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journal homepage: www.elsevier.com/locate/ejpeFarewell Anatolia: Refugees & the rise of the Greek Left[☆]Theocharis N. Grigoriadis^{a,b,*}, Dimitrios Moschos^b^a Sabancı University, Istanbul Policy Center, Bereketzade, Bankalar Cd. 2, 34421, Istanbul, Turkey^b Freie Universität Berlin, School of Business & Economics & Institute of East European Studies, Garystr. 55, 14195, Berlin, Germany

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ABSTRACT

The population exchange of 1923 between Greece and Turkey consolidated the influx of more than 1.5 million refugees from Anatolia and East Thrace into Greece. In this article, we exploit the regional distribution of refugees at the sub-prefectural (province) level as a natural experiment in order to delineate the political effects of what the Greeks call the *Asia Minor Catastrophe*. We find that the settlement of refugees produced positive persistent effects on the electoral share of left-wing parties in the interwar and postwar periods. This is particularly the case for provinces with a high settlement rate of refugees originating from Asia Minor rather than from East Thrace or the Black Sea region. However, the refugee impact on the left-wing vote disappears completely in the post-dictatorship period.

1. Introduction

Abrupt migratory flows are inclined to result in significant economic and social transformations. Research on mass migration has yielded an abundant literature on the impact of refugees on socio-economic development and political attitudes. This paper contributes to the study of migration waves as region-specific shocks and, in this way, offers a new outlook on the 1923 Greek-Turkish population exchange. The exploration of its political effects sheds new light on our understanding of inter- and post-bellum Greek political development and, in this way, it provides a robust explanation for the interwar and postwar rise of the Greek Left. It is important to point out that the Greek setting constitutes a powerful vehicle for analyzing the political effects of forced migration in the destination regions across different national, transnational, and historical contexts. Utilizing the framework of [Marantzidis \(2001\)](#) on West Black Sea refugees in Northern Greece, we underscore the differential integration of Ottoman Greek refugees into modern Greek politics and society as well as their political polarization toward the Left or the Right.

Our paper contributes to the discussion on the relationship between forced migration and political polarization in the region or country of destination.¹ The 1923 population exchange between Greece and Turkey becomes, therefore, a historical laboratory for the

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* Corresponding author. Freie Universität Berlin, School of Business & Economics & Institute of East European Studies, Garystr. 55, 14195, Berlin, Germany.

E-mail addresses: theocharis.grigoriadis@fu-berlin.de (T.N. Grigoriadis), dim_mos@hotmail.com (D. Moschos).

¹ The prominent Greek author Dido Sotiriou coined the term *Farewell Anatolia* in her book (1962), where she reports the plight of Asia Minor Greeks through the personal history of Manolis Axiotis, a native of ancient Ephesus on the Ionian coast.

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comparative political economy of forced migrations. Building on the qualitative findings of [Marantzidis \(2001\)](#), we offer strong quantitative evidence for a refugee effect on the rise and consolidation of the Greek Left in the interwar and postwar periods, as well as its dissipation in the post-dictatorship period. Drawing evidence from data on refugee distribution at the sub-prefectural (province) level, we use OLS modeling, propensity score matching (PSM), and coarsened exact matching (CEM) to estimate the effect of refugee settlement on Greek political development such as vote shares for Greece's liberal, conservative, and communist parties in the interwar, postwar, and post-dictatorship periods. Furthermore, the control variables of our model include population growth, arable land per capital, altitude, and a prefecture capital dummy. We discover a positive and significant relationship between Greek refugee shares and the vote shares of the Left in the interwar (United Front in 1932 and Popular Front in 1936) and postwar (the United Democratic Left in 1958 and 1963) periods.

Following the same logic, we underscore the heterogeneity of Ottoman Greek refugees based on their region of origin. We report results related to the three major regions of origin of Ottoman Greek refugees: Asia Minor (mainland Turkey including the Aegean and Marmara coasts, Cappadocia, Bithynia, Central and Eastern Anatolia; see [Fig. A.3A](#)), East Thrace (the metropolitan territory between the modern Greek land border and Istanbul; see [Fig. A.4A](#)), and Pontus (Turkey's Black Sea coast; see [Fig. A.5A](#)). We find that Asia Minor refugees contributed to the rise of the Greek Left more than East Thrace and Black Sea refugees, while East Thrace refugees exhibited comparable levels of support for the Left and the Right in the interwar and postwar periods. Black Sea refugees, however, appeared more inclined to vote for right-wing parties such as the People's Party in the interwar period and the National Radical Union in the postwar period.

The rest of the paper proceeds as follows. Section II pertains to the literature on conflict, ethnicity, and development in comparative and East-Central European contexts. In Section III, we analyze the historical background of the 1923 population exchange and the Treaty of Lausanne. Section IV provides our comparative framework and hypotheses, while Section V outlines our data and empirical strategy. Section VI reports the results of our OLS and matching estimators, including several robustness checks. Section VII concludes.

2. Literature

Research on the political and economic effects of forced migration and historical diversity lies at the core of our paper.² [Charnysh and Peisakhin \(2022\)](#) argue for the intergenerational transmission of political values in Galician refugee settlements in contemporary Poland and they corroborate the long-run impact of forced population transfers on political development. [Murard and Sakalli \(2018\)](#) have also researched the long-term effects of the 1923 population exchange on Greece. Similarly to our paper, they regard refugee settlement in Greece's rural provinces and municipalities as a treatment mechanism for contemporary development.³ However, their outcome variables capture socio-economic outcomes such as population density, educational level, dwelling quality, and profession from the 1971 and 1991 Greek censuses, while we focus on political outcomes from the interwar (1932 and 1936), postwar (1958 and 1963), and post-dictatorship (1977 and 1981) periods.

In examining the long-term effects of prior minority presence in modern Turkish regions, [Arbatli and Gokmen \(2016\)](#) use the pre-expulsion share of Armenians and Greeks as a proxy for each region's economic performance. As an indicator of economic performance, they identify a set of variables, including among others population density, urbanization, and educational attainment. The authors conclude that regions with a higher historical minority presence tend to exhibit higher levels of socio-economic development. [Polugodina and Grigoriadis \(2020\)](#) delineate the persistence patterns of German imperial legacies in Eastern Europe as a result of the breakup of East Prussia into Poland, Lithuania, and Russia; they also argue that East Prussian refugees reinforced the conservative and nationalist vote in West Germany.⁴ [Bauer et al. \(2013\)](#) analyze the effects of the forced relocation of East European Germans to West Germany after World War II and examine the extent of their integration. They split the migrants into first- and second-generation individuals, and they model the economic output of each individual as a function of the individual's status as an expellee, the individual's output vis-à-vis that of a native German, and a control variable. The authors demonstrate the difficulty that migrants faced in raising their income to levels comparable to that of the native population. They give a less optimistic outlook on the economic integration of expellees. [Braun and Mahmoud \(2014\)](#) treat German migration flows from Eastern Europe as a natural experiment, focusing on the West German labor market. Their results show a negative correlation between immigrant presence and native employment, namely, a 10 percent increase in the immigrant share in the workforce brings about a 4 percent decrease in the employment rate of native Germans. [Schumann \(2014\)](#) argues that the arrival of post-World War II German expellees to West Germany resulted in higher population growth rates for the regions that accepted expellees in comparison with the regions that did not. A

² According to [Alesina and Ferrara \(2005\)](#), ethnic identities determine economic choices. [Collier \(2000\)](#) suggests that while an ethnically diverse democracy will produce approximately the same welfare as a homogeneous one, in an ethnically diverse dictatorship wealth redistribution is destined to favor the dictator's own ethnic group. [Otto and Steinhardt \(2014\)](#) study contemporary immigration in the city districts of Hamburg and argue that it has contributed to the rise of the far right. [Edo et al. \(2019\)](#) reach a similar observation for France drawing panel data evidence from presidential elections for the period 1988–2017.

³ The authors geocode Muslim localities to control for post-exchange population decline and to identify possible Muslim legacies in Northern Greece, while drawing data on income per capita from the Labor Force Surveys of 1999–2002 and on luminosity (1995). They underscore that higher rates of refugee settlements are linked in the long run to higher population density, luminosity, and dwelling quality. The same observation holds for lower participation in agriculture, a larger financial and manufacturing sector, and higher completion rates for education.

⁴ [Grosfeld and Zhuravskaya \(2015\)](#) explore the partitioning of Poland between Prussia, Austria, and Russia and show that the triple imperial rule left persistent traces on Poland's contemporary socio-economic and political development.

cultural dimension in expellees' integration is added by [Braun and Dwenger \(2017\)](#), who conclude that religious affinity between natives and newcomers was one of the decisive factors accelerating expellees' integration. In the case of Greece, the incoming refugees also practiced the Greek Orthodox faith.

Economic scholarship on Southeastern Europe has also debated the effects of imperial legacies and diversity on the successor states of the Ottoman and Habsburg Empires. [Grosjean \(2011\)](#) explores the footprint of Ottoman rule on Southeast European financial systems. Islamic jurisprudence forbade interest-based lending during the Ottoman period, although Armenians, Greeks, and Jews were exempted from this ban (*ibid.*). [Grosjean \(2011\)](#) finds that this duality remains visible, with her results demonstrating that Ottoman rule is connected with lower levels of banking penetration within each of the successor countries of the Ottoman Empire.⁵ [Schulze and Wolf \(2012\)](#) analyze the integration of local grain markets in the Habsburg Empire. The authors observe an asymmetric integration of markets along ethnic division lines. Using price dynamics and trade costs as manifestations of economic nationalism, they offer concrete evidence for the significance of ethnolinguistic identities as trade barriers (*ibid.*). Ethnic communities organized exclusive trade networks, thereby constraining interethnic trade. This intensified nationalism and ethnic conflicts within the Empire and constitutes one of the reasons behind the dissolution of the Habsburg monarchy (*ibid.*).

The existence of ethnolinguistic and religious groups in East-Central Europe has played an important role in shaping not only regional trade but also political outcomes. [Acemoglu, Hassan, and Robinson \(2011\)](#) develop a model to determine the legacy of the Holocaust in contemporary Russia. They confirm that in the affected cities communist politicians tended to receive more electoral support following the dissolution of the USSR. Furthermore, Russian regions whose Jewish population suffered relatively more than others demonstrate lower levels of socio-economic development and exhibit higher levels of support for communist candidates (*ibid.*). [Charnysh \(2015\)](#) also demonstrates legacies of the presence of ethnoreligious minorities in contemporary politics. Exploring the 2003 EU accession referendum in Poland, the author successfully connects low levels of support for EU accession with pre-World War II Jewish presence at the regional level. Observing how contemporary Polish voters responded to anti-Semitic rhetoric during the referendum, she concludes that historical minority legacies may have had a strong impact on contemporary political outcomes.⁶

3. Historical background

In January 1923, a "Convention Concerning the Exchange of Greek and Turkish Populations" was signed in Lausanne.⁷ The convention stipulated the obligatory deportation of Greek Orthodox citizens of Turkey to Greece and of Muslim citizens of Greece to Turkey. Exceptions were made for Greeks residing in Constantinople and the Gökçeada (Greek: *Ίμβρος*) and Bozcaada (Greek: *Τένεδος*) islands, on the one hand, and Muslims residing in Western Thrace, on the other hand (Koliopoulos and Veremis, *ibid.*, pp. 93–94).

3.1. Economic & political dimensions of the exchange

This exchange constituted a political and institutional turning point in the two countries' history of ethno-religious diversity. The policy of tolerance undertaken by the Ottoman elite had failed, and the same held for the Young Turks' Ottomanization efforts ([Blanchard, 1925](#), p. 450). From Turkey's point of view, the absence of non-Muslim minorities would bring an end to centuries of Western intervention in its internal affairs ([Özsu, 2011](#), p. 836). By ridding itself of communities easily provoked by foreign players, Turkey could strengthen her sovereignty and establish herself as a nation-state. From the Greek point of view, the exchange is considered to be a disastrous point in history and it is named the *Asia Minor Catastrophe* (Greek: *Μικρασιατική Καταστροφή*). The Catastrophe scarred the Greek collective mentality so deeply that [Koliopoulos et al. \(2002\)](#), p. 130 argue it is the second most hurtful event in recent Greek history, along with the civil war of 1946–1949.

By 1924, approximately 1.4 million Orthodox Greeks had arrived in Greece, and their settlement was seen as a national emergency. This difficult task was undertaken by the Refugee Settlement Commission (RSC, in Greek: *Επιτροπή Αποκαταστάσεως Προσφύγων-ΕΑΠ*). The RSC was endowed with land and was exempted from taxation ([Pentzopoulos, ibid.](#), pp. 104 and 82–83). Embarking on the mission to assist the refugees in adapting to their new life in Greece, the RSC oversaw the construction of urban and rural settlements. The construction works were financed by state and international loans, as well as international aid ([Kritikos, 2000](#), p. 202). The RSC focused its efforts mainly on the agricultural settlement of refugees ([Kritikos, 2005](#), p. 323). Greece's economy relied on agricultural production, and a considerable portion of the refugees were highly skilled farmers, and the fertile and arable areas of Macedonia were lying sparsely populated after the departure of its Muslim inhabitants. With this combination, Greece seized the opportunity for the rebirth of its agricultural sector ([Blanchard, ibid.](#), p. 455).

The arrival of refugees accelerated the process of the much-needed agricultural reform. This resulted in massive land redistributions and the replacement of large estates with village communities ([Mouzelis, 1976](#), p. 97). Moreover, the Greek government along with the RSC intended to facilitate the creation and strengthening of industries and crafts in which the refugees possessed special

⁵ [Blaydes and Chaney \(2016\)](#), by using property rights and human capital formation as proxies, trace their deficient development to the division of power between medieval Muslim kings and Islamic religious leaders. [Chaney \(2013\)](#), using Ayyubid-era Egypt as a case study, observes that natural disasters and the ensuing food shortages and price increases were conducive to social unrest, which increased the dependence of autocratic regimes on their respective religious establishment. [Platteau \(2008\)](#) also shows that Islamic religious leaders increased their influence during times of crisis.

⁶ Similarly, [Becker et al. \(2020\)](#) argue that descendants of refugees from Kresy Poland exhibit significantly higher education levels than Poles with a non-forced migration background.

⁷ For an overview of the Greek presence in Anatolia and Greek-Turkish relations in the 19th and early 20th centuries, see [Appendix III](#).

skills (Kritikos, 2000, p. 197). The state efforts thus aimed to support refugees in participating in economic activities that transformed the economic landscape of Greece. The Greek economy experienced significant growth during the 1920s, and a significant expansion was observed in industry (Psomiades, 1965, p. 198).

3.2. Refugees & political preferences

In his seminal book on the Turkish-speaking Greek refugees of the West Pontus (Black Sea) region, Marantzidis (2001) argues that their use of Turkish language rather than standard modern Greek or the vernacular Greek dialect of Greek refugees from the East Pontus (Black Sea) region undermined their smooth integration into Greek economy and society. This discrepancy facilitated their autonomous anti-communist mobilization during the Greek Civil War. The predominance of Slavic-speakers or competing refugee groups in the Greek communist resistance (EAM-ELAS) prevented this sub-group of Black Sea refugees from joining forces with leftist guerrillas and paved the way for collaboration with Nazi occupiers. The basis of this collaboration was less ideological and more the outcome of a distinctive West Black Sea identity that was as foreign to the mainstream refugee narrative of socio-economic marginalization and land conflict with the natives as it was to the right-wing predisposition of Old Greece (ibid.). Hence, the German collaborationism of Turkish-speaking Greek refugees from the Black Sea was less ideological and more linked to resource and community-based constraints related to language and prior integration into modern Greek society (ibid.).

What Marantzidis (2001) implies is that the socio-economic status of Greek refugees prior to the collapse of the Greek front in Asia Minor and the population exchange may be a powerful predictor of their political preferences in their new homeland. The transformation of bourgeois Asia Minor Greeks into proletarians in the poorer suburbs of Athens and Piraeus, such as Kaisariani, Vyronas, Kokkinia, Drapetsona, and Keratsini, indicates a large negative differential in their utility before and after the *Asia Minor Catastrophe*. Similarly, the creation of a small landowning class among the refugees that settled in Northern Greece constrained communist mobilization and preserved large shares of overall refugee support in favor of the Liberal and People's Parties and their successor political organizations in the postwar period. Hence, the provision of land ownership provided loyalty incentives toward the political establishment that sought to consolidate its legitimacy in the ethnically diverse territories of Macedonia and Thrace.

It is important to point out that the overwhelming majority of refugees, both urban and rural, were staunch supporters of the Liberal Party headed by Venizelos in the 1920s. In particular, rural refugee settlers in Northern Greece in the 1920s aligned themselves massively with the Liberal Party given their prior Venizelist allegiances and their improved economic status due to small landholdings. The policy of the Greek Communist Party in favor of an independent Macedonian state undermined the mass mobilization of refugees, with the exception of those in the major urban centers of Thessaloniki and Kavala (Kritikos, 2013, 2020).

However, the spillovers of the Great Depression into the Greek economy in the early 1930s significantly reduced the value of refugee bonds issued by the Greek government. The Ankara Protocol in 1930 permanently ended the prospect of returning to Asia Minor, East Thrace, and the Black Sea or the provision of property compensations by the Turkish government (Kritikos, 2013; Yildirim, 2006).⁸ Refugees in major Greek cities and specifically the capital region of Athens-Piraeus oriented themselves from the beginning toward communism and mobilization against establishment parties because of their proletarianization and trapped poverty (Kontogiorgi, 1992).⁹ The first purely communist party in Greece was founded in 1918, directly after the Russian Revolution. It was branded the Socialist Labor Party of Greece (*Σοσιαλιστικό Εργατικό Κόμμα Ελλάδος*-SEKE) and was later renamed the Communist Party of Greece (*Κομμουνιστικό Κόμμα Ελλάδας*-KKE).

This gradual shift in the electoral preferences of the Greek refugees from the Liberal Party and Venizelism to communism was reflected in the leadership of the newly founded Communist Party of Greece: the share of refugees in communist cadres was double that of the refugee share in the overall Greek population (Burks, 1961). The radicalization of the refugees toward the Left, particularly in Athens and Piraeus (with the exception of Nea Smyrni, which remained insensitive to rising refugee disapproval of the Liberal Party) was consolidated in the 1930s (Karavas, 1992). The resettlement of the majority of Greek refugees in Macedonia and Thrace may also be explained by the intense land competition that they faced in Southern Greece and by the policies of the Liberal Party that wanted to consolidate its electoral influence in Northern Greece as well, which was restrained by the conservative-leaning Jewish and Slavic-speaking votes (Kontogiorgi, 1992).

4. Comparative framework & hypotheses

Refugees may be carriers of higher levels of human capital compared to their non-refugee reference group; the example of Holocaust refugees that crossed the Atlantic from Western Europe into the United States during World War II is indicative of this tendency (Blum and Rei, 2017). In establishing the link between forced migration and political polarization in the new homeland, it is important

⁸ This electoral shift was particularly visible in the poorer refugee suburbs of Athens and Piraeus such as Kaisariani, Vyronas, Nea Ionia, Kokkinia, and Keratsini, where houses were built by the RSC and the perspective of upward mobility was severely hindered; in contrast, in the refugee suburbs of Nea Philadelphia, Nea Smyrni, and Ymittos, refugees could afford to build their own houses with limited or no financial support by the government (Kritikos, 2013; Yildirim, 2006).

⁹ The communist orientation of the refugees is mentioned in Hirschon's (1998) ethnography of Nikaia (Kokkinia), a large neighborhood of Asia Minor refugees near Piraeus. Social inequalities rendered a significant portion of the refugees receptive to communism (Gürsoy, 2008, p. 96).

to point out that the political integration of refugees into their region or country of settlement was not uniform.¹⁰ The qualitative evidence offered by Marantzidis (2001) on the political mobilization of West Black Sea refugees in Northern Greece provides a useful comparative benchmark for analyzing the differential political consequences of forced migration. As Marantzidis (2001) implies, a low initial level of human capital, when coupled with intrinsic characteristics within a refugee group that make its integration into the region of destination more costly, may facilitate political mobilization toward the Right. At the same time, a high level of human capital in the refugees' region of origin may bolster political polarization toward the Left.

