## Towards the eastern gate to Europe: Factors shaping perceptions and attitudes towards migrants in Lesvos Island (Greece), 2016

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### **Keywords:**

native community, social inclusion, mass media, migration, Greece The study investigates present the socioeconomic factors shaping social attitudes and perceptions towards immigration in the local community of Lesvos, Greece. Since 2015, Lesvos Island has been the main gateway of immigration flows towards Europe. Using a structured questionnaire, a field survey was carried out in 2016 by interviewing a representative sample of 697 inhabitants in Mytilini, the capital city of the island. Our study demonstrates how socio-demographic forces, economic/political contexts, and mass media have influenced the attitudes of the host society towards both refugees and economic immigrants. Direct interaction with immigrants was a significant dimension that shaped the and beliefs of the native perceptions population. Critical issues pertaining to migrants' integration - under economically disadvantaged and insular conditions - in the local community of Lesvos were finally discussed.

#### **Introduction**

Migration flows have affected the social landscape of host countries in several ways, and they form a quintessential part of the public discourse in advanced economies. Upon exhaustively reflecting on these changes, countries' agendas about immigrants' place in the society have progressed from an exquisite labour market-based issue to a broader social, cultural, and political theme (Massey et al. 2018).

The growing literature on the public stance towards immigrants denotes that anti-immigrant feelings have been (and still are) spreading towards Europe (Scheepers et al. 2002, Davidov et al. 2008, Gorodzeisky–Semyonov 2009). Moreover, host societies differ in their public levels of support to immigrants (Raijman et al. 2003, Tegegne–Glanville 2018); contextual factors have shaped attitudes towards immigrants, depending on individual characteristics and local community traits (Ceobanu–Escandell 2010, Rontos et al. 2016, Di Feliciantonio et al. 2018).

The immigrant population size is among the country-level attributes that account for significant cross-country variations in social attitudes and perceptions towards immigration (Schlueter–Wagner 2008). A growing immigrant population is considered a contingent source of competition over social and economic resources (Gavalas et al. 2014). Consequently, the contributory negative effect of immigrants on the society, economy, living conditions, crime rates, values, and beliefs has been argued (Sniderman et al. 2004, Ceobanu 2011). For instance, immigrants have been considered to compete with natives over economic resources and social welfare (Chelli–Rosti 2002). Additionally, recent studies have argued that stagnant economic conditions and social insecurity in a time of crisis have resulted in competition for a restricted resource base, thereby probably engendering a negative attitude towards immigrants (Castagnetti et al. 2005, Schneider 2008, Semyonov et al. 2008).

Political settings, including consolidation of highly conservative and extreme right-wing parties, also reflect anti-immigrant social attitudes (Hayes–Dudek 2019). A far-right placement on the political orientation scale is related to increased anti-immigrant sentiment (Wilkes et al. 2007). Conversely, left-wing political ideologies have been more frequently supportive of positive attitudes towards immigration (e.g., Bohman 2011). Similarly, older people, who are likely to be more conservative than younger individuals, frequently express negative attitudes towards immigrants (Wimmer 1997).

Furthermore, lacking familiarity and fear of conflict over values, traditions, and culture may drive the relationship between local communities and anti-immigrant sentiment (Semyonov et al. 2006, Lucassen–Lubbers 2012). More restrictive policies and less public support to immigrant integration practices have been demonstrated to consolidate anti-immigrant perceptions (Hjerm–Nagayoshi 2015, Hooghe–De Vroome 2015, Carlucci et al. 2018). The frequency of terrorist attacks (Legewie 2013) and extensive media coverage on immigration-related news have been finally documented to account for (largely) negative attitudes towards immigrants (Boomgaarden–Vliegenthart 2009). The role of the media regarding the shaping of beliefs has been analysed under the prism of 'moral panic', which refers to intensive fear and a high level of anxiety triggered by mass media (Simonovits 2020).

Regarding factors that shape attitudes towards immigrants at the individual-level, it has been propounded that being in contact with immigrants may reduce negative perceptions and hostility (Pettigrew–Tropp 2006). Allport (1954) argues that the

interaction between the majority (locals) and minority (incoming) population seems to be an important predictor of the resulting attitudes. Although it has been argued that only unbiased contacts could produce this outcome (Weber 2015), the presence of a reduced number of immigrants mitigates negative stereotypes and feelings of enmity (Thomsen–Birkmose 2015). Empirical evidence establishes that the two assumptions are complementary rather than mutually exclusive (Schlueter–Wagner 2008). Furthermore, vulnerable population segments, such as the unemployed, poorly educated, and low wage earners (e.g., 'working poor'), are more likely to feel threatened by the presence of immigrants (Kunovich 2004, Chelli et al. 2009, Rosti–Chelli 2009). Based on these premises, economic conditions, both objective and subjective, are assumed as basic factors that shape the attitudes of the society towards immigrants (Citrin et al. 1997, Ciommi et al. 2017).

Figure 1
Maps of Lesvos Island (on the right, the Turkish sea coast)(left) and
a satellite map of the island (scale 1: 1,000,000) (right);
maps courtesy of Google Earth imagery, 2020



Since 2015, accelerated migration flows along the 'Turkish route' were considered a particularly complex issue entailing a political response at the local, national, and European levels. In particular, the Greek Aegean island of Lesvos has been transformed into an entry point for an ever-increasing number of refugees and economic migrants who have attempted to proceed into continental Europe. Based on this mass migration phenomenon, immigration has been increasingly perceived as a key social, economic, and political issue in Greece (Salvati 2016). Albeit there is no formal legal definition of an international migrant, most experts agree that an international migrant is someone who changes his or her country of usual residence, irrespective of the reason for migration or legal status (United Nations 2019a). Among immigrants, refugees require international protection. They are outside their country of origin because of feared persecution, conflict, generalised violence, or other circumstances that have seriously disrupted public order (United Nations 1951).

Identifying the factors that affect the beliefs of the native community in favour of (or against) economic migrants and refugees in an insular context, as in the case of Lesvos, is highly important, especially in these contemporary times of 'global migration'. While fostering a better understanding of complex social phenomena, the empirical results of such investigations have normative implications, contributing to the delineation of strategic objectives and practical measures to combat racism and xenophobia (Sundstrom–Kim 2014). In light of migrants' integration in the national socioeconomic system and in the wider European space (Ciommi et al. 2019), the present study adds to earlier research concerning the attitude of the Greek society regarding immigration by applying (and testing the validity of) general assumptions about the perceptions of local communities towards immigrants (Landmann et al. 2019).

