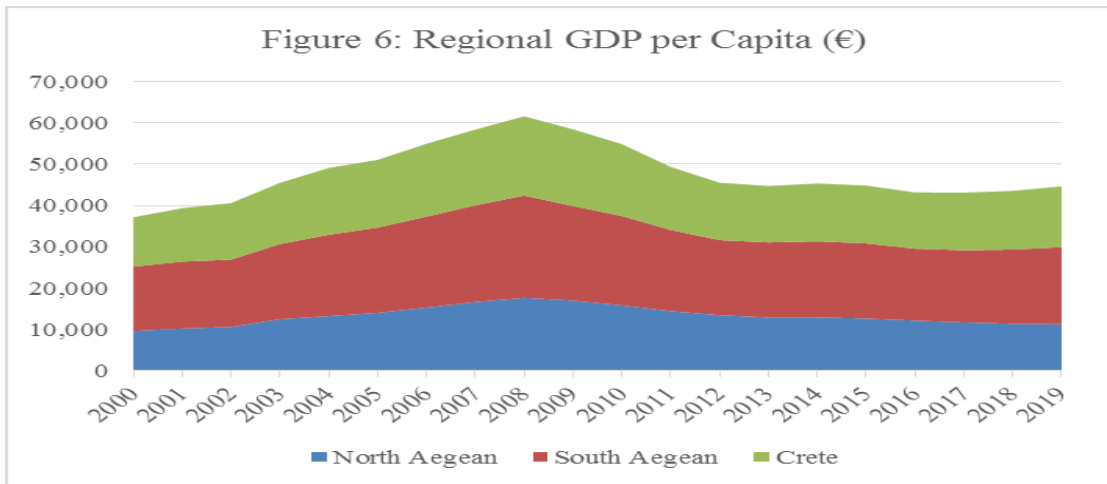
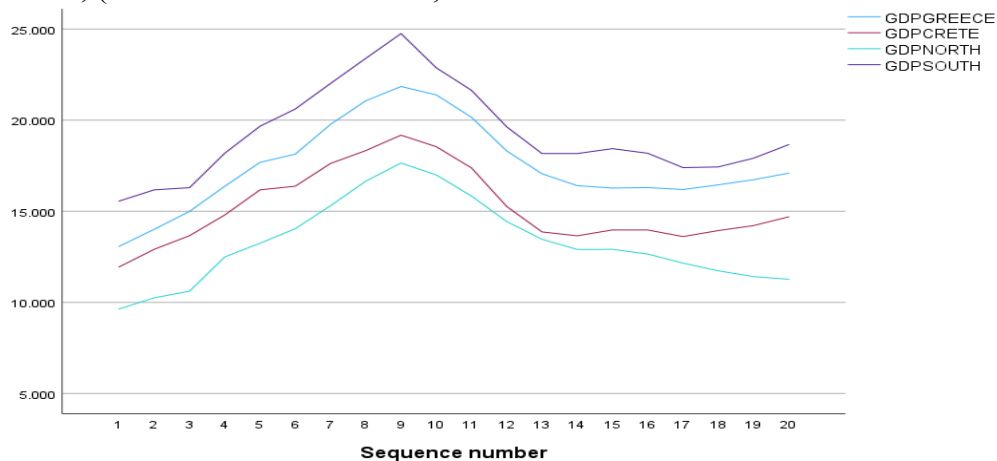


Figure 8: Forecast of GDP (Gross Domestic Product) for National & Regional Levels, (Source: Own Elaboration, derived from ELSTAT & Eurostat Databases).



Notes: GDPGREECE= GDP of Greece GDPCRETE= GDP of Crete Region, GDPNORTH=GDP of North-Aegean Region, GDPSOUTH=GDP of South-Aegean Region.

It is noteworthy that in the region of Crete, the primary sector is highly developed, with a strong presence of local agricultural associations, agricultural cooperatives and the development of productive activities. The natural environment of the island has contributed to the development of tourism sector, with Crete region alone hosting 22% of the total number of tourists in Greece. Furthermore, the increase in the population rate of the specific region of Crete has contributed significantly to the increase in the labor supply. Low unemployment is one of the main strengths of the Cretan economy. Unlike other island regions in Greece, in Crete there is still a balance between the growth of primary and tertiary sectors, even if the

main part of the investments is directed more towards tourism. Tourism is the second most dynamic sector of the economy, after agriculture.

South Aegean region has a lower growth rate in comparison to Crete, however, it expects a smaller increase in the growth rate, due to the related flows of the tourism sector. Moreover, the region of North Aegean is generally characterized by a small region with a long distance from the administrative center of the country, facing a wide range of development problems. A serious problem for the region concerns the age population and the major problems of aging population and depopulation. Around 19% of the economic active population is employed in the primary sector and 61% in the tertiary sector. Employment in the secondary sector has remained stable at around 20%. Tertiary sector produces 70% of value added, while primary and secondary sectors contribute 14% and 16%, respectively. The low productivity of the primary sector is mainly due to traditional cultivation methods, the lack and exploitation of water resources and the fragmentation of agricultural holdings.

Finally, according to these data, North Aegean region, with the particular development characteristics, is expected to face economic stagnation and developmental recession, due to border character, lower tourism flows and low investment rates and related activities, in addition to the lack of industrial activities, and the low value added of the primary sector.

In conclusion, maritime spatial planning is expected to have a positive impact on the key factors and the main economic and social indicators, such as, GDP growth, employment, investment, income, social cohesion and convergence rate, between the regions of the South-North Aegean and Crete.

4. Summary and Discussion

Maritime spatial policy and planning can be determined as a main key-point for sustainable integrated development. This article attempts to analyze the issues of maritime spatial planning and its contribution to the balanced sustainable development in a case study of the South-North Aegean and Crete regions. The main economic and social indicators provide us an overall information on the spatial, economic and social level and status, for both country and region level.

This article attempts to analyze the maritime spatial planning and the effects using various economic and social indicators in a cross-comparative analysis for the regions of North Aegean, South Aegean and Crete. The islands of the North-South Aegean and Crete areas are facing a lot of differences, as illustrated by the main economic and social indicators, such as GDP, employment, investment and per capita income.

The maritime and coastal activities are usually interrelated and there are strong linkages, targeting to promote the sustainable use of maritime activities and also to enforce sustainable development in maritime and coastal areas. Maritime spatial policy and planning should take into account all related factors, such as, land-sea interactions, environmental protection and the risks of over-exploitation of coastal and maritime environment.

The main purpose of global maritime policy in spatial planning is to define and to encourage the utilization of maritime and coastal activities in the related areas, in order to promote sustainable development, with a lot of different multiple effects.

Furthermore, contemporary maritime spatial policy and planning should be harmonized in accordance to international institutional and legislative framework, in order maritime spatial policy planning to be able to contribute substantially, affecting a lot of positive multiply effects on (Korres, Pavlogeorgatos and Kokkinou, 2023):

- increasing productive and efficient utilization of the local resources and capabilities,
- increasing value added and GDP growth rates and investments,
- increasing employability and income,
- protecting the natural and cultural environment,
- inducing social cohesion and sustainable development

- succeeding on economic convergence and cohesion between the specific regions of Crete, South and North Aegean.

In conclusion, maritime spatial policy and planning will play a crucial and substantial role for the sustainable development, and they can lead to an integrated sustainable development, and therefore, in a number of multiply effects, such as, the utilization of local resources, the environmental protection, the growth of local production system, the connectivity and interlinkages between sectors and moreover the positive socio-economic effects and the impact in social cohesion and convergence between the regions of the South-North Aegean and Crete.

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