Hypothesis 1. *The settlement of refugees from the territories of the former Ottoman Empire contributed to the rise of the Greek Left in the interwar and postwar periods.*

Communism provided an ideological foundation for different types of discrimination that refugees faced in their new homeland, from access to public administration and police offices to involvement in politics.¹¹ Hence, communist political activity reinforced the socio-economic marginalization of highly skilled refugees. Compared to East Thrace and Black Sea Greeks, Asia Minor Greeks exhibited higher average levels of physical and human capital in the Ottoman Empire, which also explains their higher negative utility differential in the aftermath of the population exchange.¹²

Hypothesis 2. *Asia Minor refugees made a larger contribution to the rise of the Greek Left at the province level in the interwar and postwar periods than East Thrace and Black Sea refugees.*

The presence of major urban centers with a strong Greek presence in Asia Minor, such as Izmir, Ayvalik, Bursa, Kayseri, Konya, and Adana, explains why the educational and skill level of Asia Minor refugees was higher than that of East Thrace or Black Sea refugees. In contrast to Asia Minor, the spread of urban centers in East Thrace (Edirne, Tekirdag, Kirklareli) or on the Black Sea coast (Trabzon, Samsun) was more limited. This heterogeneity within the group of Ottoman Greek refugees is also implied by Marantzidis (2001) and it allows for a better understanding of their differential contributions to the Greek economy and society, driven mainly by the asymmetry between accumulated skills in their ancestral lands and their socio-economic status as refugees in inter- and postwar Greece.

Asia Minor and Black Sea refugees underwent higher material losses than East Thrace refugees, who did not have to board ships and boats to reach Greece and who, thus, were able to carry with them several of their mobile belongings including animals and monetary endowments. Greek refugees from East Thrace suffered the least material losses compared to the other two refugee groups, which may explain their positive stance toward the People's Party and its successor organizations in the Greek Right. Therefore, the political integration of East Thrace refugees into modern Greece is expected to have been the smoothest and to have exhibited the lowest levels of political mobilization toward the Left or the Right.

Hypothesis 3. *East Thrace refugees exhibit strong levels of support for both the Greek Left and the Greek Right at the province level in the interwar and postwar periods.*

At low initial levels of human capital, forced migration is associated with a low opportunity cost of labor market discrimination. The additional presence of language barriers may only minimize this opportunity cost and make left-wing mobilization less likely. Hence, the development of segregated rural communities with a distinctive language and socio-economic profile, as was the case with Black Sea refugees, may facilitate right-wing mobilization (Marantzidis, 2001). These communities maintained limited contacts with neighboring urban centers or communities that did not share their own intrinsic characteristics. These collectivist refugee groups preserved their own distinctive identity at the expense of their smooth political integration into their new location (ibid.). Black Sea refugees were less bourgeois than Asia Minor refugees and at the same time suffered larger material losses than East Thrace refugees. This explains their polarization toward the right end of the political spectrum.

Hypothesis 4. *Black Sea refugees made a larger contribution to the consolidation of the Greek Right at the province level in the interwar and postwar periods than Asia Minor and East Thrace refugees.*

Hence, we argue that the population exchange had differential effects on the three Greek refugee groups. These effects are related to conditions of abrupt mobility, *ex-ante* levels of human capital and *ex-post* utility losses. Following the Marantzidis (2001) comparative framework, we indicate that the rise of the Greek Left is more likely to be due to those Greek refugees that underwent the largest utility loss and had the least successful political integration into Greek society (Asia Minor refugees). In contrast, East Thrace refugees exhibited strong support levels both for the Left and for the Right. This was due to their lower relative material losses as well as their more stable societal adjustment and entrepreneurial development in the Greek economy and society. Polarization toward the Right may also be observed among Black Sea refugees in Northern Greece (Greek Macedonia and West Thrace) due to the massive recruitment of the Slavic-speaking populations by the Communist Party of Greece in the interwar period (ibid.).

¹⁰ Socio-economic discrimination and adverse public health conditions in the region or country of destination are common characteristics of forced population transfers around the globe (Cortes, 2004; Baez, 2011).

¹¹ The predisposition of Greek refugees toward communism created a distinctive identity from that of native inhabitants of mainland Greece (Harrell-Bond and Voutira, 1992).

¹² Pentzopoulos (1962) published one of the initial works examining the settlement of Ottoman Greek refugees in Greece. He offers insight into the strong impact that refugees have had on Greek socio-economic development and political attitudes. Gkikas (2010) provides historical support on the relationship between refugee voters and Greek left-wing parties, but without any robust empirical evidence.

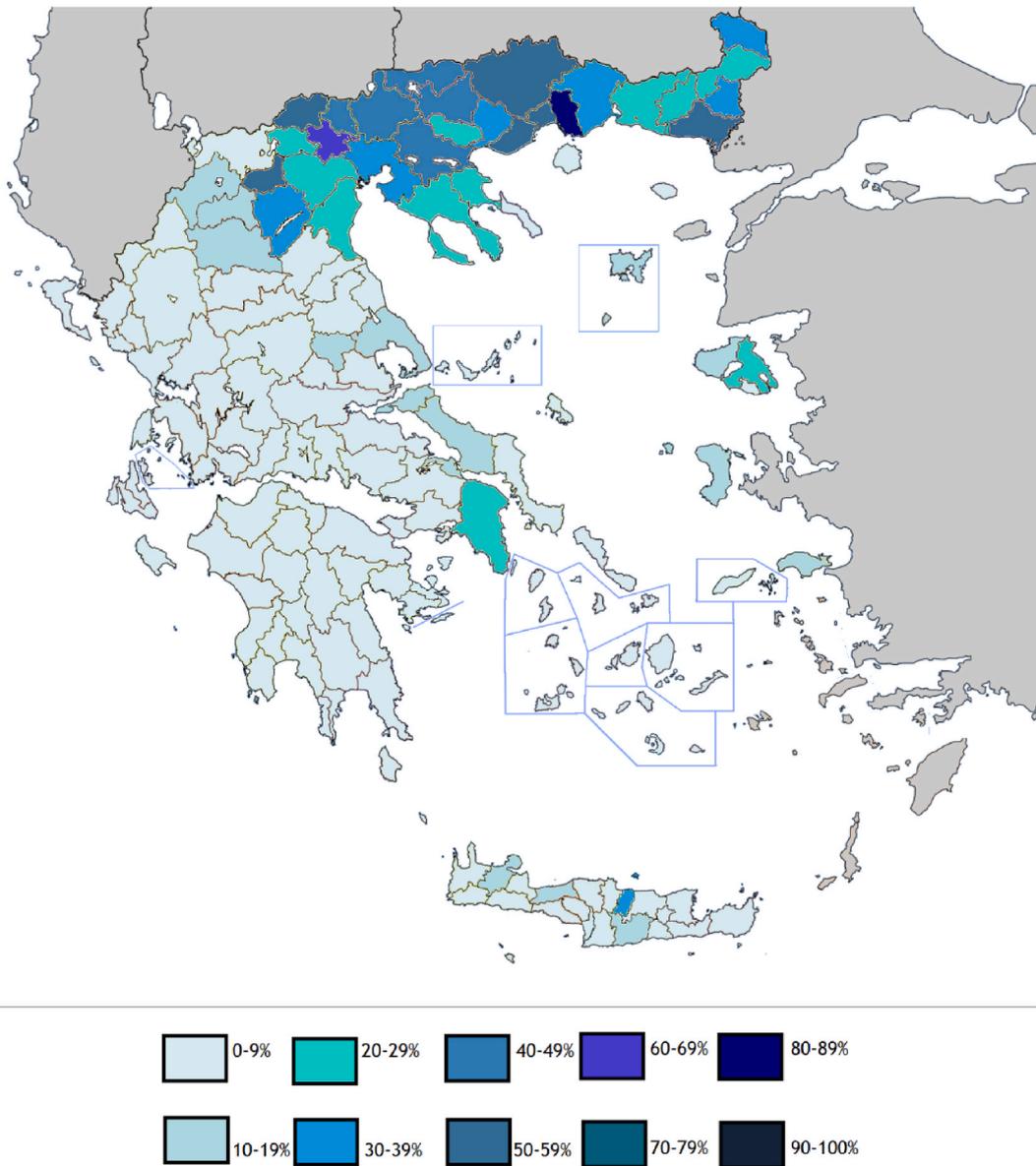


Fig. 1. Share of refugee population in Greek provinces (1928). Source: Own map, based on ELSTAT, 1928.¹⁴

5. Data & empirical strategy

5.1. Data

Table A.1 reports basic information on the variables, units of measurement, and data sources. Descriptive statistics are provided in Table A.2. We use three main types of data: electoral data (outcomes) as well as data from official registries and historical data. We draw on the most detailed level of data available, which is provincial data for Greece in the interwar, postwar, and post-dictatorship periods (140 units).

i. Electoral Data

The main outcomes we use are the electoral results of Greek political parties in the interwar (1932 and 1936), the postwar (1958 and 1963), and the post-dictatorship (1977 and 1981) periods. For the interwar elections of 1932 and 1936, we collected data from the Hellenic Statistics (ELSTAT) publications. For the postwar elections of 1958 and 1963, we used data accessible in the *Pergamos* digital depository of the University of Athens as well as in the digitalized archive of the Greek Ministry of Interior, particularly focusing on the

vote shares of the Center Union and the United Democratic Left (UDL), i.e. the main centrist and left-wing parties in Greek politics, respectively, during the late 1950s and 1960s. For the post-dictatorship elections of 1977 and 1981, we also made use of data from the Greek Interior Ministry archive with the focus on the newly legitimized Communist Party, New Democracy, which succeeded the predictorship National Radical Union, and the Panhellenic Socialist Movement, which appeared as the dominant political force of the center. We selected the elections of 1932 and 1936 from the interwar period as they capture the political radicalization of refugees and their gradual disillusionment with Venizelos and his policy of relinquishing the property rights of refugees in Asia Minor, East Thrace, and the Black Sea coast of Turkey in order to sign a Peace Protocol with Ataturk in 1930 after almost three decades of severe interstate conflict. From the postwar period, we selected the elections of 1958 and 1963, at which time Greece's defunct postwar democracy and the international politics of the Cold War prohibited the Communist Party of Greece and facilitated the rise of United Democratic Left as the democratic substitute to the militant communism of the interwar period. From the post-dictatorship period, we focused on the 1977 and 1981 elections, which consolidated the influence of New Democracy as the main establishment party of the Greek political system on the Right, while marginalizing the Greek Communist Party, which had been partly taken over in its rhetoric and electoral strategies by the Panhellenic Socialist Movement.

ii. Refugee Settlement Data

Our main independent (and treatment) variable is the refugee settlement rate, which is visualized in Fig. 1 and Figs. A.3B-A.5B. It was extracted from the 1928 population census and available at the province level. We used provinces as the preferred level of aggregation as this allows a broader availability of empirical estimations.¹³ Taking into account the total population of each province, we computed refugee settlement rates in Greece, also reporting the regions in the former Ottoman Empire from which the refugees came. By distinguishing between refugees from Asia Minor, East Thrace, and the Black Sea coast of Turkey, we offer useful insights on how regional differences within the refugee population have shaped political and economic outcomes in contemporary Greece. The refugees from Bulgaria, Caucasus, Constantinople, Russia, and Albania are not included in our analysis, as the size of these groups does not allow us to adequately perform our estimations. Beyond that, we offer insights into how the diverse cultural and historical background of refugees affected their settlement and later activity in Greece.

To construct the treatment variable of the refugee influx from Asia Minor, East Thrace, and the Black Sea region, we differentiate between the provinces that had above-the-median shares of refugees and the provinces that received below-the-median shares of refugees. To measure the effect of Asia Minor, East Thrace, and Pontus (Black Sea region) refugees on Greek political development separately, we also divide the Greek provinces of our sample into a treatment and a control group based on whether they received above- or below-the-median shares of refugees from the respective regions of the Ottoman Empire.

iii. Demographics, Land & Location

As controls we have included province altitude, population growth (1920–28, 1928–51, 1951–61, 1961–71, and 1971–81), and a prefecture capital dummy (1920s and 1950s). The normalized shares of arable areas per capita in 1929, 1950, 1961, and 1971 are based on the agricultural censuses conducted in the respective years. Area is measured in *stremmata*, a Greek traditional measurement unit corresponding to one thousand square meters.

5.2. Empirical strategy

To estimate the effect of Greek refugee settlement on Greek political development, we use a baseline OLS model:

$$\text{Outcome}_{it} = \alpha + \gamma \text{Refugee}_i + \delta X_i + \varepsilon_{it} \quad (1)$$

where i denotes province and t indexes time. Outcome indicates a historical electoral outcome. Refugee denotes the share of refugees; we use both the aggregate share of refugees as well as the share of refugees from Asia Minor, East Thrace, and Pontus (Black Sea region) respectively. X is the set of control variables, such as province altitude, population growth, capital dummy, and normalized shares of arable areas, and ε is an error term. However, the proposed linear model does not deal effectively with the issue of endogeneity, as it does not exclude the case that it was not the refugees that consolidated the rise of the Greek Left, but the reaction of indigenous voters who shifted their preferences away from the nascent communist movement as a result of the refugee influx. Moreover, it may also have been the case (although it does not hold in the light of historical evidence) that the Greek government instrumentalized Anatolian refugees with the purpose of reducing the electoral influence of the Communist Party (reverse causality).

This disadvantage of OLS modeling with respect to correcting for selection bias renders propensity score matching (PSM) a relatively more efficient method in dealing with biased estimations. As Rosenbaum and Rubin (1983) and Rubin (1997) indicate, the

¹³ Provinces (Greek: *επαρχίες*) correspond to Anglo-Saxon counties and were abolished in 1997. They constituted an intermediate administrative unit between municipalities/communes (counties) and prefectures.

¹⁴ The maps presented in the present research are based on the image: "Map of former Provinces (*επαρχίες*) of Greece (until 1997)", by user Pichinaccio, November 14, 2007. The work – available for public domain usage – is accessible under this link. https://upload.wikimedia.org/wikipedia/commons/2/2e/Greece_former_provinces_german.png.

Table 1
OLS model – refugees & political development.

	Election 1 Left	Right	Center	Election 2 Left	Right	Center
Panel A: Interwar Period (1932 & 1936)	United Front 1932	People's Party 1932	Liberal Party 1932	Popular Front 1936	People's Party 1936	Liberal Party 1936
Refugee Share	0.075 [0.034]**	-0.279 [0.055]***	0.238 [0.059]***	0.108 [0.034]***	-0.110 [0.045]**	0.347 [0.061]***
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	137	137	137	137	137	137
R-squared	0.338	0.120	0.129	0.355	0.050	0.123
Panel B: Postwar Period (1958 & 1963)	United Democratic Left 1958	National Radical Union 1958	Liberal Party 1958	United Democratic Left 1963	National Radical Union 1963	Center Union 1963
Refugee Share	0.111 [0.061]*	-0.014 [0.047]	-0.330 [0.044]***	0.066 [0.040]	-0.060 [0.054]	-0.085 [0.082]
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	139	139	139	139	139	139
R-squared	0.161	0.091	0.196	0.127	0.073	0.118
Panel C: Post-Dictatorship Period (1977 & 1981)	Communist Party 1977	New Democracy 1977	Union of Democratic Center (1977)	Communist Party 1981	New Democracy 1981	Panhellenic Socialist Movement 1981
Refugee Share	-0.018 [0.020]	0.123 [0.039]***	-0.074 [0.026]***	-0.022 [0.023]	0.081 [0.033]**	-0.064 [0.034]*
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	139	139	139	139	139	139
R-squared	0.061	0.054	0.039	0.147	0.047	0.090

Note: Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. District level regressions. Robust standard errors are in parentheses. No changes in prefectures occurred between 1949 and 1964 with the exception of the Dodecanese region, which we have not included in our estimations due to its later incorporation (1947) into the Greek state. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Panhellenic Socialist Movement 1977 & 1981 = Center, Union of Democratic Center (1977) = Center. Altitude is included as a covariate in all estimations. For the 1932 and 1936 elections, covariates also include population growth 1920–28, arable land per capita 1929 and prefecture capital 1928 dummy. For the 1958 election, covariates also include population growth 1928–51 and arable land per capita 1951 and prefecture capital 1951 dummy. For the 1963 election, covariates also include population growth 1951–61 and arable land per capita 1961 and prefecture capital 1961 dummy. For the 1977 election, covariates also include population growth 1961–71, arable land per capita 1971 and prefecture capital 1971 dummy. For the 1981 election, covariates also include population growth 1971–81, arable land per capita 1981 and prefecture capital 1981 dummy.

computation of propensity scores assumes a quasi-experimental setting with respect to the observed covariates. While the linear propensity score significantly reduces selection bias compared to OLS (Rubin and Thomas, 1996), it does not completely eliminate it, as the validity of the reported results depends on the selection of observables. In the OLS framework, the average treatment effect (ATE) and the average treatment effect on the treated (ATT) are identical. This is not the case for propensity score matching, which matches control to treated observations and does not consider control observations that are not close matches (Rosenbaum and Rubin, 1985).

Propensity score matching estimates the probability of assignment to the treatment group rather than to the control group conditional on a vector of some pretreatment parameters (Becreril and Abdulai, 2010; Rosenbaum and Rubin, 1983). To compute the average treatment effect on the treated (ATT), we implement both nearest neighbor matching (NNM) and kernel-based matching (KBM); in the case of NNM, we match each treated unit with a control unit that has the closest propensity score, whereas in the case of KBM, we match each treated unit with a weighted average of control units using weights that minimize the distance between the propensity scores of the respective treated and control units. The balance diagnostics of the PSM covariates are reported in Appendix I (Table A.4) and confirm the validity of our approach.

Furthermore, the local sample average treatment effect (LSATT) as a function of the subset of matched treated units does not necessitate data extrapolation or the test of common pre-treatment trends. Coarsened exact matching (CEM) expands the range of variables that can be used for exact matching (Datta, 2015; Iacus et al., 2009). The CEM method appears to be more efficient than the PSM method when the ratio of treated to control cases hinders the computation of propensity scores and the use of a nonparametric method is preferable. This is why the introduction of coarsened categories across covariates may succeed in reducing the imbalance between treatment and control groups where the PSM method fails to do so (Iacus et al., 2009). Thus, we propose the following model:

Table 2
Average treatment effects (ATT) & sensitivity analysis – refugees & political development. (Algorithm: Nearest neighbor matching).

	Election 1			Election 2		
	Left	Right	Center	Left	Right	Center
Panel A: Interwar Period (1932 & 1936)	United Front 1932	People’s Party 1932	Liberal Party 1932	Popular Front 1936	People’s Party 1936	Liberal Party 1936
ATT – Refugee Share	0.027 (3.63)***	−0.074 (−1.93)*	0.051 (1.45)	0.038 (4.93)***	−0.007 (−0.20)	0.043 (1.07)
Critical Level of Hidden Bias (Γ)	2.45	1.45	1.30	4.35	1.00	1.15
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Postwar Period (1958 & 1963)	United Democratic Left 1958	National Radical Union 1958	Liberal Party 1958	United Democratic Left 1963	National Radical Union 1963	Center Union 1963
ATT – Refugee Share	0.062 (3.02)***	−0.024 (−0.84)	−0.058 (−2.03)**	0.012 (0.53)	0.007 (0.30)	−0.038 (−1.47)
Critical Level of Hidden Bias (Γ)	2.00	1.05	1.60	1.00	1.00	1.30
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: Post-Dictatorship Period (1977 & 1981)	Communist Party 1977	New Democracy 1977	Union of Democratic Center (1977)	Communist Party 1981	New Democracy 1981	Panhellenic Socialist Movement 1981
ATT – Refugee Share	0.014 (1.23)	0.046 (1.90)*	−0.048 (−1.80)*	0.016 (1.15)	0.030 (1.16)	−0.044 (0.030)
Critical Level of Hidden Bias (Γ)	1.00	1.65	1.75	1.00	1.35	1.45
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes

Note: Significance levels: ***p < 0.01, **p < 0.05, *p < 0.1. t-values are in parentheses. NNM = 1. Common support is imposed. United Front 1932 = Left, People’s Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. Altitude is included as a covariate in all estimations. For the 1932 & 1936 elections, covariates also include population growth 1920–28, arable land per capita 1929 and prefecture capital 1928 dummy. For the 1958 election, covariates also include population growth 1928–51, arable land per capita 1951 and prefecture capital 1951 dummy. For the 1963 election, covariates also include population growth 1951–61, arable land per capita 1961 and prefecture capital 1961 dummy. For the 1977 election, covariates also include population growth 1961–71, arable land per capita 1971 and prefecture capital 1971 dummy. For the 1981 election, covariates also include population growth 1971–81, arable land per capita 1981 and prefecture capital 1981 dummy. In Panel A, all PSM estimations have 67 treated observations and 70 control observations. In Panels B and C, all PSM estimations have 70 treated observations and 69 control observations.

$$L_1(f, g) = \frac{1}{2} \sum_{i_1, \dots, i_k} |f_{i_1, \dots, i_k} - g_{i_1, \dots, i_k}| \tag{2}$$

where $L_1(f, g) \in [0, 1]$ denotes multivariate imbalance, which captures the difference between the relative multivariate frequency distributions of the treatment and control units in k -dimensional space; f, g denote the distributions of the treatment and control units, respectively. As the treatment, we use the above-the-median share of refugees in a given Greek province; as the next step, we differentiate between refugees from Asia Minor, East Thrace, and the Black Sea coast of Turkey.