More specifically, the following research questions are considered in this study: (i) Do the socio-demographic and political characteristics of the population affect attitudes towards migrants? (ii) How does the perception of the local community about the inflows' impact on the local economy and everyday life affect attitudes towards incomers? And, finally, (iii) Are there any differences in the attitudes of the local community between economic immigrants and refugees? Answering the above-mentioned questions requires the identification and preliminary discussion of the most appropriate theoretical approaches for the case of the Lesvos community.

Thus, theoretical assumptions about the shape of host communities' attitudes are presented. Three approaches to delineate the attitudes of local societies towards immigrants are considered. The methodology of the study is presented, while focussing on statistical techniques to analyse quantitative data from a field survey. This survey enabled the identification and clarification of the basic factors that affect the attitude of the Lesvos' community towards refugees and economic immigrants. The empirical results of the study are discussed, thereby evincing the intrinsic limitations of this type of investigation and relevant directions for further research.

# Configuring attitudes towards immigrants: theoretical assumptions

Socialisation affects individual attitudes and beliefs (Parsons–Bales 1956, Blalock 1967). Three assumptions vis-à-vis the factors that affect attitudes and conceptions towards different social groups are considered in this study: (i) The 'realistic conflict theory', which is grounded on the analysis of socioeconomic forces (Allport 1954, Sherif 1967); (ii) The 'social identity theory', which is grounded on cultural and societal aspects (Tajfel–Turner 1979, Coenders et al. 2004); and (iii) The 'integrated threat theory' based on the former two assumptions, which was later referred to as the 'intergroup threat theory' (Stephan–Stephan 2000).

## The realistic conflict theory

The 'realistic conflict theory' assumes competition among people for economic and social goods. This focal point might be expanded among different social groups, especially between native population and immigrants, while considering the intertemporal perception of the negative impact of immigration on local economies and job markets (Gigliarano–Chelli 2016). For instance, it is sometimes alleged that immigrants work at the expense of the local population (Kalogeraki 2012). Nevertheless, empirical research demonstrates that the effects of immigration on employment and the wages of native workers are negligible (Rosti–Chelli 2012).

## The social identity theory

This theory is grounded on the cultural and social factors that shape attitudes and perceptions towards immigrants and refugees. Based on these premises, people that belong to a given group, via comparison with other social groups, try to attribute positive characteristics to their own group to consolidate their self-esteem. The attitudes and perceptions of the native population towards immigrants are also based on historical, political, institutional, social, geographical, and cultural contexts. Moreover, attitudes towards refugees are shaped by the fear of local communities regarding the economic consequences of massive immigration and the potential loss of national identity and cultural homogeneity.

#### The integrated threat theory

Based on the aforementioned theories, the 'integrated threat theory' assumes an approach whereby local residents confront immigrants. The intergroup threat theory, which is a combination of the realistic conflict and social identity theories, is a dominant conceptual framework to study anti-immigrant sentiments (Velasco-González et al. 2008). According to the integrated threat theory, negative stereotypes and (predetermined) perceptions may cause negative feelings and anxiety to indigenous people due to migration (Croucher et al. 2013). The aforementioned theory embodies theoretical approaches of stereotypes and prejudices that may lead to the following core types of threat that indigenous people may feel: these include (i) the realistic threat of resource competition, (ii) the symbolic threat emerging from incompatibility between different social and cultural values, and (iii) the intergroup anxiety stemming from the difficult interaction between social groups causing awkwardness and rejection. Moreover, the negative stereotypes emanating from predetermined beliefs towards immigrants may finally ensue fear of the negative consequences of migration on the life of the native population. Most of the empirical studies that rely on this theory focus on the impact of realistic and symbolic threats on the attitude of local communities towards immigrants.

# Evaluating the attitude of local communities towards immigrants

Theoretical and empirical models are proposed to identify factors that shape the attitude of local communities towards migration. Consequently, the threat–benefit model and the instrumental model of group conflict have been widely applied in the literature. The first model is grounded on the integrated threat theory (Tartakovsky–Walsh 2016), assuming both positive and negative attitudes of local communities towards immigrants and refugees. The group conflict theory also interprets the attitude of local communities towards immigrants as a result of competition for economic resources (Esses et al. 1998). Statistical techniques are used to model the empirical data derived from field surveys on such theories. Generalised linear models (GLM) adopting probit and logit link functions have been used widely for identifying the significant variables that affect individual attitudes towards immigrants (Hainmueller–Hiscox 2007).

Educational level has also been recognized as one of the most significant factors that shape individual attitudes towards immigrants, as people with high qualifications exhibit greater sympathy towards immigrants than less educated people (Paas–Halapuu 2012). The level of skilled labour represents another critical factor (O'Connell 2011). People with higher professional qualifications are more positive towards immigrants. Language assimilation, prejudice, and stereotypes combined with the attitude of the mass media towards immigrants also affect the predisposition of local communities towards immigrants (Dustmann–Preston 2007). Regarding asylum seekers, it has been proven that they are often treated unfavourably in some European countries as they do not speak English and are considered to be unwilling to enter the labour market (Bansak et al. 2016). Boda–Simonovits (2016) demonstrate that, at least under specific conditions, local communities sympathise more with Christian asylum seekers than with Muslims.

Economic downturns influence individual attitudes through the construction of stereotypes (Burns–Gimpel 2000). Notably, a strong national identity, and more recently, trends towards nationalism and populism, may reduce the positive attitude towards immigrants (O'Rourke–Sinnott 2004). The belief that crime rates have increased because of the rising number of immigrants is also common in specific countries (Spenkuch 2014). Political orientation, perceptions of threat, and fake (or imprecise) information disseminated by the mass media are additional, important factors that negatively impact the attitude of local communities towards immigrants (Hopkins 2010).

Moreover, economic and institutional factors at the macro level seem to be related to the attitude towards immigrants. The host societies of countries that are institutionally stable, less corrupt, and have a high level of social capital and trust along with macroeconomic stability tend to be less sceptical towards migration

(Messing–Ságvári 2018). Furthermore, migration policy is related to the degree of perceived ethnic threat (Geddes 2003). Another critical point about the migration issue entails the systematic knowledge of perceptions and beliefs, the coordinated implementation of interventions, as well as the required far-reaching synergies (Jacobs–Herman 2009). Thus, host communities are less sceptical when an efficient migration framework that supports the smooth integration of refugees and economic immigrants is applied (de Haas 2018). It should be stressed that reducing the asylum waiting time can help to decrease public costs and reinforce the economic potential of refugees by increasing employment (Hainmueller et al. 2016).

The importance of individual characteristics in connection to the subject matter has also been demonstrated (Butkus et al. 2016), as positive attitudes towards immigrants vary largely across population segments based on demographic traits (age, gender, marital status, citizenship), social traits (social class, religion, language, migration experience), economic conditions (job insecurity, fiscal cost, labour market conditions), and geographical characteristics (place of residence, city size). Finally, the frequency of contacts that native inhabitants have with immigrants may considerably affect the former's final attitudes and perceptions (Lemmer–Wagner 2015). In particular, the more frequent the interaction, the more positive the attitude.

## Methodology

## Study area

Lesvos, and especially the island's capital town, Mytilene, is studied herein because it is one of the locations of the Eastern Aegean Sea that have experienced an unprecedented and radical increase in the number of incoming foreign populations. The island's residents are, for a large part, the descendants of refugees who had moved from Asia Minor to Greece in 1922, after the end of the Turkish–Greek Conflict. This specific condition reflects the fact that the inhabitants of Lesvos have been considered to be averagely aware of their immediate ancestors' life of toil, and they are highly tolerant of both refugees and migrants. However, in recent times, the local economy has been severely affected by the ongoing economic crisis. Between 2010 and 2018, the unemployment rate more than doubled, increasing from 10.1% to 22.3% (Eurostat 2019).

Sea arrivals in Greece were estimated at 856 723 people in 2015, whereas land arrivals accounted for 4907 people. More than half of people pertaining to the first category (445 037) entered Greece via Lesvos Island. In 2016, sea arrivals in Greece were estimated at 173 450 people, whereas land arrivals amounted to 3784 people. In 2017, the aforementioned statistics were estimated at 29 718 and 6592 people, respectively, whereas in 2020 sea arrivals were approximately 9714 people, while land arrivals increased slightly to 5982 people. The final aim of *crossing the* Eastern

Mediterranean route from Turkey to Greece was to reach Europe. However, many European countries closed their borders to immigrants and refugees in 2015 (Frontex 2018).

Moria and Kara Tepe refugee camps in Lesvos provided temporary housing for asylum seekers while awaiting the results of their applications for international protection. It was estimated that, in 2016, more than 5700 people lived in Moria camp under overcrowded conditions, whereas in 2020 this number exceeded 10 000 people. Between 2016 and 2019, approximately 1000 people were living in Kara Tepe camp (United Nations 2019b). Many well-known and established international organisations, agencies, and non-governmental organisations specialising in the field are active in the area to help refugees and migrants; these include Amnesty International and the *United Nations High Commissioner for Refugees*, among others.

It is often alleged in public discourses that immigration should be confronted not only as a national but also as a European issue (Sohst et al. 2020). Notwithstanding the active solidarity offered by Lesvos inhabitants, intense migration flows have led, in some instances, to increased xenophobic attitudes by the local population. The public debate has sometimes consolidated these attitudes through the proliferation of the antiforeigner rhetoric in the media (Quillian 1995), especially when intersecting with other compelling feelings (e.g., terrorism, suspicion, and hostility in a social crisis context).

#### Data sources

A dedicated survey was carried out in April and May 2016, with the aim of exploring the perceptions and attitudes of the local community of Lesvos Island following the increase of immigration flows from Turkey. Data have been derived from 697 individual interviews based on a structured questionnaire. The studied population includes permanent residents in Mytilini, the capital town of the island (27 880 inhabitants). The sample size is selected based on a two-stage survey strategy. In the first stage, 33 blocks of the area (based on population census enumeration tracks) are selected by systematic sampling with a probability proportional to the total population living in each block (Buckland 1951). Population data are provided by the Hellenic Statistical Authority (ELSTAT). In the second stage, for blocks with population larger than 30 inhabitants, respondents are selected by systematic sampling with equal probability. For blocks with population below 30 inhabitants, all the people comprising the block are surveyed. The response rate is approximately 67% with no evidence of non-respondents systematically belonging to specific demographic or socioeconomic groups.

## Statistical analysis and generalised linear models

Descriptive statistics are undertaken, and the relationship between the attitudes of the local community in Lesvos and the most significant factors are tested using double-entry tables to compute *Pearson's Chi-square tests of independence* and odds ratios when appropriate (Lamonica et al. 2020). A generalised approach based on models is also adopted.

To derive an interpretive model, GLMs, which include, as particular cases, linear regression, analysis of variance, binomial models with the use of logit and probit functions, as well as logarithmic and polynomial models, are adopted. It has been proven that all the aforementioned models have some common properties and, additionally, common estimation methods.

A GLM is employed, which is defined in relation to the sum of independent random variables  $(Y_1, Y_2,...,Y_n)$ , where each one follows an exponential distribution and depends on one parameter only,  $\theta_i$ , such that  $f(y_i) = \exp[b(\theta_i)y_i + c(\theta_i) + d(y_i)]$ , where  $b(\theta_i)$  is called a natural parameter, and  $c(\theta_i)$  and  $d(y_i)$  are known as differentiated functions. The parameters of interest are not  $\theta_i$ , since there might be a  $\theta$  for each observation. A smaller set of parameters is employed, i.e.,  $(\beta^T = \beta_1,...,\beta_p)$ , where p < n. While in a (classical) linear model it is assumed that  $\mu_i = E(Y_i) = x^T_i \beta_i$ , where  $x = (x_{i1}, x_{i2},..., x_{ip})$ , is the vector of independent variables, a GLM implies the existence of a monotonic and differentiable function g, such that  $g(\mu_i) = x^T_i$ . This function is called the 'link function'. The linear model y = Xb + e is evidently a simple case of the GLM, as all  $y_i$  of the vector follow the distribution  $(\mu_i, \sigma^2)$  and  $\mu_i = x_i \beta^T$ . Apparently,  $g(\mu_i) = \mu_i$ .