The logic of including the CEM method is to ensure that the PSM method is efficient in reducing selection bias.¹⁵ Hence, we utilize the CEM method as a robustness check for the PSM method, given the property of the CEM method to automatically eliminate imbalance across covariates. The matching algorithm CEM allows us to coarsen the values of the covariates and, in this way, equalizes the matched units with the control units within each stratum of the covariates (Datta, 2015; Iacus et al., 2009).

Furthermore, the computation of alternative matching estimators such as PSM and CEM (12) may alleviate the endogeneity problem arising from the OLS benchmark (11). The significance levels of our results may, however, be due to the impact of unobserved covariates. To estimate the coefficient bias arising from the omitted variables problem in a matching framework, we utilize the Rosenbaum bounds test (Rosenbaum 2002a, 2002b). In this robustness check, we report the critical level of hidden bias (Γ) above

¹⁵ See also Gao et al. (2014) for a comparison of PSM and CEM methods and their complementarities.

Table 3
Coarsened exact matching (CEM) – political estimates of refugee impact.

Outcome	Platform	Multivariate Imbalance Measure	Coefficient	Std. Err.	t	Observations	R-squared
Panel A: Interwar Period (1932 & 1936)							
United Front 1932	Left	0.640	0.026***	0.009	2.83	74	0.100
People's Party 1932	Right	0.640	-0.088**	0.039	-2.29	74	0.068
Liberal Party 1932	Center	0.640	0.034	0.038	0.88	74	0.011
Popular Front 1936	Left	0.640	0.034***	0.009	3.62	74	0.154
People's Party 1936	Right	0.640	-0.018	0.031	-0.57	74	0.005
Liberal Party 1936	Center	0.640	0.051	0.041	1.25	74	0.021
Panel B: Postwar Period (1958 & 1963)							
United Democratic Left 1958	Left	0.683	0.061***	0.023	2.71	82	0.084
National Radical Union 1958	Right	0.683	-0.008	0.025	-0.32	82	0.001
Liberal Party 1958	Center	0.683	-0.093***	0.031	-3.03	82	0.103
United Democratic Left 1963	Left	0.689	0.032*	0.019	1.70	78	0.037
National Radical Union 1963	Right	0.689	-0.028	0.029	-0.99	78	0.012
Center Union 1963	Center	0.689	-0.008	0.030	-0.28	78	0.001
Panel C: Post-Dictatorship Period (1977 & 1981)							
Communist Party 1977	Left	0.569	0.022	0.016	1.33	70	0.026
New Democracy 1977	Right	0.569	0.020	0.028	0.71	70	0.007
Union of Democratic Center 1977	Center	0.569	-0.021	0.016	-1.31	70	0.025
Communist Party 1981	Left	0.685	-0.007	0.017	-0.39	52	0.003
New Democracy 1981	Right	0.685	0.014	0.025	0.58	52	0.007
Panhellenic Socialist Movement 1981	Center	0.685	-0.012	0.021	31.14	52	0.006

Note: Significance levels: ***p < 0.01, **p < 0.05, *p < 0.1. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. For the 1932 & 1936 results, refer also to [table A.6](#). For the 1958 results, refer also to [table A.7](#). For the 1963 results, refer also to [table A.8](#). For the 1977 results, refer also to [table A.9](#). For the 1981 results, refer also to [table A.10](#).

which the assignment to the treatment group is no longer significant.¹⁶ The Rosenbaum bounds test (2002a, 2002b) highlights the bias of omitted variables on the significance levels of reported average treatment effects on the treated (ATT). While our primary focus is on the statistically significant ATTs, we also report the critical level of hidden bias (Γ) for statistically insignificant political outcomes using the 10 percent threshold of statistical significance to define Γ . As Chaudoin et al. (2018) point out, Rosenbaum bounds tackle the omitted variables problem from the random assignment benchmark. Nevertheless, even this approach may be an imperfect strategy, because an unobservable covariate may inflate the probability of assignment into the treatment group. At this point, it is important to point out that the computation of odds ratios regarding random assignment between treatment and control groups is useful for identifying the effect of observed characteristics in order to extrapolate the impact of the unobserved ones (ibid.). While we are aware of the limitations regarding the exposition of a causal narrative, we are convinced that our proposed robustness checks corroborate the utilization of refugee distribution at the province level as a natural experiment and indicate the existence of significant propensity scores that are robust to bias generated by unobserved parameters.

6. Results

6.1. Refugees & the rise of the Greek Left

Hypothesis 1 that the forced immigration of Ottoman Greeks led to short-run electoral gains for the Left is supported by both the OLS and the PSM estimator. [Table 1](#) reports OLS estimations on the effects of Ottoman Greek refugees on the electoral shares of Greek political parties in the interwar, postwar, and post-dictatorship periods. In the interwar period, there is a positive effect of refugee share at the province level on the vote shares of the Left (the United Front party in 1932 and the Popular Front party in 1936), which is statistically significant at the 5 and 1 percent levels, respectively. The inverse observation holds for the empirical relationship between the share of refugees at the province level and the vote share of the Right (the People's Party) in 1932 and 1936; there is a negative and significant effect in both elections ([Table 1](#)). In the postwar period, we find a positive and significant correlation between refugee share and the vote share of the Left (the United Democratic Left party) in the elections of 1958; a 1 percentage-point increase in the share of refugees at the province level leads to an increase of 11.1 percentage points in the vote share of the United Democratic Left, which is statistically significant at the 10 percent level ([Table 1](#)). In the post-dictatorship period, we find no significant correlations between

¹⁶ In the literature, there is also the method initiated by Altonji et al. (2005) and proposed by Oster (2019) for OLS and difference-in-differences estimations. Given that the main framework of our analysis is matching and random assignment rather than OLS and observable covariates, we suggest that the Rosenbaum bounds test rather than the Altonji et al. (2005)/Oster (2019) test is a more efficient approach in this context.

Table 4
OLS model – Asia minor refugees & political development.

	Election 1 Left	Right	Center	Election 2 Left	Right	Center
Panel A: Interwar Period (1932 & 1936)	United Front 1932	People's Party 1932	Liberal Party 1932	Popular Front 1936	People's Party 1936	Liberal Party 1936
Asia Minor	0.180 [0.082]**	-0.518 [0.160]***	0.455 [0.155]***	0.244 [0.078]***	-0.201 [0.110]*	0.764 [0.173]***
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	137	137	137	137	137	137
R-squared	0.340	0.080	0.149	0.352	0.060	0.124
Panel B: Postwar Period (1958 & 1963)	United Democratic Left 1958	National Radical Union 1958	Liberal Party 1958	United Democratic Left 1963	National Radical Union 1963	Center Union 1963
Asia Minor	0.509 [0.132]***	-0.268 [0.108]**	-0.561 [0.125]***	0.313 [0.126]**	-0.380 [0.141]***	0.089 [0.142]
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	139	139	139	139	139	139
R-squared	0.242	0.112	0.132	0.170	0.099	0.111
Panel C: Post-Dictatorship Period (1977 & 1981)	Communist Party 1977	New Democracy 1977	Union of Democratic Center (1977)	Communist Party 1981	New Democracy 1981	Panhellenic Socialist Movement 1981
Asia Minor	0.085 [0.084]	0.085 [0.144]	-0.133 [0.076]*	0.074 [0.086]	-0.004 [0.108]	-0.074 [0.082]
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	139	139	139	139	139	139
R-squared	0.069	0.024	0.026	0.150	0.027	0.079

Note: Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. District level regressions. Robust standard errors are in parentheses. No changes in prefectures occurred between 1949 and 1964 with the exception of the Dodecanese region, which we have not included in our estimations due to its later incorporation (1947) into the Greek state. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. Altitude is included as a covariate in all estimations. For the 1932 and 1936 elections, covariates also include population growth 1920–28, arable land per capita 1929 and prefecture capital 1928 dummy. For the 1958 election, covariates also include population growth 1928–51, arable land per capita 1951 and prefecture capital 1951 dummy. For the 1963 election, covariates also include population growth 1951–61, arable land per capita 1961 and prefecture capital 1961 dummy. For the 1977 election and covariates also include population growth 1961–71, arable land per capita 1971 and prefecture capital 1971 dummy. For the 1981 election, covariates also include population growth 1971–81, arable land per capita 1981 and prefecture capital 1981 dummy.

refugee share and the size of the Left vote (Table 1).

The PSM estimates in Table 2 also underscore the positive impact of Ottoman Greek refugees on the short-run electoral gains of the Greek Left; the respective Figs. (A.6–8) are provided in the Appendix. In the interwar period, the vote for the Left (the United Front party) in 1932 is stronger in provinces with a high share of refugees by an average difference of 2.7 percent, which is statistically significant at the 1 percent level. Furthermore, the vote for the Left (the Popular Front party) in 1936 is stronger in refugee-dominated provinces by 3.8 percent and this difference is statistically significant at the 1 percent level. The utilization of a kernel-based matching (KBM) algorithm (Table A.5) corroborates the results reported with the nearest neighbor matching (NNM) algorithm (Table 2).

To account for the presence of omitted variables bias, we perform the Rosenbaum bounds test, which calculates the relative strength of unobserved factors on the significance of treatment effects, such as in the case that the random assignment assumption does not hold anymore. For example, the Γ -value for the vote share of the United Front (1932) is 2.00, which suggests that a 100 percent increase in the X-vector of United Front share covariates is necessary for the odds ratio of treatment assignment to change by a factor of 2.00. This is the point at which it would be possible to cast doubt on the validity of our results. However, the magnitude of the computed hidden bias threshold is so high that it is unlikely for any unobserved covariate to challenge the significance of the reported United Front (1932) coefficient. Similarly, the Γ -value for the vote share of the Popular Front (1936) is 4.35, which renders the impact of omitted variables on the odds ratio of assignment into treatment and control groups even less likely: a 335 percent increase in the X-vector of Popular Front share covariates is required for the odds ratio of assignment to change by a factor of 4.35. Our results are robust to the switch of the matching algorithm from NNM to KBM as well.

Hypothesis 1 is also supported by the PSM estimates for the postwar period (Table 2). We find that the vote shares of United Democratic Left in 1958 and 1963 are significantly higher in refugee-dominated provinces. Our results are also robust to the Rosenbaum bounds sensitivity analysis. In the post-dictatorship period (Table 2), the impact of refugee settlement on the vote share of the Communist Party disappears. The temporal distance between the 1970s and the population exchange of 1923 and the successful

Table 5
OLS model – East Thrace refugees & political development.

	Election 1			Election 2		
	Left	Right	Center	Left	Right	Center
Panel A: Interwar Period (1932 & 1936)	United Front 1932	People's Party 1932	Liberal Party 1932	Popular Front 1936	People's Party 1936	Liberal Party 1936
East Thrace	0.160 [0.080]**	-0.740 [0.121]***	0.588 [0.148]***	0.204 [0.076]***	-0.274 [0.100]***	0.683 [0.138]***
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	137	137	137	137	137	137
R-squared	0.330	0.134	0.131	0.319	0.051	0.095
Panel B: Postwar Period (1958 & 1963)	United Democratic Left 1958	National Radical Union 1958	Liberal Party 1958	United Democratic Left 1963	National Radical Union 1963	Center Union 1963
East Thrace	0.023 [0.111]	0.080 [0.118]	-0.682 [0.108]***	0.039 [0.062]	-0.025 [0.140]	-0.250 [0.082]
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	139	139	139	139	139	139
R-squared	0.133	0.093	0.169	0.112	0.068	0.124
Panel C: Post-Dictatorship Period (1977 & 1981)	Communist Party 1977	New Democracy 1977	Union of Democratic Center (1977)	Communist Party 1981	New Democracy 1981	Panhellenic Socialist Movement 1981
East Thrace	-0.114 [0.033]***	0.378 [0.088]***	-0.133 [0.057]**	-0.121 [0.039]***	0.232 [0.073]***	-0.155 [0.077]**
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	139	139	139	139	139	139
F-statistic of instrument in 1st stage	0.079	0.078	0.027	0.072	0.099	0.040

Note: Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. District level regressions. Robust standard errors are in parentheses. No changes in prefectures occurred between 1949 and 1964 with the exception of the Dodecanese region, which we have not included in our estimations due to its later incorporation (1947) into the Greek state. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. Altitude is included as a covariate in all estimations. For the 1932 and 1936 elections, covariates also include population growth 1920–28, arable land per capita 1929 and prefecture capital 1928 dummy. For the 1958 election, covariates also include population growth 1928–51, arable land per capita 1951 and prefecture capital 1951 dummy. For the 1963 election, covariates also include population growth 1951–61, arable land per capita 1961 and prefecture capital 1961 dummy. For the 1977 election, covariates also include population growth 1961–71, arable land per capita 1971 and prefecture capital 1971 dummy. For the 1981 election, covariates also include population growth 1971–81, arable land per capita 1981 and prefecture capital 1981 dummy.

integration of refugees into the Greek economy and society discontinued incentives for political radicalization toward the Left.

The CEM results show patterns very similar to those of the PSM estimates (Table 3 and Tables A.6-10). The only difference observed relates to the vote share of the Left (the United Democratic Left party) in the elections of 1958, which is statistically significant at the 1 percent level.

6.2. Distinct refugee groups

The comparative analysis of Marantzidis (2001) on the right-wing mobilization of West Black Sea refugees during the Greek civil war and the perils of their political integration into inter- and postwar Greece provides the comparative foundation for our hypotheses 2–4. Hypothesis 2 that Asia Minor refugees contributed more to the short-run rise of the Greek Left than East Thrace and Black Sea refugees is corroborated by the OLS and PSM estimates as well (Table 4 and Table 7, respectively). PSM figures on Asia Minor, East Thrace and Black Sea refugees are also reported in the Appendix (Figs. A.9-A.17). The impact of Asia Minor refugees on the vote shares of the Left in the interwar period (the United Front in 1932 and the Popular Front in 1936) appears to be positive and statistically significant at the 1 percent level (Table 4). A 1 percentage-point increase in the share of Asia Minor refugees at the province level produces a significant increase of 50.9 percentage points in the 1958 vote share of the United Democratic Left as well as a significant increase of 31.3 percentage points in its 1963 vote share (Table 4).

PSM estimates for Asia Minor refugees show that the vote share for the Popular Front (1936) is higher in provinces with a high share of Asia Minor refugees by an average difference of 2.6 percent, which is statistically significant at the 1 percent level (Table 7). The Rosenbaum bounds sensitivity analysis also suggests that the strong preference of Asia Minor refugees for the Popular Front in the interwar period is robust to the omitted variables problem, as the hidden bias threshold for this coefficient is implausibly high for its statistical significance level to be altered. This result does not change when we implement KBM rather than NNM as the matching

Table 6
OLS model – Black sea refugees & political development.

	Election 1			Election 2		
	Left	Right	Center	Left	Right	Center
Panel A: Interwar Period (1932 & 1936)	United Front 1932	People's Party 1932	Liberal Party 1932	Popular Front 1936	People's Party 1936	Liberal Party 1936
Black Sea	0.137 [0.102]	−0.461 [0.181]**	0.441 [0.059]***	0.106 [0.033]***	−0.121 [0.045]***	0.360 [0.062]***
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	137	137	137	137	137	137
R-squared	0.313	0.070	0.174	0.355	0.071	0.141
Panel B: Postwar Period (1958 & 1963)	United Democratic Left 1958	National Radical Union 1958	Liberal Party 1958	United Democratic Left 1963	National Radical Union 1963	Center Union 1963
Black Sea	0.042 [0.176]	0.180 [0.171]	−0.872 [0.208]***	0.012 [0.106]	0.042 [0.144]	−0.337 [0.309]
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	139	139	139	139	139	139
R-squared	0.133	0.096	0.145	0.111	0.068	0.122
Panel C: Post-Dictatorship Period (1977 & 1981)	Communist Party 1977	New Democracy 1977	Union of Democratic Center (1977)	Communist Party 1981	New Democracy 1981	Panhellenic Socialist Movement 1981
Black Sea	−0.120 [0.058]**	0.351 [0.106]***	−0.228 [0.073]***	−0.129 [0.070]*	0.351 [0.083]***	−0.017 [0.092]*
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	139	139	139	139	139	139
R-squared	0.069	0.045	0.034	0.154	0.061	0.085

Note: Significance levels: ***p < 0.01, **p < 0.05, *p < 0.1. District level regressions. Robust standard errors are in parentheses. No changes in prefectures occurred between 1949 and 1964 with the exception of the Dodecanese region, which we have not included in our estimations due to its later incorporation (1947) into the Greek state. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Panhellenic Socialist Movement 1977 & 1981 = Center, Union of Democratic Center (1977) = Center. Altitude is included as a covariate in all estimations. For the 1932 and 1936 elections, covariates also include population growth 1920–28, arable land per capita 1929 and prefecture capital 1928 dummy. For the 1958 election, covariates also include population growth 1928–51, arable land per capita 1951 and prefecture capital 1951 dummy. For the 1963 election, covariates also include population growth 1951–61, arable land per capita 1961 and prefecture capital 1961 dummy. For the 1977 election, covariates also include population growth 1961–71, arable land per capita 1971 and prefecture capital 1971 dummy. For the 1981 election, covariates also include population growth 1971–81, arable land per capita 1981 and prefecture capital 1981 dummy.

algorithm (Table A.11). In the postwar period, the United Democratic Left vote share in the 1958 election is robustly higher among Asia Minor refugees by a difference of 4.5 percent, which is statistically significant at the 5 percent level (Table 7). In the post-dictatorship period (1977 and 1981 elections), the Left vote of Asia Minor refugees withers away. The CEM estimates for Asia Minor refugees are aligned with PSM estimates (see Table 10 and Tables A.14–18).

Hypothesis 3 focuses on East Thrace refugees and suggests that their presence generated short-run electoral benefits for both the Greek Left and the Greek Right. The OLS estimates suggest that East Thrace refugees exhibit similar political preferences to Asia Minor refugees in favor of the main Left parties in the interwar period, the United Front and the Popular Front (Table 5). Nevertheless, the OLS findings may be understating the impact of East Thrace refugees on the vote shares of Right parties, given that the PSM estimates in Table 8 show that in provinces with a high share of East Thrace refugees we observe a positive and significant impact on the vote shares of both the Left and the Right in the interwar period. The vote shares of the United Front (1932) and the Popular Front (1936) exhibit positive and statistically significant differences in provinces dominated by East Thrace refugees, which are also robust to the Rosenbaum bounds test. At the same time, the strong political preferences of East Thrace refugees in favor of the People's Party (1936) are shown by a positive and significant average difference of 5.2 percent (Table 8).