## Binomial logit regression

Herein, a binomial logit regression is used to estimate the significance of independent variables regarding the prediction of a specific result (i.e., respondent's answer) and to test the goodness of fit. A basic characteristic of this model is the nonexistence of linearity because of the restriction  $\hat{\mu} \in [0,1)$ , implying that the predicted values range between 0 and 1. Consequently, the model estimates the probabilities of a specific event, presuming that the dependent variable assumes a value equal to 1.

The appropriateness and statistical reliability of each model are estimated with the deviance statistical function, testing the existence of significant (p < 0.05) differences between the estimated model and a zero model, while assuming the fixed term  $\beta_0$  to be non-zero and all the coefficients of independent variables to be equal to zero. Furthermore, three R<sup>2</sup> goodness-of-fit coefficients are adopted:

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\begin{split} & \text{McFadden } R^2_{\text{McF}} = 1 \text{--}ln(L_M)/ln(L_0); \\ & \text{Cox and Snell } R^2_{\text{C\&S}} = 1 \text{--}(L_0/L_M)^{2/n} \\ & \text{Nagelkerke's } R^2 = \left[1 \text{--}(L_0/L_M)^{2/n}\right] \ / \ 1 \text{--}L_0^{2/n}. \end{split}
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To test for model's prediction accuracy, a classification table is used, measuring accuracy with the quantification of those observations from the sample that have been correctly classified (Ciommi et al. 2018). The goodness-of-fit of the model is also estimated using the Hosmer–Lemeshow statistic, which constitutes a measure

of good adjustment of the model to the empirical data. This statistic is assumed to be more powerful than *Pearson's goodness-of-fit test* grounded on the estimation of the model's residuals (Lamonica–Chelli 2018). The Akaike information criterion (AIC) based on the estimation of the (logarithmic) maximum likelihood of the model is finally considered (Salvati et al. 2017). In addition to the above-mentioned tests, the validity of each binomial model is visually checked using absolute residuals and standardised Pearson residuals that measure the distance between observed and adjusted values; standard model diagnostics, such as leverages h<sub>i</sub> and Cook's distance, are finally considered (Salvati 2014).

## Handling missing values and contextual variables

Missing values are a basic problem inherent in studies conducted through questionnaire surveys, as lacking responses may affect the discriminant power and significance of many statistical techniques. Optimal (predictive–explanatory) models include variable averaging and model selection after multiple imputation (Schafer–Olsen 1998). Multiple imputation by chained equations displays great versatility owing to the potential of attributing missing values that originate from different statistical distributions (Rubin 1996). The AIC statistic, which constitutes an estimate of the overall quality of each model, is an indirect confirmation of such assumptions. Predictive–explanatory models are developed in the present study by applying such imputation techniques.

To apply the aforementioned techniques to primary (questionnaire) data, survey variables are converted into binary codes. The binary variables considered in this study are listed in Annex 1. Variables C22 and C23 are considered, as they measure the overall attitude towards refugees and immigrants, respectively. Consequently, they form the dependent variables of the current analysis, while the remaining variables are regarded as predictors. More specifically, the variables used in this analysis are: A5: The number of refugees/immigrants entering Lesvos in 2015, B11: Your everyday life became more difficult with such large flows of refugees/immigrants; B14: Do you feel that some public goods or values are threatened by the arrival of immigrants and refugees? B16: Was there a direct effect of immigrant and refugee flows on family income? B18: In general, do you believe that the immigrant-refugee inflow positively affected the economy of the island? B20: Did the great inflow of immigrants/refugees have an increasing effect on the island's employment, even temporarily? C30: Do you believe that different cultural and religious characteristics of these people constitute an obstacle for their social inclusion in local societies? C32: Were you in contact with immigrants/refugees? E34: Do you perceive that there is a prospect of solving the issue? E36: Do you agree with the prospect of debt relief in exchange for the resolution to the refugee issue with an excessive number of refugees in Greece? E37: Do you believe that the mass media, in general, steer the migration issue in the correct direction?

F38: Gender, F39: Age, F40: Family status, F41: Education level, F42: Month percapita income, F43: Employment condition, and F46: Political placement.

It should be specified that the variables employed are in line with the theories on the configuration of attitudes towards immigrants (see Configuring attitudes toward immigrants: Theoretical assumptions chapter). In particular, the variables expressing whether some public goods or values are threatened by the arrival of the incoming population (B14) and if there is a direct effect of immigrant and refugee flows on family earnings (B16) stem from the realistic conflict theory, which mainly expresses the economic threat natives may feel by the presence of economic immigrants and refugees. Furthermore, the variable concerning the beliefs about the positive impact of immigrant-refugee inflows (B18), in addition to the variable expressing whether the beliefs about the immigrant-refugee population has an effect on local employment (B20), also emanate from the above-mentioned theory. The variable expressing the beliefs that different cultural and religious traits of immigrants and refugees form an obstacle for their social inclusion (C30), in addition to the variable expressing contact with immigrants/refugees (C32), refers to the social identity theory, which mainly expresses the cultural threat natives may feel by the presence of immigrants and refugees.

The variables expressing the number of refugees/immigrants entering Lesvos in 2015 (A5) and if everyday life became more difficult with the large refugee—immigrant inflow (B11) result from the integrated threat theory, which incorporates realistic and symbolic threats related to increasing migration flows, among others. The variables expressing perceptions about the prospect of solving the migration issue (E34), in addition to the prospect of debt relief in exchange for the resolution to the refugee issue with an excessive number of refugees in Greece (E36), as well as beliefs that the media posit the issue in the correct direction (E37), also pertain to the aforementioned theory. The demographic (F38, F39, F40), socioeconomic (F41, F42, F43), and political characteristics (F46) of the surveyed population are also included in the analysis.

#### Results

#### Descriptive statistics

The descriptive statistics for the investigated variables are shown in Table 1. Based on the results of the (independence)  $\chi^2$  test, the attitude of local communities towards refugees depends on the effect of migration flows in everyday life; the sense of threat for public goods, gender, income level, and political placement; the prospect of hospitality; the perspective of solving the issue; as well as the active expression of solidarity, in addition to the frequency of everyday contact with migrants (Table 2).

Table 1

Descriptive statistics of the studied variables

| Variable         | Reference level                        | Alternative levels   |
|------------------|--|--|
| Dependent variab | les                                    |  |
| C22              | Yes (n=577, 82.90%)                    | No (n=119, 17.10%)   |
| C23              | Yes (n=426, 61.65%)                    | No (n=265, 38.35%)   |
| Predictors       |  |  |
| A5               | Mean=165,583, St. dev.=254,533.877     | Range of values=100-3,000,000)   |
| B11              | Yes (n=308, 44.44%)                    | No (n=385, 55.56%)   |
| B14              | Yes (n=419, 61.62%)                    | No (n=261, 38.38%)   |
| B16              | Yes (n=89, 12.90%)                     | No (n=601, 87.10%)   |
| B18              | Yes (n=395, 73.29 %)                   | No (n=144, 26.71%)   |
| B20              | Yes (n=595, 86.10%)                    | No (n=96, 13.89%)  |
| C30              | Yes (n=401, 58.03%)                    | No (n=290, 41.97%)   |
| C32              | Yes (n=228, 32.90%)                    | No (n=465, 67.10%)   |
| E34              | Yes (n=334, 48.13%)                    | No (n=360, 51.87%)   |
| E36              | Nαι (n=193, 28.13%)                    | No (n=493, 71.87%)   |
| E37              | In the right dimension (n=89, 12.91%)  | Overestimate the issue (n=462, 67.06%)                                   |
|                  |  | Underestimate the issue (n=138, 20.03%)                                  |
| F38              | Man (n=300, 43.17%)                    | Woman (n=395, 56.84%)  |
| F39              | Mean=1972,<br>Standard deviation=16.39 | Range of values=1926–1998  |
| F40              | Married (n=378, 54.38%)                | Single (n=201, 28.92%)   |
|                  |  | Cohabitation (n=31, 4.46%)   |
|                  |  | Divorced (n=41, 5.90%)   |
|                  |  | Separated (n=7, 1.01%)   |
|                  |  | Widow(er) (n=37, 5.33%)  |
| F41              | Illiterate (n=9, 1.30%)                | Some classes of primary school (n=12, 1.73%)                             |
|                  |  | Elementary school graduate (n=75, 10.83%)                                |
|                  |  | Secondary school graduate (n=67, 9.68%)                                  |
|                  |  | High school graduate (n=208, 30.06%)                                     |
|                  |  | Graduate of institute of vocational training (n=56, 8.10%)               |
|                  |  | Graduate of university-technological education institute (n=211, 30.49%) |
|                  |  | MSc holder (n=50, 7.23%)   |
|                  |  | PhD holder (n=4, 0.58%)  |

(The table continues next page.)

(Continued.)

|          |                              | (Communical)                          |
|----------|------------------------------|---------------------------------------|
| Variable | Reference level              | Alternative levels                    |
| F42      | No income (n=138, 20.69)     | Under 400 euro (n=91, 13.64)          |
|          |                              | 401–800 euro (n=171, 25.64)           |
|          |                              | 8001–1200 euro (n=182, 27.28)         |
|          |                              | 1201–1600 euro (n=58, 8.70)           |
|          |                              | 1601–2000 euro (n=13, 1.95)           |
|          |                              | Over 2000 euro (n=14, 2.01)           |
| F43      | Employed (n=407, 59,85)      | Unemployed (n=98, 14.42%)             |
|          |                              | Economically inactive (n=175, 25.73%) |
| F46      | 1 Extreme left (n=15, 2.50%) | 2 (n=24, 4.00%)                       |
|          |                              | 3 (n=62, 10.31%)                      |
|          |                              | 4 (n=65, 10.81%)                      |
|          |                              | 5 (n=243, 40.43%)                     |
|          |                              | 6 (n=65, 10.81%)                      |
|          |                              | 7 (n=61, 10.15%)                      |
|          |                              | 8 (n=35, 5.83%)                       |
|          |                              | 9 (n=15, 2.50%)                       |
|          |                              | 10 Extreme right (n=16, 2.66%)        |

 $\label{eq:Table 2} \textbf{Results of a statistical test for each question naire's item}$ 

|       | Cross-connection questions (x*y)                               | Pearson's<br>Chi-<br>square<br>test | <i>p</i> -value* | Degrees<br>of<br>freedom |
|-------|--|-------------------------------------|------------------|--------------------------|
| 1.1   | Effect of flows on everyday life – Attitude towards refugees   | 25.098                              | 0.000            | 1                        |
| 1.2   | Effect of flows on everyday life – Attitude towards immigrants | 34.171                              | 0.000            | 1                        |
| 2.1   | Threat of public goods – Attitude towards refugees             | 25.098                              | 0.000            | 1                        |
| 2.2   | Threat of public goods – Attitude towards immigrants           | 34.171                              | 0.000            | 1                        |
| 3.1.1 | Attitude towards refugees – Gender                             | 0.431                               | 0.511            | 1                        |
| 3.1.2 | Attitude towards refugees – Year of birth                      | 7.717                               | 0.172            | 5                        |
| 3.1.3 | Attitude towards refugees – Family status                      | 4.589                               | 0.468            | 5                        |
| 3.1.4 | Attitude towards refugees – Monthly per capita income          | 21.203                              | 0.006            | 8                        |
| 3.1.5 | Attitude towards refugees – State of employment                | 4.457                               | 0.615            | 6                        |
| 3.1.6 | Attitude towards refugees – Level of education                 | 0.926                               | 0.629            | 2                        |
| 3.1.7 | Attitude towards refugees – Political placement                | 37.170                              | 0.000            | 9                        |
| 3.2.1 | Attitude towards immigrants – Gender                           | 5.785                               | 0.016            | 1                        |
| 3.2.2 | Attitude towards immigrants – Year of birth                    | 6.844                               | 0.232            | 5                        |
| 3.2.3 | Attitude towards immigrants – Family status                    | 5.728                               | 0.333            | 5                        |
| 3.2.4 | Attitude towards immigrants – Monthly per capita income        | 35.280                              | 0.000            | 8                        |
| 3.2.5 | Attitude towards immigrants – State of employment              | 4.996                               | 0.544            | 6                        |
| 3.2.6 | Attitude towards immigrants – Level of education               | 1.626                               | 0.443            | 2                        |
| 3.2.7 | Attitude towards immigrants – Political placement              | 33.760                              | 0.000            | 9                        |