The duality of political preferences of East Thrace refugees toward both the Left and the Right continues in the postwar period. Provinces with a high share of East Thrace refugees exhibit positive and significantly higher vote shares for the United Democrat Left and the National Radical Union in the elections of 1958 (Table 8). The United Democratic Left is also robustly supported by East Thrace refugees in the elections of 1963. Our results do not change when we switch from the NNM to the KBM algorithm (Table A.12). The CEM estimates for East Thrace refugees also do not diverge from the aforementioned PSM estimates (see Table 11 and Tables A.19–23). Therefore, hypothesis 3 is also verified.

Regarding the Black Sea refugees, hypothesis 4 suggests that they may have strengthened the Greek Right more than Asia Minor

Table 7

Average treatment effects (ATT) & sensitivity analysis – Asia minor refugees & political development. (Algorithm: Nearest neighbor matching).

	Election 1			Election 2		
	Left	Right	Center	Left	Right	Center
Panel A: Interwar Period (1932 & 1936)	United Front 1932	People's Party 1932	Liberal Party 1932	Popular Front 1936	People's Party 1936	Liberal Party 1936
ATT - Asia Minor	0.013 (1.32)	0.036 (0.83)	-0.024 (-0.55)	0.026 (2.65)***	0.018 (0.52)	0.023 (0.46)
Critical Level of Hidden Bias (Γ)	1.35	1.00	1.00	2.25	1.00	1.00
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Postwar Period (1958 & 1963)	United Democratic Left 1958	National Radical Union 1958	Liberal Party 1958	United Democratic Left 1963	National Radical Union 1963	Center Union 1963
ATT - Asia Minor	0.045 (2.01)**	0.016 (0.65)	-0.103 (-3.18)***	0.017 (1.01)	-0.020 (-0.90)	0.002 (0.05)
Critical Level of Hidden Bias (Γ)	1.45	1.00	2.35	1.00	1.00	1.00
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: Post-Dictatorship Period (1977 & 1981)	Communist Party 1977	New Democracy 1977	Union of Democratic Center (1977)	Communist Party 1981	New Democracy 1981	Panhellenic Socialist Movement 1981
ATT - Asia Minor	0.012 (0.83)	0.026 (0.97)	-0.045 (-2.36)**	0.014 (0.92)	0.015 (0.50)	-0.028 (-0.94)
Critical Level of Hidden Bias (Γ)	1.10	1.10	1.60	1.00	1.00	1.05
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes

Note: Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. t-values are in parentheses. NNM = 1. Common support is imposed. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. Altitude is included as a covariate in all estimations. For the 1932 & 1936 elections, covariates also include population growth 1920–28, arable land per capita 1929 and prefecture capital 1928 dummy. For the 1958 election, covariates also include population growth 1928–51, arable land per capita 1951 and prefecture capital 1951 dummy. For the 1963 election, covariates also include population growth 1951–61, arable land per capita 1961 and prefecture capital 1961 dummy. For the 1977 election, covariates also include population growth 1961–71, arable land per capita 1971 and prefecture capital 1971 dummy. For the 1981 election, covariates also include population growth 1971–81, arable land per capita 1981 and prefecture capital 1981 dummy. In Panel A, all PSM estimations have 67 treated observations and 70 control observations. In Panels B and C, all PSM estimations have 68 treated observations and 71 control observations.

and East Thrace refugees did. The OLS estimates for the political preferences of Black Sea refugees in the interwar and postwar periods may be also understating their impact, and they are not always significant (Table 6). Nevertheless, the PSM estimates suggest that Black Sea refugees constitute the only refugee group that exhibits a persistent and positive political support of right-wing parties (Table 9). The vote shares of the People's Party in the 1932 and 1936 elections are significantly higher among Black Sea refugees by average differences of 12.8 percent and 7.6 percent, respectively. These results are also robust to the Rosenbaum bounds sensitivity analysis. Similarly, in the postwar and post-dictatorship periods, provinces inhabited by Black Sea refugees exhibit robust and significantly higher preferences for the Right (for the National Radical Union in the elections of 1958 and 1963 as well as for New Democracy in the election of 1981) (Table 9). Our results are robust to the change to the KBM algorithm (Table A.13) and to the computation of CEM estimates (see Table 12 and Tables A.24–28). Hence, hypothesis 4 appears to hold as well.¹⁷

Our results indicate that despite their differences in political preferences, Asia Minor, East Thrace, and Black Sea refugees were already turning away from the Center in the interwar period, with this only becoming stronger in the postwar and post-dictatorship periods, possibly due to two factors. The political icon Eleftherios Venizelos, the instigator of Greek expansion toward Constantinople and Asia Minor, had disappeared quickly in the 1930s. Furthermore, a new positive era in Greek-Turkish relations began, and this relied heavily on the abandonment of Greek property rights in the territories of the young Turkish Republic. The political radicalization of the three distinct refugee groups took different directions and levels of intensity with Asia Minor refugees leaning toward the

¹⁷ In the post-dictatorship period, East Thrace and Black Sea refugees indicate a strong preference for New Democracy, the main party of the Greek Right and successor organization to the interwar People's Party and the postwar National Radical Union. This is not the case for Asia Minor refugees, who do not reveal a positive and significant preference for any of the main parties on the Greek political spectrum. Black Sea refugees are also strongly anti-communist, given that there is a negative and statistically significant correlation between the Black Sea refugee share and the vote for the Communist Party of Greece in the 1977 and 1981 elections.

Table 8

Average treatment effects (ATT) & sensitivity analysis – East Thrace refugees & political development (algorithm: Nearest neighbor matching).

	Election 1			Election 2		
	Left	Right	Center	Left	Right	Center
Panel A: Interwar Period (1932 & 1936)	United Front 1932	People's Party 1932	Liberal Party 1932	Popular Front 1936	People's Party 1936	Liberal Party 1936
ATT - East Thrace	0.027 (3.77)***	0.056 (1.40)	-0.036 (-0.65)	0.030 (3.58)***	0.052 (1.71)*	0.028 (0.51)
Critical Level of Hidden Bias (Γ)	2.90	1.30	1.00	2.75	1.30	1.00
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Postwar Period (1958 & 1963)	United Democratic Left 1958	National Radical Union 1958	Liberal Party 1958	United Democratic Left 1963	National Radical Union 1963	Center Union 1963
ATT - East Thrace	0.040 (2.02)**	0.066 (2.04)**	-0.128 (-3.05)	0.049 (3.40)***	0.031 (1.07)	-0.089 (-2.73)***
Critical Level of Hidden Bias (Γ)	1.30	2.60	2.75	2.00	1.15	2.00
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: Post-Dictatorship Period (1977 & 1981)	Communist Party 1977	New Democracy 1977	Union of Democratic Center (1977)	Communist Party 1981	New Democracy 1981	Panhellenic Socialist Movement 1981
ATT - East Thrace	0.011 (1.17)	0.099 (2.96)***	-0.048 (-1.95)*	0.017 (1.42)	0.033 (1.13)	-0.040 (-1.39)
Critical Level of Hidden Bias (Γ)	1.05	3.15	1.80	1.15	1.30	1.35
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes

Note: Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. t-values are in parentheses. NNM = 1. Common support is imposed. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left, United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. Altitude is included as a covariate in all estimations. For the 1932 & 1936 elections, covariates also include population growth 1920–28, arable land per capita 1929 and prefecture capital 1928 dummy. For the 1958 election, covariates also include population growth 1928–51, arable land per capita 1951 and prefecture capital 1951 dummy. For the 1963 election, covariates also include population growth 1951–61, arable land per capita 1961 and prefecture capital 1961 dummy. For the 1977 election, covariates also include population growth 1961–71, arable land per capita 1971 and prefecture capital 1971 dummy. For the 1981 election, covariates also include population growth 1971–81, arable land per capita 1981 and prefecture capital 1981 dummy. In Panel A, all PSM estimations have 88 treated observations and 49 control observations. In Panels B and C, all PSM estimations have 91 treated observations and 48 control observations.

Left and Black Sea refugees toward the Right, while East Thrace refugees appear to have achieved the fastest political integration into their new homeland.

7. Conclusions

The population exchange of 1923 irreversibly changed the political and economic development of Greece and Turkey alike. When it comes to the effects of the population exchange on the Greek economy and politics in the 20th century, we find that Ottoman Greek refugees consolidated the influence of the Left on the Greek political system. Discrepancies between refugee skills and prior socio-economic background, on the one hand, and post-expulsion job opportunities and social status, on the other, gave birth to the rise of Greek communism and facilitated political mobilization across cities and the countryside. While there are considerable differences in the intensity of support before and after the German occupation and the Greek Civil War, the general picture does not change, particularly for Asia Minor refugees, the group with the highest share of urban refugees, both in terms of Ottoman origin and settlement location in Greece.

The striking differences in the political preferences of the three main refugee groups – Asia Minor, East Thrace, and Black Sea refugees – can be attributed to the large initial differences in human capital and socio-economic status that already existed in their regions of origin. Asia Minor refugees contributed massively to the creation and organization of the Greek Left during the interwar and

Table 9

Average treatment effects (ATT) & sensitivity analysis – Black sea refugees & political development. (Algorithm: Nearest neighbor matching).

	Election 1			Election 2		
	Left	Right	Center	Left	Right	Center
Panel A: Interwar Period (1932 & 1936)	United Front 1932	People's Party 1932	Liberal Party 1932	Popular Front 1936	People's Party 1936	Liberal Party 1936
ATT – Black Sea	0.023 (1.87)*	0.128 (2.95)***	−0.185 (−3.76)***	0.034 (4.21)***	0.076 (2.37)**	−0.198 (−2.88)***
Critical Level of Hidden Bias (Γ)	1.75	2.50	4.70	2.60	2.15	3.10
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Postwar Period (1958 & 1963)	United Democratic Left 1958	National Radical Union 1958	Liberal Party 1958	United Democratic Left 1963	National Radical Union 1963	Center Union 1963
ATT – Black Sea	0.005 (0.14)	0.134 (2.55)**	−0.138 (−2.77)***	0.011 (0.43)	0.094 (1.94)*	−0.112 (−2.86)***
Critical Level of Hidden Bias (Γ)	1.00	4.05	3.30	1.00	2.40	2.70
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: Post-Dictatorship Period (1977 & 1981)	Communist Party 1977	New Democracy 1977	Union of Democratic Center (1977)	Communist Party 1981	New Democracy 1981	Panhellenic Socialist Movement 1981
ATT – Black Sea	0.016 (1.55)	0.052 (1.55)	−0.019 (−0.95)	−0.004 (−0.23)	0.079 (3.13)***	−0.062 (−3.88)***
Critical Level of Hidden Bias (Γ)	1.10	1.60	1.20	1.00	3.80	2.85
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes

Note: Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. t-values are in parentheses. NNM = 1. Common support is imposed. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. Altitude is included as a covariate in all estimations. For the 1932 & 1936 elections, covariates also include population growth 1920–28, arable land per capita 1929 and prefecture capital 1928 dummy. For the 1958 election, covariates also include population growth 1928–51, arable land per capita 1951 and prefecture capital 1951 dummy. For the 1963 election, covariates also include population growth 1951–61, arable land per capita 1961 and prefecture capital 1961 dummy. For the 1977 election, covariates also include population growth 1961–71, arable land per capita 1971 and prefecture capital 1971 dummy. For the 1981 election, covariates also include population growth 1971–81, arable land per capita 1981 and prefecture capital 1981 dummy. In Panel A, all PSM estimations have 88 treated observations and 49 control observations. In Panels B and C, all PSM estimations have 89 treated observations and 50 control observations.

postwar periods, as they possessed higher levels of human capital and socio-economic status before 1923 and they were, therefore, more inclined to support communist mobilization and the rejection of establishment parties. In contrast, Black Sea refugees constituted the most conservative refugee group with the highest levels of support for right-wing parties in the interwar and postwar periods. The political preferences of East Thrace refugees were geared toward both the Left and the Right. This observation suggests that they managed to adjust faster to their recipient society of modern Greece than the other two refugee groups, while maintaining their refugee identity in the interwar and postwar periods. The transformative impact of the 1923 population exchange on Greek politics dissipated in the post-dictatorship period when ethnic homogeneity combined with high levels of economic performance since the 1960s minimized income differences between refugees and non-refugees and the Left-Right polarization ceased to have a strong refugee element.

This study enlightens our understanding of political development under conditions of conflict and forced migration, while suggesting that the socio-economic placement of refugees in their regions of origin is a powerful predictor of their political behavior in their regions of destination. Our findings also contribute to research on the political-economic patterns of refugee integration into their host societies and provide further insights on the consolidation of left-wing movements in Western Europe during the interwar and postwar periods.

Table 10
Coarsened exact matching (CEM) – political estimates of Asia minor refugee impact.

Outcome	Platform	Multivariate Imbalance Measure	Coefficient	Std. Err.	t	Observations	R-squared
Panel A: Interwar Period (1932 & 1936)							
United Front 1932	Left	0.646	0.011	0.008	1.44	75	0.028
People's Party 1932	Right	0.646	-0.045	0.041	-1.10	75	0.016
Liberal Party 1932	Center	0.646	0.041	0.039	1.05	75	0.015
Popular Front 1936	Left	0.646	0.020**	0.009	2.21	75	0.063
People's Party 1936	Right	0.646	-0.009	0.030	-0.31	75	0.001
Liberal Party 1936	Center	0.646	0.063	0.039	1.61	75	0.034
Panel B: Postwar Period (1958 & 1963)							
United Democratic Left 1958	Left	0.623	0.055**	0.022	2.54	88	0.070
National Radical Union 1958	Right	0.623	-0.028	0.026	-1.07	88	0.013
Liberal Party 1958	Center	0.623	-0.054*	0.030	-1.76	88	0.035
United Democratic Left 1963	Left	0.628	0.027	0.018	1.54	86	0.027
National Radical Union 1963	Right	0.628	-0.031	0.028	-1.10	86	0.014
Center Union 1963	Center	0.628	0.003	0.029	0.09	86	0.000
Panel C: Post-Dictatorship Period (1977 & 1981)							
Communist Party 1977	Left	0.636	0.026	0.017	1.50	65	0.034
New Democracy 1977	Right	0.636	0.013	0.027	0.48	65	0.004
Union of Democratic Center (1977)	Center	0.636	-0.018	0.016	-1.12	65	0.019
Communist Party 1981	Left	0.611	0.002	0.019	0.12	48	0.000
New Democracy 1981	Right	0.611	-0.013	0.023	-0.57	48	0.007
Panhellenic Socialist Movement 1981	Center	0.611	0.009	0.021	0.42	48	0.004

Note: Significance levels: ***p < 0.01, **p < 0.05, *p < 0.1. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. For the 1932 & 1936 results, refer also to [Table A.14](#). For the 1958 results, refer also to [Table A.15](#). For the 1963 results, refer also to [table A.16](#). For the 1977 results, refer also to [table A.17](#). For the 1981 results, refer also to [table A.18](#).

Table 11
Coarsened exact matching (CEM) – political estimates of East Thrace refugee impact.

Outcome	Platform	Multivariate Imbalance Measure	Coefficient	Std. Err.	t	Observations	R-squared
Panel A: Interwar Period (1932 & 1936)							
United Front 1932	Left	0.761	0.027***	0.009	3.17	80	0.114
People's Party 1932	Right	0.761	-0.051	0.039	-1.32	80	0.021
Liberal Party 1932	Center	0.761	0.017	0.037	0.46	80	0.003
Popular Front 1936	Left	0.761	0.027**	0.009	2.99	80	0.103
People's Party 1936	Right	0.761	0.011	0.030	0.37	80	0.002
Liberal Party 1936	Center	0.761	0.041	0.045	0.92	80	0.011
Panel B: Postwar Period (1958 & 1963)							
United Democratic Left 1958	Left	0.870	0.060**	0.023	2.59	73	0.086
National Radical Union 1958	Right	0.870	0.020	0.031	0.65	73	0.006
Liberal Party 1958	Center	0.870	-0.142***	0.032	-4.51	73	0.223
United Democratic Left 1963	Left	0.762	0.054***	0.019	2.90	75	0.103
National Radical Union 1963	Right	0.762	0.003	0.034	0.10	75	0.000
Center Union 1963	Center	0.762	-0.064*	0.035	-1.82	75	0.043
Panel C: Post-Dictatorship Period (1977 & 1981)							
Communist Party 1977	Left	0.409	0.009	0.016	0.54	56	0.005
New Democracy 1977	Right	0.409	0.038	0.037	1.03	56	0.019
Union of Democratic Center (1977)	Center	0.409	-0.011	0.020	-0.52	56	0.005
Communist Party 1981	Left	0.500	-0.020	0.024	-0.85	54	0.014
New Democracy 1981	Right	0.500	0.038	0.028	1.38	54	0.035
Panhellenic Socialist Movement 1981	Center	0.500	-0.005	0.022	-0.24	54	0.001

Note: Significance levels: ***p < 0.01, **p < 0.05, *p < 0.1. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. For the 1932 & 1936 results, refer also to [table A.19](#). For the 1958 results, refer also to [table A.20](#). For the 1963 results, refer also to [table A.21](#). For the 1977 results, refer also to [table A.22](#). For the 1981 results, refer also to [table A.23](#).

Table 12
Coarsened exact matching (CEM) – political estimates of Black sea refugee impact.

Outcome	Platform	Multivariate Imbalance Measure	Coefficient	Std. Err.	t	Observations	R-squared
Panel A: Interwar Period (1932 & 1936)							
United Front 1932	Left	0.687	0.018	0.011	1.63	78	0.034
People's Party 1932	Right	0.687	0.085**	0.042	2.02	78	0.051
Liberal Party 1932	Center	0.687	-0.167***	0.035	-4.71	78	0.226
Popular Front 1936	Left	0.687	0.019*	0.011	1.69	78	0.036
People's Party 1936	Right	0.687	0.068**	0.029	2.31	78	0.066
Liberal Party 1936	Center	0.687	-0.171***	0.044	-3.87	78	0.164
Panel B: Postwar Period (1958 & 1963)							
United Democratic Left 1958	Left	0.655	0.014	0.025	0.56	64	0.005
National Radical Union 1958	Right	0.655	0.126***	0.037	3.42	64	0.159
Liberal Party 1958	Center	0.655	-0.168***	0.033	-5.08	64	0.294
United Democratic Left 1963	Left	0.749	0.006	0.020	0.28	69	0.001
National Radical Union 1963	Right	0.749	0.106***	0.035	3.03	69	0.121
Center Union 1963	Center	0.749	-0.109***	0.034	-3.17	69	0.130
Panel C: Post-Dictatorship Period (1977 & 1981)							
Communist Party 1977	Left	0.500	0.023	0.018	1.25	47	0.033
New Democracy 1977	Right	0.500	0.039	0.041	0.96	47	0.020
Union of Democratic Center (1977)	Center	0.500	-0.015	0.020	-0.77	47	0.013
Communist Party 1981	Left	0.500	-0.007	0.031	-0.23	39	0.001
New Democracy 1981	Right	0.500	0.059*	0.032	1.86	39	0.085
Panhellenic Socialist Movement 1981	Center	0.500	-0.032	0.029	-1.09	39	0.031

Note: Significance levels: ***p < 0.01, **p < 0.05, *p < 0.1. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. For the 1932 & 1936 results, refer also to [Table A.24](#). For the 1958 results, refer also to [Table A.25](#). For the 1963 results, refer also to [Table A.26](#). For the 1977 results, refer also to [Table A.27](#). For the 1981 results, refer also to [Table A.28](#).

Data availability

Data will be made available on request.

Appendix I

Table A.1
Data Profile & Sources

Variable	Unit	Period	Data source	Notes
Refugees Settlement Rate	%	1928	ELSTAT, Census of 1928	Share of refugees in a province's population
Asia Minor Refugees Settlement Rate	%	1928	ELSTAT, Census of 1928	Share of refugees in a province's population
East Thrace Refugees Settlement Rate	%	1928	ELSTAT, Census of 1928	Share of refugees in a province's population
Black Sea Refugees Settlement Rate	%	1928	ELSTAT, Census of 1928	Share of refugees in a province's population
Thrace	Dummy	1928	ELSTAT, Census of 1928	Variable equals 1 if province is located in Greek Thrace
Macedonia	Dummy	1928	ELSTAT, Census of 1928	Variable equals 1 if province is located in Greek Macedonia
Prefecture Capital	Dummy	1928, 1951, 1961, 1971, 1981	ELSTAT, Population censuses of 1928, 1961, 1971 and 1981	Variable equals 1 if a prefecture's capital city is located in the province
Altitude	Meters	1961	ELSTAT, Census of 1961	Average altitude by province
Agricultural Surface	<i>Stremmata</i> (1000m ²)	1929, 1950, 1961, 1971	ELSTAT, Agricultural Censuses of 1929, 1950, 1961, and 1971	Cultivated surfaces per province
Population	Number	1928, 1951, 1961, 1971	ELSTAT, Population Censuses of 1920, 1928, 1961, and 1971	Total population per province

(continued on next page)

Table A.1 (continued)

Variable	Unit	Period	Data source	Notes
Population Growth	%	1920–1928, 1928–1951, 1951–1961, 1961–1971, 1971–1981	ELSTAT, Population censuses of 1920, 1928, 1961, 1971 and 1981	Population growth per province
People's Party	%	1932	ELSTAT, Statistic of the September 25, 1932 Parliamentary Elections	Vote share of People's Party
Liberal Party	%	1932	ELSTAT, Statistic of the September 25, 1932 Parliamentary Elections	Vote share of the Liberal Party
United Front	%	1932	ELSTAT, Statistic of the September 25, 1932 Parliamentary Elections	Vote share of the United Front of Workers and Farmers (Communist Party)
Liberal Party	%	1936	ELSTAT, Statistic of the January 26, 1936 Parliamentary Elections	Vote share of the Liberal Party
People's Party	%	1936	ELSTAT, Statistic of the January 26, 1936 Parliamentary Elections	Vote share of People's Party
Popular Front	%	1936	ELSTAT, Statistic of the January 26, 1936 Parliamentary Elections	Vote share of the Popular Front (Communist Party)
National Radical Union	%	1958	Interior Ministry, Directorate of Studies, Results of the May 11, 1958 Parliamentary Elections	Vote share of the National Radical Union
United Democratic Left	%	1958	Interior Ministry, Directorate of Studies, Results of the May 11, 1958 Parliamentary Elections	Vote share of the United Democratic Left
Liberal Party	%	1958	Interior Ministry, Directorate of Studies, Results of the May 11, 1958 Parliamentary Elections	Vote share of the Liberal Party
Center Union	%	1963	Interior Ministry, Directorate of Elections, Results of the November 3, 1963 Parliamentary Elections	Vote share of the Center Union
National Radical Union	%	1963	Interior Ministry, Directorate of Elections, Results of the November 3, 1963 Parliamentary Elections	Vote share of the National Radical Union
United Democratic Left	%	1963	Interior Ministry, Directorate of Elections, Results of the November 3, 1963 Parliamentary Elections	Vote share of the United Democratic Left
New Democracy	%	1977	Interior Ministry, Directorate of Elections, Results of the November 20, 1977 Parliamentary Elections	Vote share of New Democracy
Union of Democratic Center	%	1977	Interior Ministry, Directorate of Elections, Results of the November 20, 1977 Parliamentary Elections	Vote share of the Union of Democratic Center
Communist Party	%	1977	Interior Ministry, Directorate of Elections, Results of the November 20, 1977 Parliamentary Elections	Vote share of the Communist Party
Panhellenic Socialist Movement	%	1981	Interior Ministry, Directorate of Elections, Results of the October 18, 1981 Parliamentary Elections	Vote share of the Panhellenic Socialist Movement
New Democracy	%	1981	Interior Ministry, Directorate of Elections, Results of the October 18, 1981 Parliamentary Elections	Vote share of New Democracy
Communist Party	%	1981	Interior Ministry, Directorate of Elections, Results of the October 18, 1981 Parliamentary Elections	Vote share of the Communist Party

Note: Vote shares are % of the votants in the elections.

Table A.2
Descriptive Statistics

Variable	Full sample					Macedonia					Thrace				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
Refugees Settlement Rate 1928	140	0.00	0.885	0.119	0.171	26	0.095	0.885	0.376	0.191	8	0.024	0.582	0.295	0.159
Asia Minor Refugees Settlement Rate 1928	140	0.00	0.345	0.056	0.074	26	0.038	0.345	0.148	0.079	8	0.004	0.167	0.049	0.061
East Thrace Refugees Settlement Rate 1928	140	0.00	0.372	0.034	0.074	26	0.002	0.372	0.109	0.087	8	0.005	0.342	0.206	0.107
Black Sea Refugees Settlement Rate 1928	140	0.00	0.275	0.022	0.050	26	0.005	0.275	0.099	0.075	8	0.000	0.053	0.013	0.020
Prefecture Capital 1928	140	0.00	1.00	0.286	0.453	26	0.00	1.00	0.346	0.485	8	0.00	1.00	0.375	0.518
Prefecture Capital 1951	140	0.00	1.00	0.343	0.476	26	0.00	1.00	0.500	0.510	8	0.00	1.00	0.250	0.463
Prefecture Capital 1961	140	0.00	1.00	0.350	0.479	26	0.00	1.00	0.500	0.510	8	0.00	1.00	0.250	0.463
Prefecture Capital 1971	140	0.00	1.00	0.350	0.479	26	0.00	1.00	0.500	0.510	8	0.00	1.00	0.250	0.463
Prefecture Capital 1981	140	0.00	1.00	0.350	0.479	26	0.00	1.00	0.500	0.510	8	0.00	1.00	0.250	0.463
Altitude	140	27	2013	277.907	288.256	26	45	825	295.077	250.501	8	51	169	104.125	47.90001
Agricultural Surface 1929	140	503	563,822	121,568.4	103,686.1	26	13,667	463,481	171,592.7	104,137.40	8	11,460	266,108	144,795.6	84,162.61
Agricultural Surface 1950	139	7649	1,105,377	255,648.5	221,751.1	26	30,483	957,907	355,380	245,274.8	8	18,369	579,515	290,235.5	181,026.2
Agricultural Surface 1961	139	2625	1,271,304	263,774.9	234,728	26	59,223	1,041,674	361,027.8	234,177.80	8	23,358	561,140	313,367.3	186,798.7
Agricultural Surface 1971	139	953	1,248,210	258,533.6	241,480.6	26	50,582	1,060,101	364,213.6	238,623.10	8	18,685	587,858	333,137.4	200,000.6
Population 1928	140	3626	706,274	43,768.53	65,752.33	26	14,425	298,764	52,743.62	53,868.83	8	3849	84,883	36,984.13	26,764.32
Population 1951	139	2764	1,459,594	53,819.19	127,800.6	26	9453	395,005	64,348.62	72,800.42	8	4258	89,891	42,156.75	29,123.47
Population 1961	139	2678	1,947,409	59,420.04	168,934.7	26	15,916	478,148	72,610.65	87,639.90	8	3830	89,594	44,569.38	29,100.31
Population 1971	139	2253	2,675,256	62,018.63	231,674	26	13,316	654,826	72,655.85	121,630.90	8	3012	82,917	41,197.75	28,295.63
Population Growth 1920–1928	137	-27.80	237.20	16.530	28.995	25	-8.70	237.20	39.852	52.863	6	-23.70	82.00	25.150	35.740
Population Growth 1928–1951	139	-71	168.3	9.783453	27.69695	26	-63.7	78.1	16.288	29.044	8	-1.7	34.5	13.388	12.610
Population Growth 1951–1961	139	-47.3	270.3	2.969784	25.67995	26	-8.5	270.3	18.781	51.833	8	-10.1	14	5.7	8.231
Population Growth 1961–1971	139	-35.70	37.10	-11.612	11.627	26	-27.40	37.00	-11.308	12.780	8	-21.40	3.30	-10.200	9.421
Population Growth 1971–1981	139	-21.30	28.60	1.174	9.932	26	-11.00	24.60	4.488	9.414	8	-8.60	26.30	2.175	11.334
People's Party 1932	140	0.02	0.68	0.310	0.171	26	0.06	0.68	0.280	0.151	8	0.03	0.20	0.095	0.057
Liberal Party 1932	140	0.02	0.84	0.345	0.163	26	0.12	0.50	0.326	0.097	8	0.43	0.78	0.589	0.105
United Front of Workers and Farmers 1932	140	0.00	0.35	0.037	0.061	26	0.00	0.35	0.075	0.088	8	0.02	0.17	0.089	0.049
Liberal Party 1936	140	0.00	0.89	0.374	0.191	26	0.092	0.58	0.423	0.092	8	0.37	0.74	0.52	0.140
Popular Front 1936	140	0.00	0.34	0.045	0.061	26	0.01	0.34	0.097	0.082	8	0.01	0.13	0.064	0.048
National Radical Union 1958	139	0.10	0.71	0.451	0.129	26	0.32	0.65	0.477	0.083	8	0.484	0.108	0.30	0.62
United Democratic Left 1958	139	0.02	0.49	0.179	0.108	26	0.04	0.42	0.225	0.099	8	0.143	0.054	0.05	0.20
Liberal Party 1958	139	0.00	0.68	0.239	0.144	26	0.00	0.29	0.120	0.067	8	0.143	0.043	0.06	0.19
Center Union 1963	139	0.05	0.81	0.418	0.149	26	0.05	0.58	0.375	0.095	8	0.389	0.080	0.27	0.52
National Radical Union 1963	139	0.12	0.76	0.418	0.135	26	0.29	0.55	0.431	0.076	8	0.396	0.112	0.14	0.47
United Democratic Left 1963	139	0.00	0.42	0.102	0.080	26	0.03	0.38	0.129	0.077	8	0.073	0.042	0.02	0.12
New Democracy 1977	139	0.05	0.73	0.427	0.113	26	0.05	0.58	0.458	0.101	8	0.478	0.094	0.34	0.60
Union of Democratic Center (1977)	139	0.03	0.42	0.138	0.074	26	0.06	0.27	0.110	0.045	8	0.171	0.056	0.10	0.25
Communist Party 1977	139	0.01	0.36	0.071	0.056	26	0.02	0.19	0.067	0.036	8	0.029	0.014	0.01	0.05
Panhellenic Socialist Movement 1981	139	0.21	0.74	0.480	0.085	26	0.38	0.52	0.460	0.040	8	0.471	0.079	0.35	0.61
New Democracy 1981	139	0.18	0.65	0.384	0.092	26	0.34	0.52	0.423	0.050	8	0.40	0.042	0.35	0.47
Communist Party 1981	139	0.02	0.40	0.093	0.062	26	0.03	0.23	0.080	0.041	8	0.00	5.81	0.02	0.07

Note: SD is standard deviation.

Table A.3
Greek Political Parties in Interwar, Postwar & Post-Dictatorship Periods

Party	Period	Year	Leader	Platform
People's Party	Interwar	1932	Panagis Tsaldaris	Right
Liberal Party	Interwar	1932	Eleftherios Venizelos	Center
United Front of Workers and Farmers	Interwar	1932	Steering Committee	Left
Liberal Party	Interwar	1936	Themistoklis Sofoulis	Center
People's Party	Interwar	1936	Panagis Tsaldaris	Right
Popular Front	Interwar	1936	Nikolaos Ploumpidis, Georgios Kafantaris,	Left
National Radical Union	Postwar	1958	Konstantinos Karamanlis	Right
United Democratic Left	Postwar	1958	Ioannis Passalidis	Left
Liberal Party	Postwar	1958	Sofoklis Venizelos, Georgios Papandreou	Center
Center Union	Postwar	1963	Georgios Papandreou	Center
National Radical Union	Postwar	1963	Konstantinos Karamanlis	Right
United Democratic Left	Postwar	1963	Ioannis Passalidis	Left
New Democracy	Post-dictatorship	1977	Konstantinos Karamanlis	Right
Union of Democratic Center	Post-dictatorship	1977	Georgios Mavros	Center
Communist Party of Greece	Post-dictatorship	1977	Charilaos Florakis	Left
Panhellenic Socialist Party	Post-dictatorship	1981	Andreas Papandreou	Center
New Democracy	Post-dictatorship	1981	Ioannis Rallis	Right
Communist Party of Greece	Post-dictatorship	1981	Charilaos Florakis	Left

Source: Greek Statistical Authority (ELSTAT) and Interior Ministry of Greece, (2021).

Table A.4
Balance Diagnostics – PSM Covariates (Mean & Variance)

Variable	Sample	Mean		Standardized Difference	Variance		Ratio
		Treated	Control		Treated	Control	
Population Growth 1920-28	Unmatched	25.567	7.880	0.633	1421.192	142.493	9.974
	Matched	10.721	9.766	0.034	256.434	73.189	3.504
Arable Land per Capita 1929	Unmatched	3.487	2.712	0.466	4.143	1.379	3.004
	Matched	3.111	3.056	0.033	1.961	0.848	2.312
Prefecture Capital 1928	Unmatched	0.403	0.186	0.487	0.244	0.153	1.592
	Matched	0.340	0.404	-0.143	0.229	0.249	0.920
Altitude	Unmatched	209.284	347.886	-0.492	37,962.66	120,620.20	0.315
	Matched	244.128	244.872	-0.003	48,899.11	26,449.44	1.849
Population Growth 1928-51	Unmatched	19.299	0.130	0.736	907.440	448.268	2.024
	Matched	11.759	9.064	0.104	455.622	381.057	1.196
Arable Land per Capita 1950	Unmatched	6.503	5.879	0.198	14.477	5.398	2.682
	Matched	6.017	6.443	-0.135	11.586	10.097	1.147
Prefecture Capital 1951	Unmatched	0.457	0.246	0.449	0.252	0.188	1.336
	Matched	0.397	0.483	-0.184	0.243	0.258	0.945
Altitude	Unmatched	207.929	352.536	-0.515	36,830.65	120,857.9	0.305
	Matched	225.121	238.741	-0.049	42,179.41	21,947.82	1.922
Population Growth 1951-61	Unmatched	1101.978	125.481	8.782	1101.978	125.481	8.782
	Matched	84.344	76.002	1.110	84.344	76.002	1.110
Arable Land per Capita 1961	Unmatched	6.004	6.224	-0.078	9.085	6.868	1.323
	Matched	6.239	6.094	0.052	8.704	3.865	2.252
Prefecture Capital 1961	Unmatched	0.443	0.246	0.420	0.250	0.188	1.329
	Matched	0.383	0.467	-0.178	0.240	0.258	0.933
Altitude	Unmatched	207.929	352.536	-0.515	36,830.65	120,857.9	0.305
	Matched	225.833	253.867	-0.101	40,421.8	22,153.67	1.825
Population Growth 1961-71	Unmatched	-7.389	-15.896	0.785	161.220	73.781	2.185
	Matched	-10.798	-11.670	0.080	68.229	64.516	1.058
Arable Land per Capita 1971	Unmatched	6.587	6.842	-0.081	13.354	6.687	1.977
	Matched	6.961	6.228	0.232	13.133	8.399	1.564
Prefecture Capital 1971	Unmatched	0.457	0.246	0.449	0.252	0.188	1.336
	Matched	0.393	0.525	-0.280	0.243	0.258	0.940
Altitude	Unmatched	207.929	352.536	-0.515	36,830.65	120,857.90	0.305
	Matched	227.410	207.115	0.072	39,293.51	11,655.20	3.371
Population Growth 1971-81	Unmatched	4.343	-2.041	0.677	109.004	68.762	1.585
	Matched	1.212	0.536	0.072	68.228	82.340	0.829
Arable Land per Capita 1971	Unmatched	6.587	6.842	1.997	13.354	6.687	1.997
	Matched	6.994	7.078	1.784	12.609	7.067	1.784
Prefecture Capital 1981	Unmatched	0.252	0.188	1.336	0.252	0.188	1.336
	Matched	0.230	0.243	0.946	0.230	0.243	0.946
Altitude	Unmatched	207.929	352.536	-0.515	36,830.65	120,857.09	0.305
	Matched	230.345	223.586	0.024	41,310.05	18,679.14	2.212

Table A.5

Average Treatment Effects (ATT) & Sensitivity Analysis – Refugees & Political Development (Algorithm: Kernel-Based Matching)

	Election 1			Election 2		
	Left	Right	Center	Left	Right	Center
Panel A: Interwar Period (1932 & 1936)	United Front 1932	People's Party 1932	Liberal Party 1932	Popular Front 1936	People's Party 1936	Liberal Party 1936
ATT – Refugee Share	0.020 (2.32)**	-0.029 (-0.80)	0.038 (1.13)	0.031 (3.53)***	0.026 (0.93)	0.039 (1.02)
Critical Level of Hidden Bias (Γ)	1.45	1.05	1.20	2.70	1.00	1.00
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Postwar Period (1958 & 1963)	United Democratic Left 1958	National Radical Union 1958	Liberal Party 1958	United Democratic Left 1963	National Radical Union 1963	Center Union 1963
ATT – Refugee Share	0.064 (3.02)***	-0.020 (-0.78)	-0.051 (0.027)*	0.012 (0.56)	0.009 (0.021)	-0.042 (-1.62)
Critical Level of Hidden Bias (Γ)	2.20	1.00	1.90	1.00	1.00	1.50
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: Post-Dictatorship Period (1977 & 1981)	Communist Party 1977	New Democracy 1977	Union of Democratic Center (1977)	Communist Party 1981	New Democracy 1981	Panhellenic Socialist Movement 1981
ATT – Refugee Share	0.013 (1.12)	0.056 (2.49)**	-0.042 (-1.73)*	0.018 (1.44)	0.024 (0.99)	-0.043 (-1.48)
Critical Level of Hidden Bias (Γ)	1.00	1.55	2.10	1.00	1.20	1.70
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes

Note: Significance levels: ***p < 0.01, **p < 0.05, *p < 0.1. t-values are in parentheses. Common support is imposed. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. Altitude is included as a covariate in all estimations. For the 1932 & 1936 elections, covariates also include population growth 1920–28, arable land per capita 1929 and prefecture capital 1928 dummy. For the 1958 election, covariates also include population growth 1928–51, arable land per capita 1951 and prefecture capital 1951 dummy. For the 1963 election, covariates also include population growth 1951–61, arable land per capita 1961 and prefecture capital 1961 dummy. For the 1977 election, covariates also include population growth 1961–71, arable land per capita 1971 and prefecture capital 1971 dummy. For the 1981 election, covariates also include population growth 1971–81, arable land per capita 1981 and prefecture capital 1981 dummy. In Panel A, all PSM estimations have 67 treated observations and 70 control observations. In Panels B and C, all PSM estimations have 70 treated observations and 69 control observations.