(The table continues next page.)

|       |  |                                     |                  | (Continued.)             |
|-------|--|-------------------------------------|------------------|--------------------------|
|       | Cross-connection questions (x*y)   | Pearson's<br>Chi-<br>square<br>test | <i>p</i> -value* | Degrees<br>of<br>freedom |
| 4.1   | Attitude towards immigrants – Gender   | 0.140                               | 0.708            | 1                        |
| 4.2   | Attitude towards immigrants – Year of birth                                    | 3.028                               | 0.695            | 5                        |
| 4.3   | Effect on the economy – Family status  | 4.101                               | 0.534            | 5                        |
| 4.4   | Effect on the economy – Level of education                                     | 12.588                              | 0.126            | 8                        |
| 4.5   | Effect on the economy – Monthly per capita income                              | 6.760                               | 0.349            | 6                        |
| 4.6   | Effect on the economy – State of employment                                    | 0.628                               | 0.730            | 2                        |
| 4.7   | Effect on the economy – Political placement                                    | 21.236                              | 0.010            | 9                        |
| 5.1   | Effect of flows on everyday life – Permanent settlement of refugees            | 38.845                              | 0.000            | 1                        |
| 5.2   | Effect of flows on everyday life – Permanent settlement of immigrants          | 37.552                              | 0.000            | 1                        |
| 6     | Effect of flows on everyday life – Sense of threat for public goods and values | 87.808                              | 0.000            | 1                        |
| 7.1   | Perspective of solving the issue – Attitude towards refugees                   | 2.398                               | 0.121            | 1                        |
| 7.2   | Perspective of solving the issue – Attitude towards immigrants                 | 9.827                               | 0.001            | 1                        |
| 8.1.1 | Attitude towards refugees – Active expression of solidarity                    | 52.567                              | 0.000            | 1                        |
| 8.1.2 | Attitude towards refugees – Prospect of hospitality                            | 38.442                              | 0.000            | 1                        |
| 8.1.3 | Attitude towards refugees – Frequency of contact                               | 2.690                               | 0.100            | 1                        |
| 8.2.1 | Attitude towards refugees – Active expression of solidarity                    | 56.623                              | 0.000            | 1                        |
| 8.2.2 | Attitude towards immigrants – Prospect of hospitality                          | 3.549                               | 0.059            | 1                        |
| 8.2.3 | Attitude towards immigrants – Frequency of contact                             | 48.438                              | 0.000            | 1                        |

<sup>\*</sup> p-values at 5% level of significance level are marked in bold.

## Comparison between predictive and explanatory models

Separate models investigating the attitudes towards refugees and economic immigrants are run, considering the overall effect of all the predictors. To achieve the highest possible accuracy, two models are run to interpret and predict the attitude of Lesvos community towards refugees and immigrants. The percentages of the sample's missing values are reported in Table 3, after re-codifying the input variables.

Table 3 Statistical distribution of sample's missing values

| Variable | Number of missing values | Percentage of missing values | Variable | Number of missing values | Percentage of missing values |
|----------|--------------------------|------------------------------|----------|--------------------------|------------------------------|
| a5       | 65                       | 9.33                         | e34      | 3                        | 0.43                         |
| Ь11      | 4                        | 0.57                         | e36      | 11                       | 1.58                         |
| Ь14      | 17                       | 2.44                         | e37      | 8                        | 1.15                         |
| Ь16      | 7                        | 1.00                         | f38      | 2                        | 0.29                         |
| Ь18      | 158                      | 22.67                        | f39      | 16                       | 2.30                         |
| Ь20      | 6                        | 0.86                         | f40      | 2                        | 0.29                         |
| c22      | 1                        | 0.14                         | f41      | 5                        | 0.72                         |
| c23      | 6                        | 0.86                         | f42      | 30                       | 4.30                         |
| c30      | 6                        | 0.86                         | f43      | 17                       | 2.44                         |
| c32      | 4                        | 0.57                         | f46      | 96                       | 13.77                        |

Regarding Question 18, the 'Neutrally' category is deleted from Table 1 because of missing values. Likewise, for Questions C22 and C23, the 'Moderately' category is excluded from the analysis, without a significant effect on the percentage of missing values. For interpolation, the modal value is used except for variables A5 (number of incoming immigrants and refugees) and F39 (year of birth), which are quantitative; consequently, the arithmetic mean is used. Finally, the multiple imputation method is applied with the use of chained equations.

Models that minimise the value of the AIC are considered (Table 4). To test the adequacy of the selected models, the explanatory power of each model, prediction accuracy, as well as goodness-of-fit are calculated (Table 5). After the imputation of missing values with chained equations, the coefficients of the final predictive–explanatory models are weighted (Nguefack-Tsague et al. 2016), considering the AIC. Thus, two models are created, separately evaluating the attitude towards refugees and immigrants.

Table 4
Comparative table of predictive – explanatory models

| Model   | Variables                                   | AIC value |  |  |  |
|---|---|-----------|--|--|--|
| Models about the attitude towards refugees  |   |           |  |  |  |
| Model with deleted missing values   | B11, C30, F39, F40, F42, F46                | 319.36    |  |  |  |
| Model with attribution of values without condition  | B14, B20, C30                               | 587.75    |  |  |  |
| Model with attribution of values with chain equations                                     | B11, B14, B16, B20, C30, E37, F39, F41, F46 | 580.76    |  |  |  |
| Models about the  | he attitude towards immigrants              |           |  |  |  |
| Model with deleted missing values   | B14, B18, E34, F38, F41, F46                | 492.75    |  |  |  |
| Model with attribution of values without condition  Model with attribution of values with | B11, B14, B18, E34, E37, F38, F40, F46      | 860.85    |  |  |  |
| chain equations   | B11, B14, B18, E34, E37, F38, F40, F46      | 849.05    |  |  |  |

Table 5

Tests of adequacy and prediction accuracy

| Model   | McFadden        | Cox and<br>Snell | Nagelkerke | Hosmer-<br>Lemeshow | Accuracy of prediction |
|---|-----------------|------------------|------------|---------------------|------------------------|
| Models  | about the att   | itude towards    | refugees   |                     |                        |
| Model with deleted missing values                     | 0.326           | 0.244            | 0.424      | 0.9195<br>(p-value) | 0.871                  |
| Model with attribution of values without condition    | 0.218           | 0.181            | 0.302      | 0.7532<br>(p-value) | 0.839                  |
| Model with attribution of values with chain equations | _               | _                | _          | _                   | _                      |
| Models a  | bout the attiti | ude towards i    | mmigrants  |                     |                        |
| Model with deleted missing values                     | 0.226           | 0.257            | 0.351      | 0.0696<br>(p-value) | 0.731                  |
| Model with attribution of values without condition    | 0.167           | 0.199            | 0.271      | 0.8584<br>(p-value) | 0.692                  |
| Model with attribution of values with chain equations | _               | _                | _          | _                   | _                      |

## Modelling attitudes towards refugees

The results from the stepwise regression are illustrated using the *AIC for the attitude towards refugees* (Posada–Buckley 2004). A variable is included in the final model if the regression coefficient is not equal to zero; otherwise, the variable is rejected. Therefore, it is assumed that low variable regression coefficient values denote low interpretative values of the model's variance. The final predictive–interpretive model concerning the attitude of the local community towards refugees includes the following variables: B11, B14, B16, B20, C30, E37, F39, F41, and F46 (Table 6).

Table 6
Estimations of the final model for the attitude of local society of Lesvos towards refugees

| Variable   | Level | Estimate | Standard<br>error | Lower limit of 95% C.I. | Upper limit of 95% C.I. |
|------------|-------|----------|-------------------|-------------------------|-------------------------|
| (Constant) |       | 61.55    | 17.95             | 26.16                   | 96.95                   |
| a5         |       | 0.00     | 0.00              | 0.00                    | 0.00                    |
| b11        | Yes   | -0.35    | 0.28              | -0.92                   | 0.23                    |
| b14        | Yes   | -0.92    | 0.34              | -1.62                   | -0.23                   |
| b16        | Yes   | 0.13     | 0.29              | -0.48                   | 0.74                    |
| Ь18        | Yes   | 0.00     | 0.00              | 0.00                    | 0.00                    |
| b20        | Yes   | 0.70     | 0.30              | 0.11                    | 1.30                    |
| c30        | Yes   | -0.97    | 0.29              | -1.54                   | -0.40                   |

(The table continues next page.)

| Variable | Level  | Estimate | Standard<br>error | Lower limit of 95% C.I. | (Continued.) Upper limit of 95% C.I. |
|----------|--|----------|-------------------|-------------------------|--------------------------------------|
| c32      | Yes  | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| e34      | Yes  | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| e36      | Yes  | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| e37      | Overstate the issue                                      | 0.03     | 0.16              | -0.30                   | 0.36                                 |
| e37      | Underestimate the issue                                  | 0.01     | 0.10              | -0.20                   | 0.22                                 |
| f38      | Female   | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f39      | Year of birth  | -0.03    | 0.01              | -0.05                   | -0.01                                |
| f40      | Single   | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f40      | In cohabitation  | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f40      | Divorced   | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f40      | Separated  | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f40      | Widow(er)  | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f41      | Some classes of primary school                           | -2.47    | 1.34              | -5.12                   | 0.18                                 |
| f41      | Elementary school graduate                               | -0.85    | 1.19              | -3.18                   | 1.48                                 |
| f41      | Secondary school graduate                                | -0.14    | 1.22              | -2.54                   | 2.26                                 |
| f41      | High school graduate                                     | -0.54    | 1.18              | -2.85                   | 1.77                                 |
| f41      | Graduate of institute of vocational training (IEK)       | -0.14    | 1.24              | -2.58                   | 2.30                                 |
| f41      | Graduate of university-technological education institute | -0.33    | 1.19              | -2.66                   | 2.00                                 |
| f41      | MSc holder   | 15.98    | 744.40            | -1443.02                | 1474.97                              |
| f41      | PhD holder   | 16.06    | 2725.42           | -5325.65                | 5357.78                              |
| f42      | Under 400 euro   | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f42      | 401–800 euro   | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f42      | 8001–1200 euro   | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f42      | 1201–1600 euro   | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f42      | 1601–2000 euro   | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f42      | Over 2000 euro   | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f43      | Unemployed   | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f43      | Economically inactive                                    | 0.00     | 0.00              | 0.00                    | 0.00                                 |
| f46      | 2  | 0.58     | 0.94              | -1.31                   | 2.47                                 |
| f46      | 3  | 0.65     | 0.86              | -1.11                   | 2.40                                 |
| f46      | 4  | 1.01     | 0.86              | -0.72                   | 2.73                                 |
| f46      | 5  | 0.51     | 0.74              | -0.97                   | 1.99                                 |
| f46      | 6  | 1.07     | 0.83              | -0.61                   | 2.75                                 |
| f46      | 7  | 0.06     | 0.79              | -1.53                   | 1.66                                 |
| f46      | 8  | -0.30    | 0.84              | -2.00                   | 1.39                                 |
| f46      | 9  | -0.45    | 0.92              | -2.32                   | 1.42                                 |
| f46      | 10 Extreme right   | -1.22    | 0.89              | -3.02                   | 0.59                                 |

Summarily, these results outline basic difficulties experienced by the Mytilini population after the mass arrival of refugees (B11), the threat they may feel for some public goods and values (B14), the effect of refugees' flows on family income (B16), the impact on the increase of unemployment (B20), the dissimilarity of refugees regarding the religious beliefs and cultural distance (C30), and the stance of media towards the issue (E37). The importance of age (F39), education level (F41), and political placement (F46) of each respondent is also highlighted. The negative values of the model's coefficients indicate a lower probability that a respondent with such characteristics maintains a positive attitude towards refugees. Positive values of regression coefficients denote a higher probability of a positive attitude towards refugees.