Table A.6

Matching Results for Refugee Coarsening – Interwar Period (1932 & 1936)

	Treated			Control			
Number of strata: 56							
Number of matched strata: 14							
All	70			70			
Matched	33			41			
Unmatched	37			29			
Multivariate Imbalance Measure:	L1 = 0.640						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1920–28	0.320	4.145	-12.200	0.800	4.700	13.600	7.300
Arable Land per Capita 1929	0.064	0.124	0.429	0.027	0.258	0.086	0.026
Prefecture Capital 1928	0.000	-0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.236	-28.705	14.000	-34.000	-45.000	-56.000	121.000

Table A.7
Matching Results for Refugee Coarsening – Postwar Period (1958)

	Treated		Control				
Number of strata: 63							
Number of matched strata: 17							
All	70		70				
Matched	44		38				
Unmatched	26		32				
Multivariate Imbalance Measure:	L1 = 0.683						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1928-51	0.156	0.885	-5.5	0.700	4.100	-6.500	8.700
Arable Land per Capita 1950	0.143	0.302	-1.450	0.352	-0.315	1.138	-0.101
Prefecture Capital 1951	0.000	-0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.316	-60.108	-45.000	-75.000	-82.000	-49.000	42.000

Table A.8
Matching Results for Refugee Coarsening – Postwar Period (1963)

	Treated		Control				
Number of strata: 54							
Number of matched strata: 13							
All	70		70				
Matched	46		32				
Unmatched	24		38				
Multivariate Imbalance Measure:	L1 = 0.689						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1951-61	0.163	3.965	8.800	6.100	7.200	3.800	-1.800
Arable Land per Capita 1961	0.174	-0.016	-0.379	-0.517	0.629	0.249	-0.027
Prefecture Capital 1961	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.271	-36.488	-36.000	-18.000	-51.000	-51.000	42.000

Table A.9
Matching Results for Refugee Coarsening – Post-Dictatorship Period (1977)

	Treated		Control				
Number of strata: 77							
Number of matched strata: 20							
All	70		70				
Matched	34		36				
Unmatched	36		34				
Multivariate Imbalance Measure:	L1 = 0.569						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1961-71	0.172	1.196	-0.300	0.500	1.200	0.800	1.900
Arable Land per Capita 1971	0.029	-0.110	-0.982	0.040	-0.395	-0.028	1.592
Prefecture Capital 1971	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.221	-45.716	-35.000	-58.000	-45.000	-87.000	42.000

Table A.10
Matching Results for Refugee Coarsening – Post-Dictatorship Period (1981)

	Treated		Control				
Number of strata: 92							
Number of matched strata: 18							
All	70		70				
Matched	27		25				
Unmatched	43		45				
Multivariate Imbalance Measure:	L1 = 0.685						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1971-81	0.056	0.651	-5.900	0.700	0.200	0.000	4.600
Arable Land per Capita 1971	0.296	-0.082	-0.698	-0.415	0.684	0.041	1.380
Prefecture Capital 1981	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.278	-64.630	-41.000	-78.000	-61.000	-73.000	-189.000

Table A.11
Average Treatment Effects (ATT) & Sensitivity Analysis – Asia Minor Refugees & Political Development. (Algorithm: Kernel-Based Matching)

	Election 1			Election 2		
	Left	Right	Center	Left	Right	Center
Panel A: Interwar Period (1932 & 1936)	United Front 1932	People's Party 1932	Liberal Party 1932	Popular Front 1936	People's Party 1936	Liberal Party 1936
ATT – Asia Minor	0.013 (1.51)	0.001 (0.02)	0.013 (0.34)	0.025 (3.08)***	0.023 (0.85)	0.034 (0.87)
Critical Level of Hidden Bias (Γ)	1.10	1.00	1.00	2.05	1.00	1.00
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Postwar Period (1958 & 1963)	United Democratic Left 1958	National Radical Union 1958	Liberal Party 1958	United Democratic Left 1963	National Radical Union 1963	Center Union 1963
ATT – Asia Minor	0.048 (2.39)**	-0.010 (-0.48)	-0.074 (-2.73)***	0.017 (1.04)	-0.019 (-0.87)	-0.016 (-0.60)
Critical Level of Hidden Bias (Γ)	1.70	1.00	2.25	1.00	1.00	1.05
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: Post-Dictatorship Period (1977 & 1981)	Communist Party 1977	New Democracy 1977	Union of Democratic Center 1977	Communist Party 1981	New Democracy 1981	Panhellenic Socialist Movement 1981
ATT – Asia Minor	0.017 (1.29)	0.027 (1.12)	-0.041 (-2.42)**	0.015 (1.24)	0.017 (0.73)	-0.029 (-1.22)
Critical Level of Hidden Bias (Γ)	1.00	1.25	1.70	1.00	1.05	1.30
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes

Note: Significance levels: ***p < 0.01, **p < 0.05, *p < 0.1. t-values are in parentheses. Common support is imposed. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. Altitude is included as a covariate in all estimations. For the 1932 & 1936 elections, covariates also include population growth 1920–28, arable land per capita 1929 and prefecture capital 1928 dummy. For the 1958 election, covariates also include population growth 1928–51, arable land per capita 1951 and prefecture capital 1951 dummy. For the 1963 election, covariates also include population growth 1951–61, arable land per capita 1961 and prefecture capital 1961 dummy. For the 1977 election, covariates also include population growth 1961–71, arable land per capita 1971 and prefecture capital 1971 dummy. For the 1981 election, covariates also include population growth 1971–81, arable land per capita 1981 and prefecture capital 1981 dummy. In Panel A, all PSM estimations have 67 treated observations and 70 control observations. In Panels B and C, all PSM estimations have 68 treated observations and 71 control observations.

Table A.12

Average Treatment Effects (ATT) & Sensitivity Analysis – East Thrace Refugees & Political Development (Algorithm: Kernel-Based Matching)

	Election 1			Election 2		
	Left	Right	Center	Left	Right	Center
Panel A: Interwar Period (1932 & 1936)	United Front 1932	People's Party 1932	Liberal Party 1932	Popular Front 1936	People's Party 1936	Liberal Party 1936
ATT – East Thrace	0.028 (3.84)***	0.053 (1.34)	-0.040 (-0.71)	0.028 (3.14)***	0.050 (1.71)*	0.019 (0.33)
Critical Level of Hidden Bias (Γ)	2.60	1.25	1.10	2.45	1.45	1.00
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Postwar Period (1958 & 1963)	United Democratic Left 1958	National Radical Union 1958	Liberal Party 1958	United Democratic Left 1963	National Radical Union 1963	Center Union 1963
ATT – East Thrace	0.050 (2.63)**	0.047 (1.47)	-0.127 (-3.85)***	0.045 (3.19)***	0.017 (0.63)	-0.072 (-2.28)**
Critical Level of Hidden Bias (Γ)	1.60	1.40	3.45	1.90	1.00	2.30
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: Post-Dictatorship Period (1977 & 1981)	Communist Party 1977	New Democracy 1977	Union of Democratic Center (1977)	Communist Party 1981	New Democracy 1981	Panhellenic Socialist Movement 1981
ATT – East Thrace	0.014 (1.70)*	0.067 (2.45)**	-0.051 (-1.87)*	0.017 (1.37)	0.032 (1.15)	-0.035 (-1.25)
Critical Level of Hidden Bias (Γ)	1.15	2.60	2.45	1.00	1.30	1.65
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes

Note: Significance levels: ***p < 0.01, **p < 0.05, *p < 0.1. t-values are in parentheses. Common support is imposed. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. Altitude is included as a covariate in all estimations. For the 1932 & 1936 elections, covariates also include population growth 1920–28, arable land per capita 1929 and prefecture capital 1928 dummy. For the 1958 election, covariates also include population growth 1928–51, arable land per capita 1951 and prefecture capital 1951 dummy. For the 1963 election, covariates also include population growth 1951–61, arable land per capita 1961 and prefecture capital 1961 dummy. For the 1977 election, covariates also include population growth 1961–71, arable land per capita 1971 and prefecture capital 1971 dummy. For the 1981 election, covariates also include population growth 1971–81, arable land per capita 1981 and prefecture capital 1981 dummy. In Panel A, all PSM estimations have 88 treated observations and 49 control observations. In Panels B and C, all PSM estimations have 91 treated observations and 48 control observations.

Table A.13

Average Treatment Effects (ATT) & Sensitivity Analysis – Black Sea Refugees & Political Development. (Algorithm: Kernel-Based Matching)

	Election 1			Election 2		
	Left	Right	Center	Left	Right	Center
Panel A: Interwar Period (1932 & 1936)	United Front 1932	People's Party 1932	Liberal Party 1932	Popular Front 1936	People's Party 1936	Liberal Party 1936
ATT – Black Sea	0.017 (1.68)*	0.132 (3.19)***	-0.150 (-3.22)***	0.030 (3.86)***	0.071 (2.33)**	-0.144 (-2.05)**
Critical Level of Hidden Bias (Γ)	1.35	2.90	3.95	1.90	2.55	2.65
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Postwar Period (1958 & 1963)	United Democratic Left 1958	National Radical Union 1958	Liberal Party 1958	United Democratic Left 1963	National Radical Union 1963	Center Union 1963
ATT – Black Sea	0.014 (0.63)	0.101 (1.77)*	-0.115 (-2.17)**	0.007 (0.28)	0.088 (1.91)*	-0.102 (-2.70)***
Critical Level of Hidden Bias (Γ)	1.00	3.20	3.35	1.00	2.75	3.45
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: Post-Dictatorship Period (1977 & 1981)	Communist Party 1977	New Democracy 1977	Union of Democratic Center (1977)	Communist Party 1981	New Democracy 1981	Panhellenic Socialist Movement 1981
ATT – Black Sea	0.010 (0.80)	0.066 (1.67)*	-0.025 (-1.42)	-0.003 (-0.18)	0.079 (3.53)***	-0.061 (-4.11)***
Critical Level of Hidden Bias (Γ)	1.00	3.05	1.85	1.00	5.90	5.75
Demographic, Land & Location Covariates	Yes	Yes	Yes	Yes	Yes	Yes

Note: Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. t-values are in parentheses. Common support is imposed. United Front 1932 = Left, People's Party 1932 & 1936 = Right, Liberal Party 1932 & 1936 = Center, Popular Front 1936 = Left. United Democratic Left 1958 & 1963 = Left, National Radical Union 1958 & 1963 = Right, Liberal Party 1958 = Center, Center Union 1963 = Center. Communist Party 1977 & 1981 = Left, New Democracy 1977 & 1981 = Right, Union of Democratic Center (1977) = Center, Panhellenic Socialist Movement 1981 = Center. For the 1932 & 1936 elections, covariates also include population growth 1920–28, arable land per capita 1929 and prefecture capital 1928 dummy. For the 1958 election, covariates also include population growth 1928–51, arable land per capita 1951 and prefecture capital 1951 dummy. For the 1963 election, covariates also include population growth 1951–61, arable land per capita 1961 and prefecture capital 1961 dummy. For the 1977 election, covariates also include population growth 1961–71, arable land per capita 1971 and prefecture capital 1971 dummy. For the 1981 election, covariates also include population growth 1971–81, arable land per capita 1981 and prefecture capital 1981 dummy. In Panel A, all PSM estimations have 88 treated observations and 49 control observations. In Panels B and C, all PSM estimations have 89 treated observations and 50 control observations.

Table A.14

Matching Results for Asia Minor Refugee Coarsening – Interwar Period (1932 & 1936)

	Treated				Control		
Number of strata: 56							
Number of matched strata: 14							
All	68				72		
Matched	34				41		
Unmatched	34				31		
Multivariate Imbalance Measure:	L1 = 0.646						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1920-28	0.224	5.495	-0.400	2.700	4.100	12.400	16.700
Arable Land per Capita 1929	0.140	0.038	-0.437	-0.022	0.258	-0.030	-0.969
Prefecture Capital 1928	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.131	-12.615	14.000	-21.000	-21.000	-30.000	121.000

Table A.15
Matching Results for Asia Minor Refugee Coarsening – Postwar Period (1958)

	Treated		Control				
Number of strata: 63							
Number of matched strata: 18							
All	68		72				
Matched	44		44				
Unmatched	24		28				
Multivariate Imbalance Measure:	L1 = 0.623						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1928-51	0.095	4.145	-12.200	0.800	4.700	13.600	7.300
Arable Land per Capita 1950	0.046	0.124	0.429	0.027	0.258	0.086	0.026
Prefecture Capital 1951	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.209	-28.705	14.000	-34.000	-45.000	-56.000	121.000

Table A.16
Matching Results for Asia Minor Refugee Coarsening – Postwar Period (1963)

	Treated		Control				
Number of strata: 54							
Number of matched strata: 15							
All	68		72				
Matched	48		38				
Unmatched	20		34				
Multivariate Imbalance Measure:	L1 = 0.628						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1951-61	0.120	2.529	8.800	5.300	0.800	1.600	-1.800
Arable Land per Capita 1961	0.177	-0.013	-0.379	-0.517	0.272	0.147	-0.027
Prefecture Capital 1961	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.227	-23.017	-25.000	-9.000	-32.000	-28.000	42.000

Table A.17
Matching Results for Asia Minor Refugee Coarsening – Post-Dictatorship Period (1977)

	Treated		Control				
Number of strata: 77							
Number of matched strata: 18							
All	68		72				
Matched	33		32				
Unmatched	35		40				
Multivariate Imbalance Measure:	L1 = 0.636						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1961-71	0.167	1.253	-0.300	1.200	2.200	-0.400	1.900
Arable Land per Capita 1971	0.222	-0.138	-0.982	0.040	0.165	0.047	-0.926
Prefecture Capital 1971	0.000	-0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.101	-20.616	-24.000	0.000	-20.000	-40.000	42.000

Table A.18
Matching Results for Asia Minor Refugee Coarsening – Post-Dictatorship Period (1981)

	Treated		Control				
Number of strata: 92							
Number of matched strata: 16							
All	68		72				
Matched	24		24				
Unmatched	44		48				
Multivariate Imbalance Measure:	L1 = 0.611						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1971-81	0.083	0.731	-5.900	1.300	0.400	-0.900	4.600
Arable Land per Capita 1971	0.125	-0.216	-0.698	-0.678	-0.316	0.767	-0.830
Prefecture Capital 1981	0.000	-0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.208	-46.576	-24.000	-57.000	-44.000	-59.000	-189.000

Table A.19
Matching Results for East Thrace Refugee Coarsening – Interwar Period (1932 & 1936)

	Treated		Control				
Number of strata: 56							
Number of matched strata: 15							
All	91		49				
Matched	33		47				
Unmatched	44		16				
Multivariate Imbalance Measure:	L1 = 0.761						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1920-28	0.085	-0.140	-4.500	-0.400	0.200	-2.000	7.300
Arable Land per Capita 1929	0.069	-0.068	0.437	-0.297	0.064	-0.096	-0.825
Prefecture Capital 1928	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.410	-54.186	14.000	-73.000	-99.000	-23.000	121.000

Table A.20
Matching Results for East Thrace Refugee Coarsening – Postwar Period (1958)

	Treated		Control				
Number of strata: 63							
Number of matched strata: 12							
All	91		49				
Matched	46		27				
Unmatched	45		22				
Multivariate Imbalance Measure:	L1 = 0.870						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1928-51	0.135	-3.372	-5.500	3.000	-8.800	1.300	-1.000
Arable Land per Capita 1929	0.083	-0.041	0.010	0.050	-0.315	-0.456	0.488
Prefecture Capital 1951	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.400	-58.802	-38.000	-66.000	-103.000	-37.000	42.000

Table A.21
Matching Results for East Thrace Refugee Coarsening – Postwar Period (1963)

								Treated	Control
Number of strata: 54									
Number of matched strata: 13									
All								91	49
Matched								47	28
Unmatched								44	21
Multivariate Imbalance Measure:								L1 = 0.762	
Univariate Imbalance Measures:									
Variable	L1	Mean	Min	25%	50%	75%	Max		
Population Growth 1951-61	0.177	-0.312	10.800	-0.100	-3.700	-3.500	-1.800		
Arable Land per Capita 1961	0.020	-0.008	-0.379	-0.014	0.101	0.275	0.752		
Prefecture Capital 1961	0.000	-0.000	0.000	0.000	0.000	0.000	0.000		
Altitude	0.345	-50.132	-38.000	-75.000	-94.000	8.000	42.000		

Table A.22
Matching Results for East Thrace Refugee Coarsening – Post-Dictatorship Period (1977)

								Treated	Control
Number of strata: 77									
Number of matched strata: 17									
All								91	49
Matched								31	25
Unmatched								60	24
Multivariate Imbalance Measure:								L1 = 0.409	
Univariate Imbalance Measures:									
Variable	L1	Mean	Min	25%	50%	75%	Max		
Population Growth 1961-71	0.022	0.997	-0.300	-0.900	0.800	1.000	2.400		
Arable Land per Capita 1971	0.194	0.034	0.043	-0.264	0.684	0.325	-0.509		
Prefecture Capital 1971	0.000	-0.000	0.000	0.000	0.000	0.000	0.000		
Altitude	0.242	-43.016	-31.000	-48.000	-73.000	-72.000	42.000		

Table A.23
Matching Results for East Thrace Refugee Coarsening – Post-Dictatorship Period (1981)

								Treated	Control
Number of strata: 92									
Number of matched strata: 18									
All								91	49
Matched								32	22
Unmatched								59	27
Multivariate Imbalance Measure:								L1 = 0.500	
Univariate Imbalance Measures:									
Variable	L1	Mean	Min	25%	50%	75%	Max		
Population Growth 1971-81	0.047	0.866	-5.900	-0.400	0.200	2.300	4.600		
Arable Land per Capita 1971	0.156	0.012	0.098	-1.027	-0.192	0.256	-0.509		
Prefecture Capital 1981	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Altitude	0.406	-47.078	-31.000	-49.000	-53.000	-45.000	22.000		

Table A.24
Matching Results for Black Sea Refugee Coarsening – Interwar Period (1932 & 1936)

	Treated		Control				
Number of strata: 56							
Number of matched strata: 16							
All	90		50				
Matched	45		33				
Unmatched	45		17				
Multivariate Imbalance Measure:	L1 = 0.687						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1920-28	0.178	1.173	-10.700	-3.000	0.400	11.000	-
Arable Land per Capita 1929	0.089	0.177	0.866	0.361	-0.134	0.300	-0.398
Prefecture Capital 1928	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.309	-27.494	-4.000	-21.000	-50.000	-57.000	5.000

Table A.25
Matching Results for Black Sea Refugee Coarsening – Postwar Period (1958)

	Treated		Control				
Number of strata: 63							
Number of matched strata: 11							
All	90		50				
Matched	37		27				
Unmatched	53		23				
Multivariate Imbalance Measure:	L1 = 0.655						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1928-51	0.107	-0.245	-5.500	1.900	8.400	-0.200	-0.400
Arable Land per Capita 1950	0.381	0.101	-0.189	-0.983	-0.051	1.261	0.104
Prefecture Capital 1951	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.083	-28.197	-29.000	-57.000	-44.000	-50.000	42.000

Table A.26
Matching Results for Black Sea Refugee Coarsening – Postwar Period (1963)

	Treated		Control				
Number of strata: 54							
Number of matched strata: 12							
All	90		50				
Matched	43		26				
Unmatched	47		24				
Multivariate Imbalance Measure:	L1 = 0.749						
Univariate Imbalance Measures:							
Variable	L1	Mean	Min	25%	50%	75%	Max
Population Growth 1951-61	0.218	3.080	8.100	-0.700	5.900	1.700	10.000
Arable Land per Capita 1961	0.148	-0.027	0.007	-0.228	-0.398	-0.177	-0.298
Prefecture Capital 1961	0.000	-0.000	0.000	0.000	0.000	0.000	0.000
Altitude	0.144	1.540	-29.000	4.000	-13.000	2.000	42.000

Table A.27

Matching Results for Black Sea Refugee Coarsening – Post-Dictatorship Period (1977)

				Treated	Control			
Number of strata: 77								
Number of matched strata: 16								
All				90	50			
Matched				25	22			
Unmatched				65	28			
Multivariate Imbalance Measure:				L1 = 0.500				
Univariate Imbalance Measures:								
Variable	L1	Mean	Min	25%	50%	75%	Max	
Population Growth 1961-71	0.040	1.341	6.800	2.200	3.100	-0.100	-0.400	
Arable Land per Capita 1971	0.093	-0.034	1.053	0.136	0.016	-0.968	-0.926	
Prefecture Capital 1971	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Altitude	0.207	-43.793	-28.000	-40.000	-76.000	-64.000	42.000	

Table A.28

Matching Results for Black Sea Refugee Coarsening – Post-Dictatorship Period (1981)

				Treated	Control			
Number of strata: 56								
Number of matched strata: 14								
All				70	70			
Matched				33	41			
Unmatched				37	29			
Multivariate Imbalance Measure:				L1 = 0.640				
Univariate Imbalance Measures:								
Variable	L1	Mean	Min	25%	50%	75%	Max	
Population Growth 1971-81	0.320	4.145	-12.200	0.800	4.700	13.600	7.300	
Arable Land per Capita 1971	0.064	0.124	0.429	0.027	0.258	0.086	0.026	
Prefecture Capital 1981	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	
Altitude	0.236	-28.705	14.000	-34.000	-45.000	-56.000	121.000	



Fig. A.2. Hellenism in the Near East. Source: Soteriades, E., 1918.



Fig. A.3A. Asia Minor (1897). Source: Rand McNally and Co. (1897). New 14 × 21 Map of Turkey in Asia, Asia Minor [Map]. Rand McNally. <https://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~20712~550100:Rand,-McNally-&-Co-s-new-14-x-21-m>.

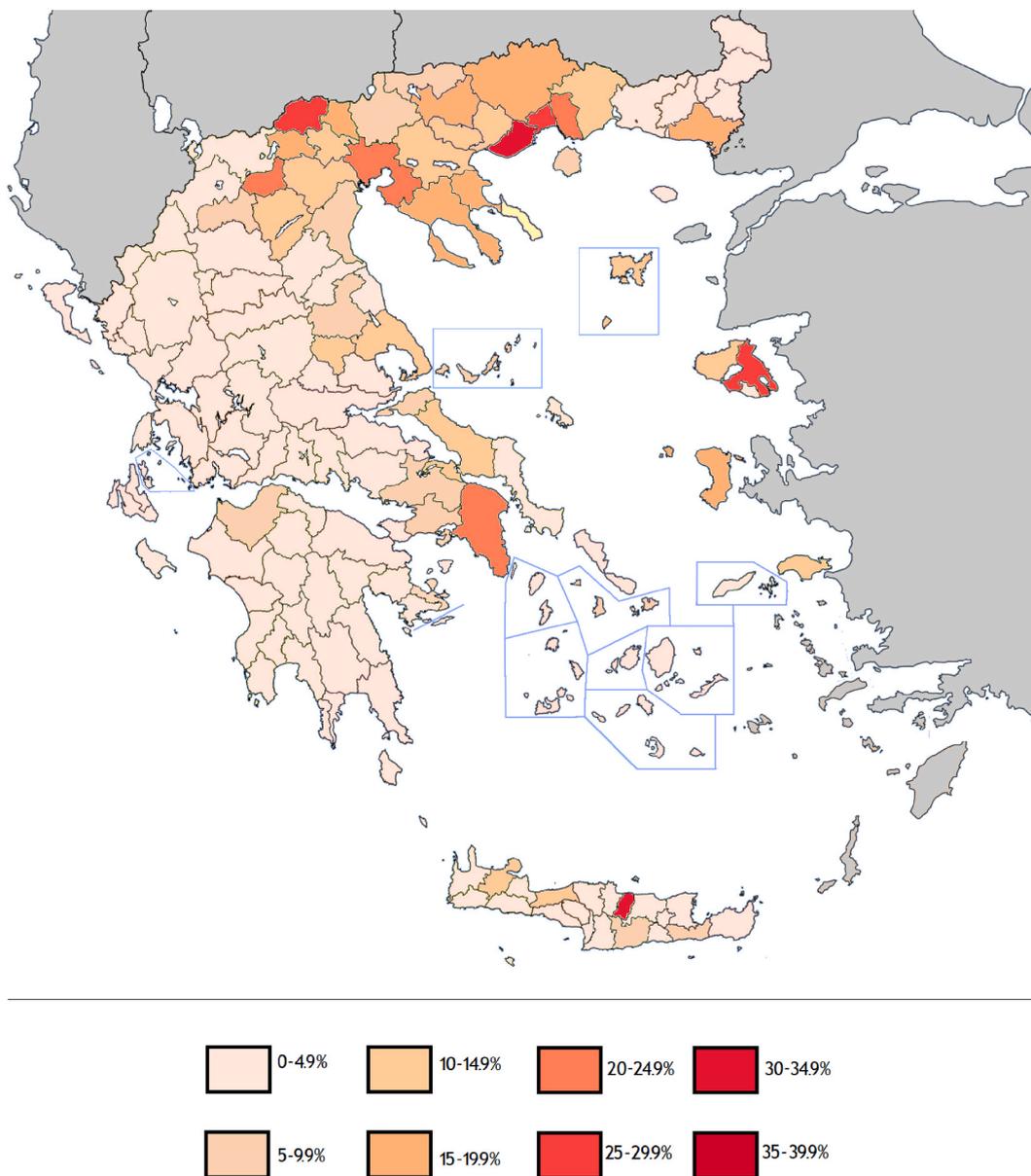


Fig. A.3B. Share of Asia Minor refugee population in Greek provinces (1928). Source: Own map, based on ELSTAT, 1928.

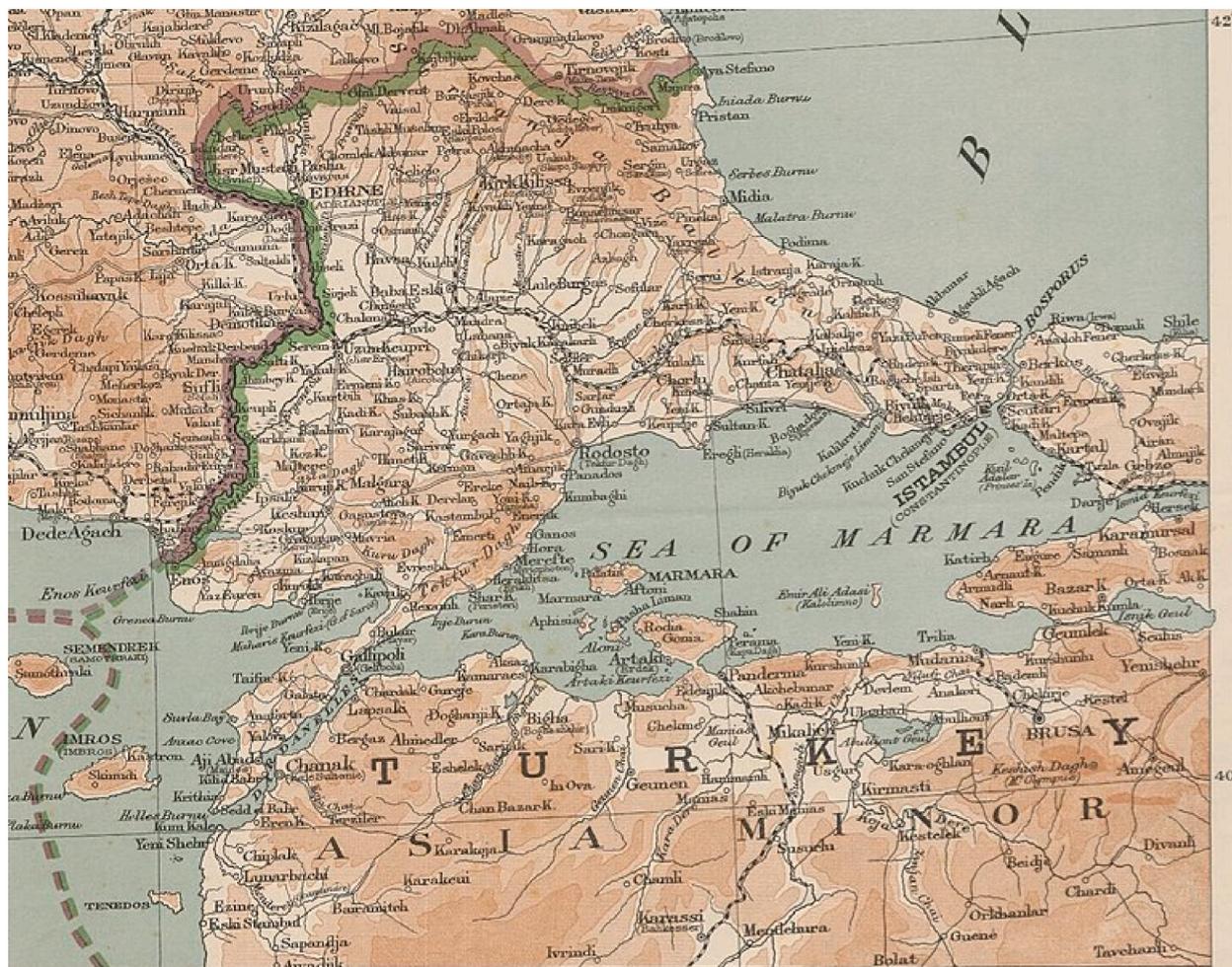


Fig. A.4A. East Thrace (1916). Source: Edward Stanford Ltd (1916) The theatre of war in the Balkan Peninsula [Map]. The National Library of Wales. <https://viewer.library.wales/5003856#?c=&m=&s=&cv=&manifest=https%3A%2F%2Fdamssl.lgc.org.uk%2Fiiif%2F2.0%2F5003856%2Fmanifest.json&xywh=-415%2C-629%2C18727%2C13900>.

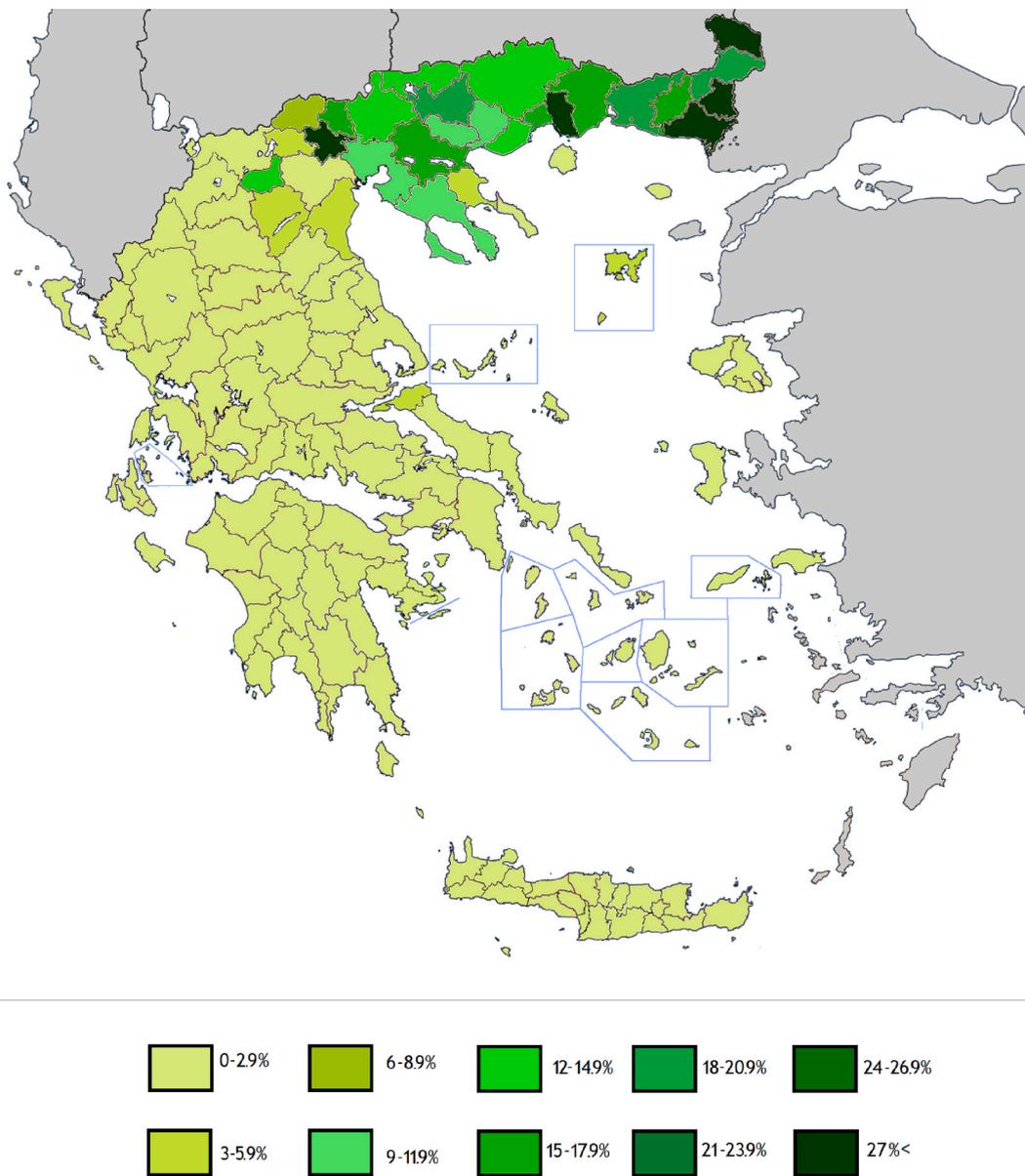


Fig. A.4B. Share of East Thrace refugee population in Greek provinces (1928). Source: Own map, based on ELSTAT, 1928.

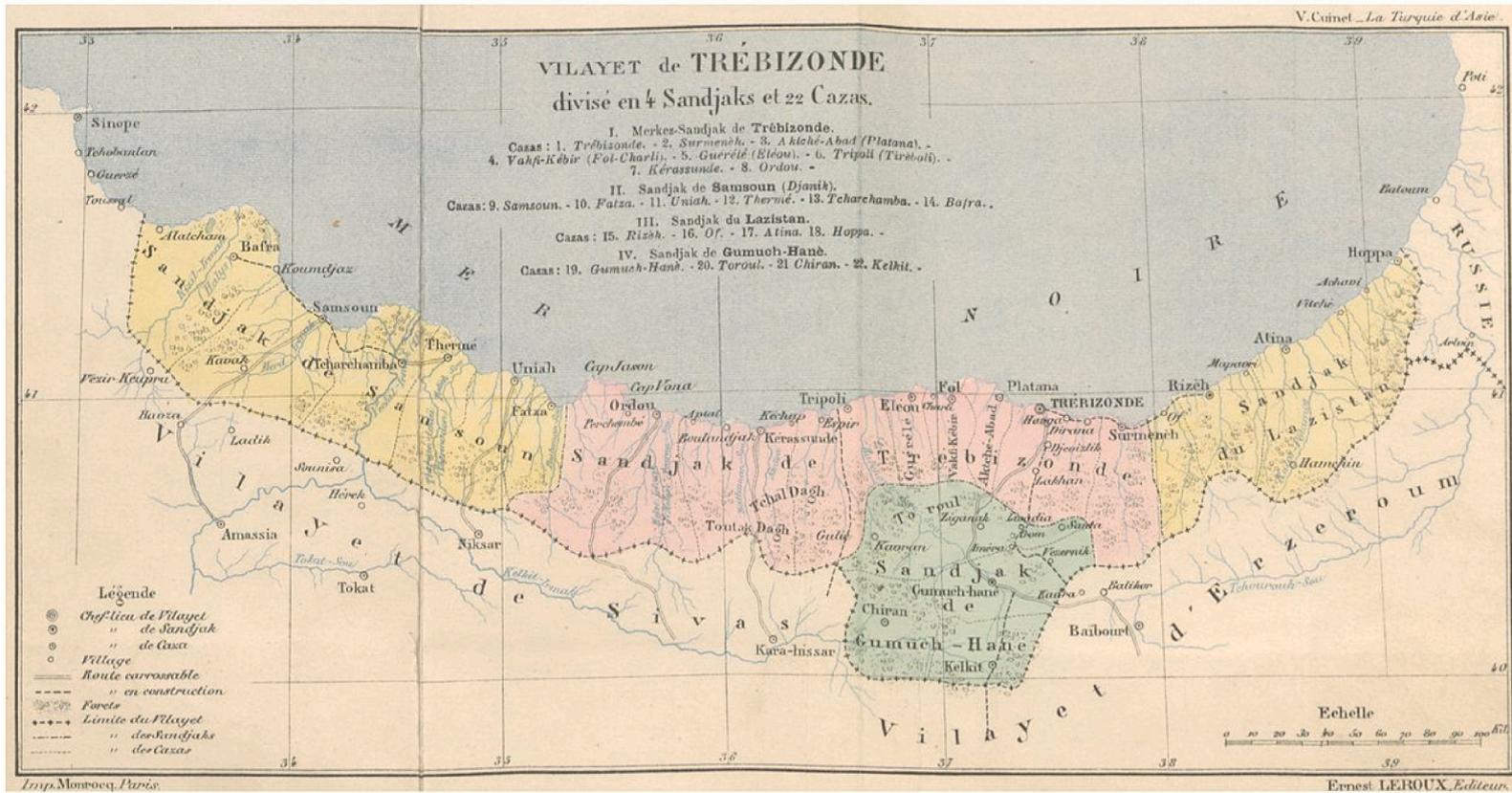


Fig. A.5A. Black Sea region (1890). Source: Cuinet, V. (1890). *Vilayet de Trébizonde* [Map]. British Library. <https://www.flickr.com/photos/britishlibrary/11206140403/in/photostream/> in Cuinet, V. (1890). *La Turquie d'Asie: géographie administrative, statistique, descriptive et raisonnée de chaque province de l'Asie-Mineure*. E. Leroux.

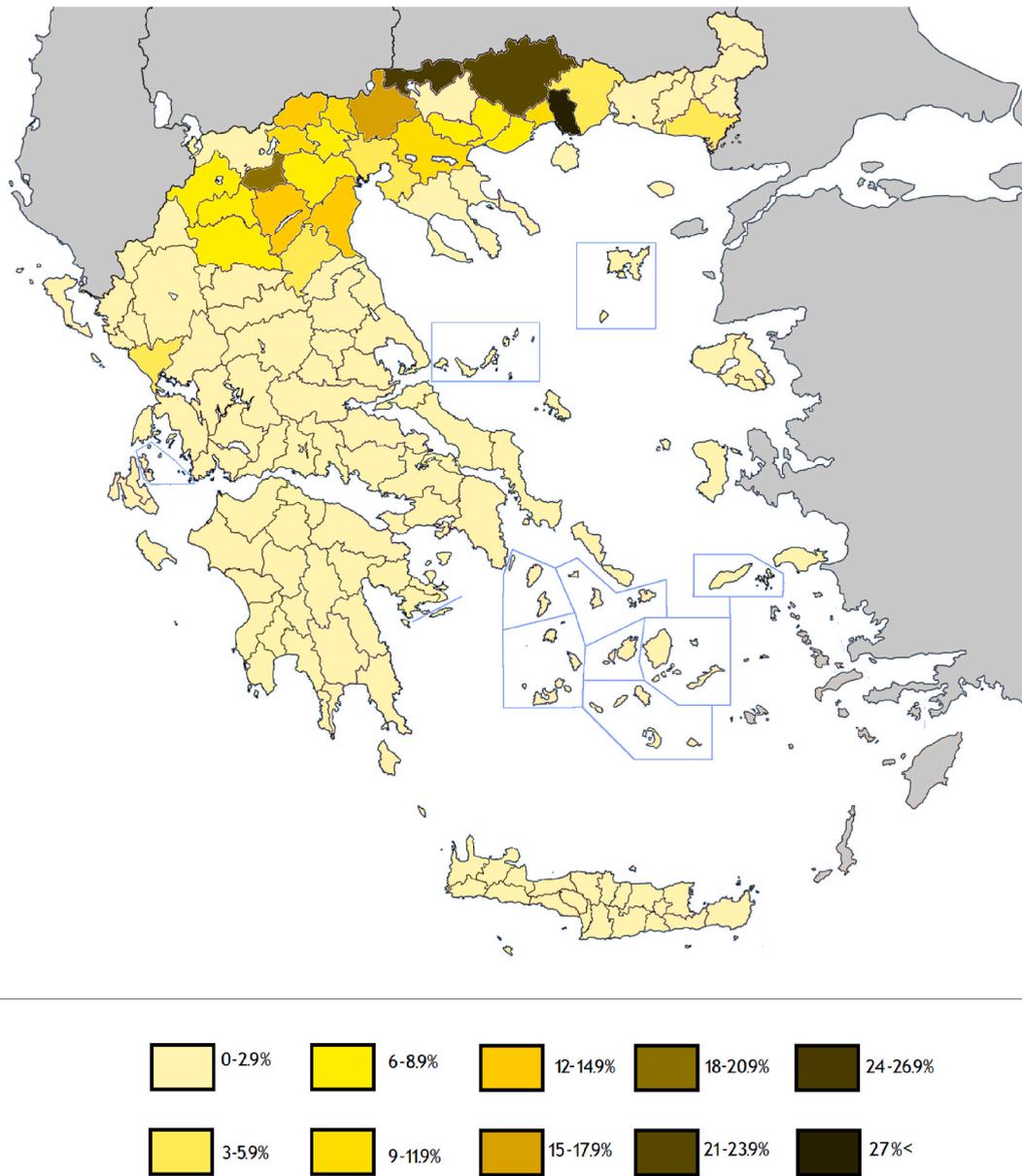


Fig. A.5B. Share of Pontus (Black Sea region) refugee population in Greek provinces (1928). Source: Own map, based on ELSTAT, 1928.

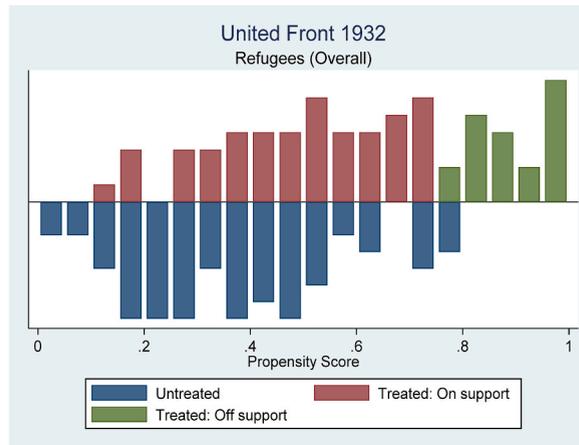


Fig. A.6. Propensity Score & Common Support Plot for United Front 1932 – Interwar Period

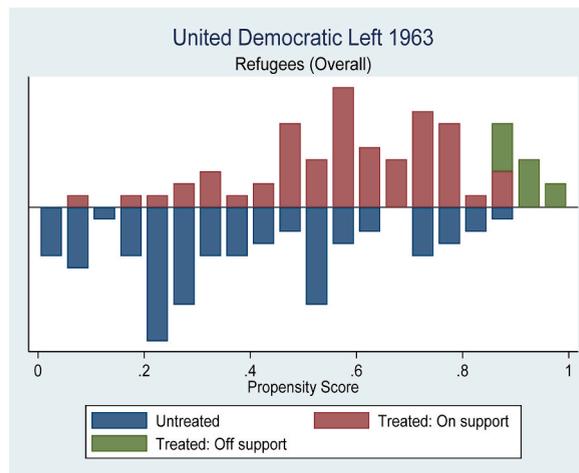


Fig. A.7. Propensity Score & Common Support Plot for United Democratic Left 1963 – Postwar Period

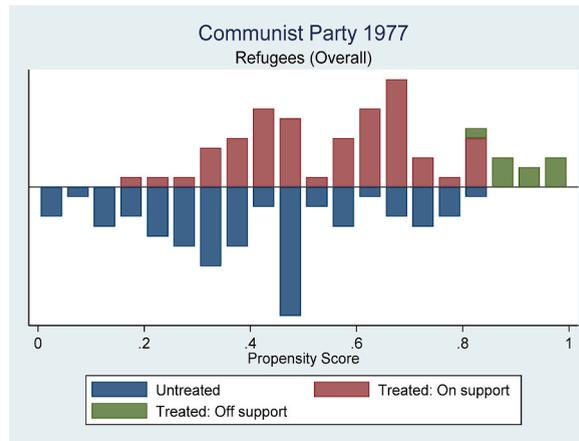


Fig. A.8. Propensity Score & Common Support Plot for Communist Party 1977 – Post-Dictatorship Period

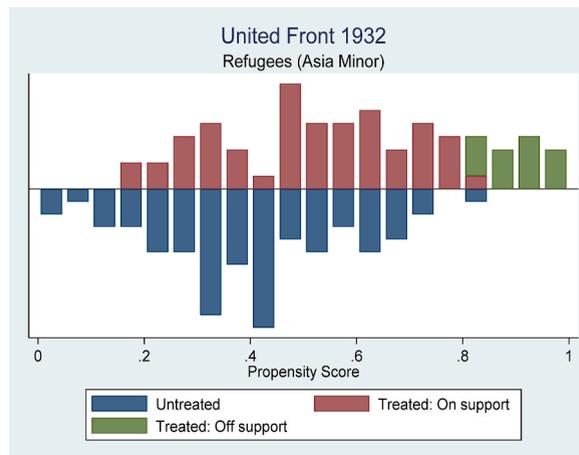


Fig. A.9. Propensity Score & Common Support Plot for United Front 1932 – Interwar Period (Asia Minor)

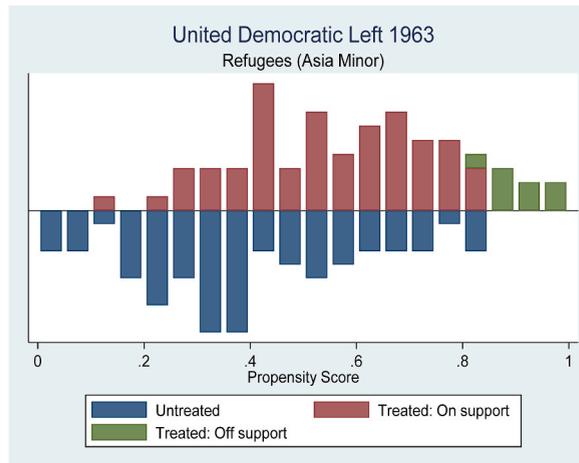


Fig. A.10. Propensity Score & Common Support Plot for United Democratic Left 1963 – Postwar Period (Asia Minor)

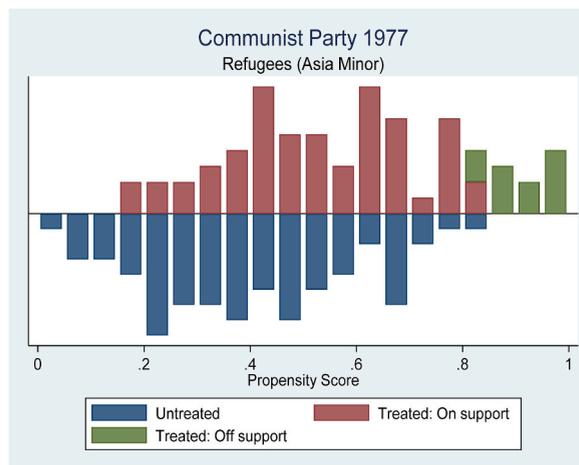


Fig. A.11. Propensity Score & Common Support Plot for Communist Party 1977 – Post-Dictatorship Period (Asia Minor)

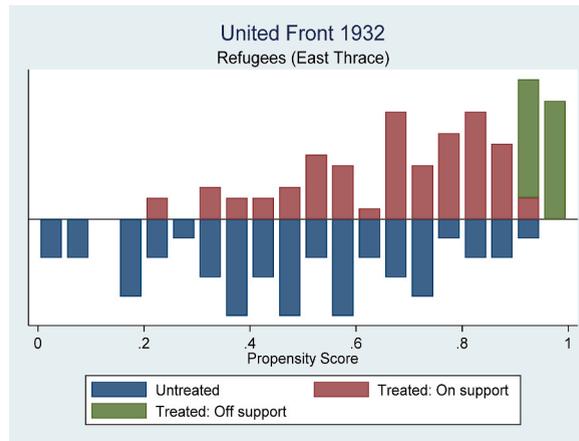


Fig. A.12. Propensity Score & Common Support Plot for United Front 1932 – Interwar Period (East Thrace)

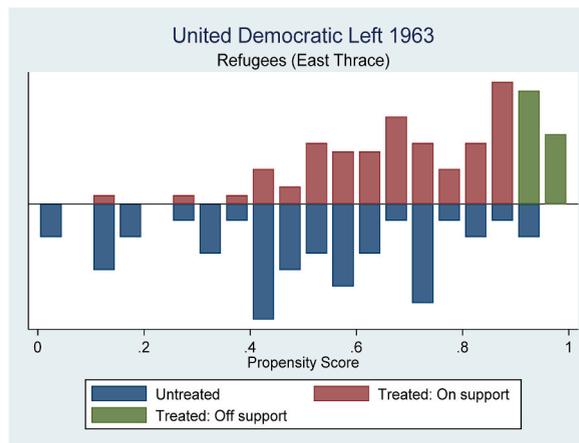


Fig. A.13. Propensity Score & Common Support Plot for United Democratic Left 1963 – Postwar Period (East Thrace)

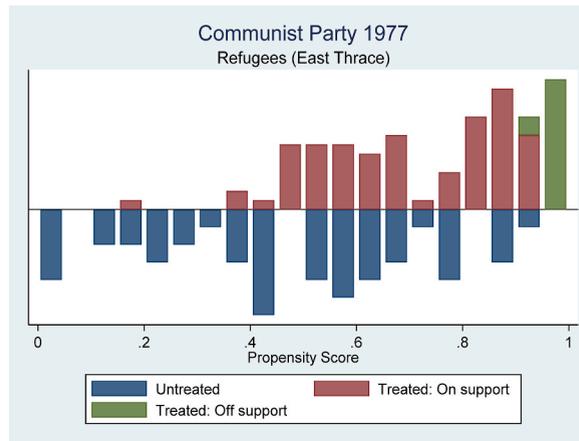


Fig. A.14. Propensity Score & Common Support Plot for Communist Party 1977 – Post-Dictatorship Period (East Thrace)

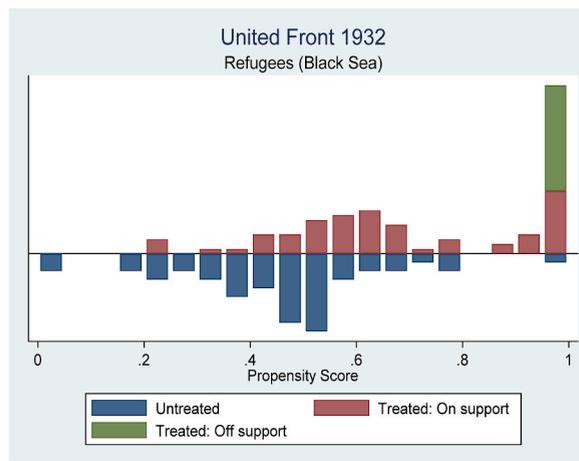


Fig. A.15. Propensity Scores & Common Support Plots for United Front 1932 – Interwar Period (Black Sea)

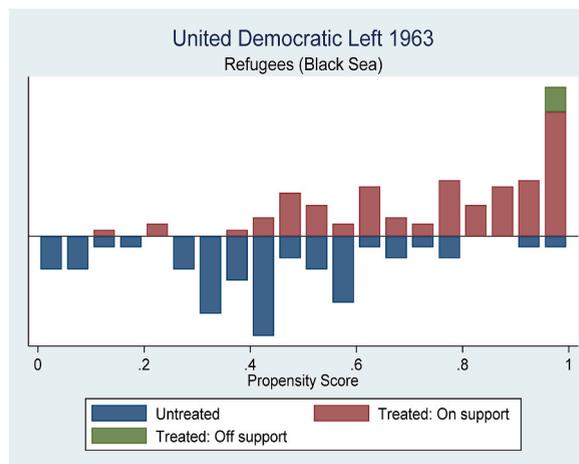


Fig. A.16. Propensity Score & Common Support Plot for United Democratic Left 1963 – Postwar Period (Black Sea)

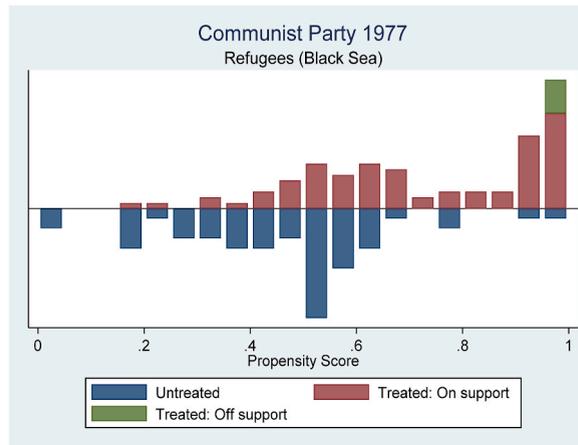


Fig. A.17. Propensity Score & Common Support Plot for Communist Party 1977 – Post-Dictatorship Period (Black Sea)

Appendix III

Greeks in Anatolia & Greek-Turkish Relations in the 19th and early 20th centuries

Asia Minor has been historically and culturally connected with Greece since as early as the Bronze Age. Settled and colonized by Greeks, its coasts became a beacon of Greek civilization in antiquity.¹⁸ Following the conquests of Alexander the Great and the division of his empire between his generals, Asia Minor was controlled in different parts by Lysimachus, Seleucus, and Ptolemy (Gruen, 2018, p. 117). After the split of the Roman Empire into Western and Eastern Empires, Asia Minor, now Christianized under the Church of Constantinople, functioned as the heartland of the Byzantine state and could provide the state with wealth and human capital throughout its history (Baynes, 1955, p. 92).¹⁹

The Ottoman conquest of Anatolia signaled the rise of Islam as the region's dominant religion. Although protected under Islamic religious law, Christianity was threatened by Islamic missionary activity and the *jizyah*, the discriminatory Islamic taxation system requiring that non-Muslims pay a yearly head tax to the administration (Kirmizialtin, 2007, p. 648). Under Ottoman rule, the Orthodox population of the Empire was organized into the *Rum Millet*, the "Roman nation", headed by the Ecumenical Patriarch of Constantinople.²⁰

Inspired by the French revolution and the ideals of Enlightenment, secularism, and republicanism, the Friendly Society (Greek: Φιλική Εταιρεία) was formed in Odessa as a conspiratorial organization with the aim of disseminating Greek nationalist ideas and overthrowing Ottoman rule (Jewsbury, 1999, p. 752). With the Greek revolution of 1821 and following the decisive intervention of the Great Powers of Great Britain, France, and Russia, Greek nationalists succeeded in founding an independent Greek nation-state. The new state was confined to the areas south of the Arta-Lamia line in contemporary Central Greece and included only a small fraction of the ethnic Greek population (Koliopoulos and Veremis, 2009, p. 25). Consequently, Greek governments embraced the irredentist cause of incorporating all Greeks residing in the Ottoman Empire into the newly founded Greek state, encapsulated in the term *Great Idea* (Greek: Μεγάλη Ιδέα, *Megali Idea*) (Veremis, 1989, p. 137).

Greek politician and Prime Minister Ioannis Kolettis encapsulated the *Great Idea* in 1844 by stating that "the Kingdom of Greece is not Greece; it is merely a part, the smallest, poorest part of Greece" (Smith, 1973, p. 1). The *Great Idea* did not only pertain to the contemporary agenda of "unliberated" Greeks, but it also envisaged to restore the Greek nation to its Byzantine grandeur. Morgenthau (Morgenthau, 1929, p. 11) describes the irredentist ardor by mentioning that "not to the Parthenon at Athens, but to the Santa Sofia at Constantinople, did [the Greek's] mingled emotions of religion and political greatness yearn with a burning zeal".

Hence, the territorial acquisition of Constantinople and the reorganization of the Hellenic world around the core of the Byzantine Empire lay in the core of the *Great Idea*; the Greek revolution of 1821 and the establishment of the Greek state with the London Conference of 1832 were regarded as the first decisive steps toward a national Renaissance, which would include the majority of Greek-speaking populations in the Balkans and Anatolia (Finefrock, 1980). The concept of an expansionary nation state, whose boundaries intended to approximate the cultural ties and political influence of the medieval Greek world, defined the foreign policy

¹⁸ Greek colonies in Anatolia played a significant role in embedding Greek civilization in the Near East (White, 1961, p. 449). Though independent at first, the colonies were initially subjugated by the Lydian king Croesus in the 6th century BCE (Roebuck, 1955, p. 30) and subsequently by the Persian Empire.

¹⁹ The Romans found Asia Minor in a state of fully-fledged Hellenization (Janse, 2003, p. xi).

²⁰ Among others, Armenians and Jews also formed their own *millet*s. Religious minorities thus acquired limited jurisdiction in their affairs including religion, education, and finance (Icduygu et al., 2008, p. 362).

preferences of the Greek political class in the second half of the 19th and the beginning of the 20th century (ibid.). It has also been argued that the *Great Idea* is less linked to an ancestral territorial inheritance of the Comnenian (late Byzantine) era and more to the cultural hegemony of the Greek state in the Balkans, Asia Minor and the Eastern Mediterranean; the Greek Enlightenment movement, where Kolettis also participated, had a negative predisposition toward Byzantium (Kitromilidis, 1998). The inclusion of Byzantium into the Kolettis thesis belongs to Konstantinos Paparrigopoulos, Greece's most influential historian in the 19th century, who coined down the concept of the *Great Idea* in its final form (ibid.).

Numbering approximately 1.7 million, Anatolian Greeks were also included in the Greek irredentist claims (Pentzopoulos, 1962, pp. 29–30). Figs. A.1–A.2 report the distribution of the Greek minority within the boundaries of the Ottoman Empire drawing evidence from different sources such as the diplomatic correspondence of Allied powers with U.S. President Woodrow Wilson during World War I (Fig. A.1) and the Greek Ministry of Foreign Affairs (Fig. A.2). It is crucial to point out that the Greek population of Anatolia had meanwhile been rejuvenated by relocation and migration waves, and during the 19th century Anatolian Greeks accounted for 19.2% of the total Anatolian population (Vryonis, 1971, pp. 446–448). As this sizeable minority was growing receptive to Greek nationalism, it was becoming evident that the Ottoman liberal approach to religious minorities was about to backfire (Katsikas, 2009, p. 178).

The Balkan Wars of 1912–1913 led to the doubling in size of Greek territory and the inclusion of large Muslim populations in the expanded state. Despite the territorial expansion of Greece, the bulk of Greek populations in Anatolia and Thrace remained outside the borders of the Greek state. Eleftherios Venizelos, governing Greece since 1910, was convinced that only an important international upheaval could grant Greece the opportunity to realize the *Great Idea* (Pentzopoulos, 1962, p.34). As World War I erupted, Venizelos aspired to place Greece on the side of the *Entente* powers. The refusal of the Greek King Constantine to abandon Greece's neutrality and the ensuing deep strife known as the "National Division" (Greek: *Εθνικός Διχασμός*) brought the country to the verge of civil war. The king was forced to abdicate, and Venizelos assumed control of the country (Smith, 1973, p. 58). Greece formally joined the *Entente* in 1916 and was thus able to be on the victors' side once the war was over. With the surrender of the Ottoman Empire in 1918, Greece raised her claims in Anatolia and Thrace (Dyer, 1972, pp. 318–319) and occupied Smyrna in May 1919 with the permission of the *Entente* powers (Karvounarakis, 2000, p. 171). Greece's claims were confirmed by the 1920 Treaty of Sèvres, which granted her East Thrace (with the exception of allied-controlled Constantinople) and an extensive zone on the western coast of Asia Minor around Smyrna (Montgomery, 1972, p. 784). The former was fully annexed to Greece while the latter constituted a Greek dependency, and its future incorporation into Greece was to be determined by a later plebiscite (Smith, ibid., p. 128).

The nationalist ideal of *Great Idea* [*Greece of two continents and five seas*] had been realized.²¹ Venizelos declared national elections in 1920, yet his Liberal Party was utterly defeated. Anti-Venizelist forces had capitalized on the Greek voters' exhaustion after 8 years of warfare, Venizelos' long absence at conferences abroad, and the sudden death of King Alexander, which kindled the succession discourse (Venieris, 1995, p. 23). The winners of the elections openly proclaimed their will to restore the ousted King Constantine, a leader that several *Entente* allies did not approve of. Concurrently, the political landscape in Anatolia was changing. The remnants of the Ottoman army were rallying around Mustafa Kemal, and a Turkish resistance movement was being born. Unfavorable for the Greek aspirations in Anatolia, Italy and France wanted a reversal of the status quo in the region and approached Kemal (Smith, ibid., pp. 69–70 and Jensen, 1979, p. 558). The restoration of King Constantine to the throne gave them the ideal pretext to rid themselves of their obligations emanating from the Treaty of Sèvres (Karvounarakis, ibid., p. 174).

Having expanded its control beyond the Zone of Smyrna by 1921, the Greek army was marching deeper into Anatolia. However, the reorganization of Turkish resistance, the diplomatic successes of Kemal abroad, and the further weakening of Greek forces caused the breach of the Greek front and the Greek army's hasty retreat to the Afyon-Eskişehir line (Jensen, ibid., pp. 560–563). By autumn 1922, Greece had fully retreated from Anatolia and had also evacuated East Thrace in the framework of the Mudanya Armistice, which paved the way for the revision of the Treaty of Sèvres at the peace conference in Lausanne (Psomiades, 2000, pp. 40–41).

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²¹ The two continents are Europe and Asia, and the five seas refer to the Aegean and Ionian Seas, the Sea of Marmara, the Black Sea, and the Libyan Sea.

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