By analysing the results of the logistic regression presented in Table 6, we conclude that negative values of the model's regression coefficients reduce the probability that a given respondent with specific socioeconomic characteristics is positively inclined towards refugees. Correspondingly, positive values of regression coefficients increase the probability that the respondent is positively inclined towards refugees. The education level increases the probability that respondents are positively inclined towards refugees, whereas this probability is reduced towards right political placement.

#### Modelling attitudes towards economic immigrants

Based on the above-stated results, Table 7 presents the regression coefficients of the independent variables and the standard error of each estimated coefficient of the predictive—interpretive model run for economic immigrants, as well as the estimates corresponding to the 95% confidence interval. The results of this model highlight a multitude of factors that affect respondents' attitudes towards immigrants. A key feature is the fact that age, being significant in the model for refugees, is not significant in the model for immigrants, whereas the reverse pattern is observed for gender.

Estimations of the final model for the attitude of local society of Lesvos towards immigrants

| Variable   | Level | Estimate |      |       | Upper limit of 95% C.I. |
|------------|-------|----------|------|-------|-------------------------|
| (Constant) |       | 1.20     | 1.13 | -1.12 | 3.53                    |
| a5         |       | 0.00     | 0.00 | 0.00  | 0.00                    |
| Ь11        | Yes   | -0.53    | 0.20 | -0.94 | -0.12                   |
| b14        | Yes   | -0.58    | 0.22 | -1.01 | -0.14                   |
| Ь16        | Yes   | 0.00     | 0.00 | 0.00  | 0.00                    |
| Ь18        | Yes   | 0.65     | 0.21 | 0.21  | 1.08                    |
| Ь20        | Yes   | 0.00     | 0.00 | 0.00  | 0.00                    |

(The table continues next page.)

Table 7

| (Cont |  |
|-------|--|
|       |  |

|          |                                      |          |          |       | (Continued.)            |
|----------|--------------------------------------|----------|----------|-------|-------------------------|
| Variable | Level                                | Estimate | Standard |       | Upper limit of 95% C.I. |
| -        |                                      |          | error    |       |                         |
| c30      | Yes                                  | -0.37    | 0.20     | -0.76 | 0.03                    |
| c32      | Yes                                  | 0.12     | 0.20     | -0.30 | 0.54                    |
| e34      | Yes                                  | 0.34     | 0.18     | -0.01 | 0.69                    |
| e36      | Yes                                  | 0.00     | 0.00     | 0.00  | 0.00                    |
| e37      | Overstate the issue                  | 0.38     | 0.34     | -0.33 | 1.08                    |
| e37      | Underestimate the issue              | 0.13     | 0.28     | -0.43 | 0.70                    |
| f38      | Female                               | 0.41     | 0.18     | 0.06  | 0.77                    |
| f39      | Year of birth                        | 0.00     | 0.00     | 0.00  | 0.00                    |
| f40      | Single                               | 0.00     | 0.00     | 0.00  | 0.00                    |
| f40      | In cohabitation                      | 0.00     | 0.00     | 0.00  | 0.00                    |
| f40      | Divorced                             | 0.00     | 0.00     | 0.00  | 0.00                    |
| f40      | Separated                            | 0.00     | 0.00     | 0.00  | 0.00                    |
| f40      | Widow(er)                            | 0.00     | 0.00     | 0.00  | 0.00                    |
| f41      | Some classes of primary school       | -1.99    | 1.12     | -4.18 | 0.20                    |
| f41      | Elementary school graduate           | -1.12    | 0.94     | -2.96 | 0.72                    |
| f41      | Secondary school graduate            | -0.73    | 0.95     | -2.59 | 1.12                    |
| f41      | High school graduate                 | -0.93    | 0.92     | -2.73 | 0.87                    |
| f41      | Graduate of institute of vocational  |          |          |       |                         |
|          | training (IEK)                       | -0.65    | 0.96     | -2.53 | 1.24                    |
| f41      | Graduate of university-technological |          |          |       |                         |
|          | education institute                  | -0.86    | 0.92     | -2.66 | 0.94                    |
| f41      | MSc holder                           | 1.27     | 1.09     | -0.87 | 3.41                    |
| f41      | PhD holder                           | -0.60    | 1.55     | -3.70 | 2.50                    |
| f42      | Under 400 euro                       | 0.00     | 0.00     | 0.00  | 0.00                    |
| f42      | 401–800 euro                         | 0.00     | 0.00     | 0.00  | 0.00                    |
| f42      | 8001–1200 euro                       | 0.00     | 0.00     | 0.00  | 0.00                    |
| f42      | 1201–1600 euro                       | 0.00     | 0.00     | 0.00  | 0.00                    |
| f42      | 1601–2000 euro                       | 0.00     | 0.00     | 0.00  | 0.00                    |
| f42      | Over 2000 euro                       | 0.00     | 0.00     | 0.00  | 0.00                    |
| f43      | Unemployed                           | 0.00     | 0.00     | 0.00  | 0.00                    |
| f43      | Economically inactive                | 0.00     | 0.00     | 0.00  | 0.00                    |
| f46      | 2                                    | -0.25    | 0.58     | -1.45 | 0.95                    |
| f46      | 3                                    | -0.02    | 0.44     | -0.91 | 0.87                    |
| f46      | 4                                    | -0.13    | 0.47     | -1.09 | 0.84                    |
| f46      | 5                                    | -0.23    | 0.51     | -1.30 | 0.83                    |
| f46      | 6                                    | -0.20    | 0.48     | -1.20 | 0.81                    |
| f46      | 7                                    | -0.33    | 0.62     | -1.61 | 0.96                    |
| f46      | 8                                    | -0.27    | 0.58     | -1.47 | 0.93                    |
| f46      | 9                                    | -0.78    | 1.24     | -3.38 | 1.82                    |
| f46      | 10 Extreme right                     | -0.73    | 1.16     | -3.15 | 1.69                    |
|          |                                      |          |          |       |                         |

Factors affecting the attitude towards immigrants include the potential difficulties the inhabitants of Lesvos may have encountered by the mass arrival of immigrants (B11), the threat they may feel for some public goods or values (B14), the effect of flows on the economy of the island (B18), the dissimilarity of

immigrants regarding religious and cultural characteristics (C30), the frequency of contact with immigrants, the prospect of solving the issue (E34), the stance of media towards the issue (E37), the gender (F38), the education level (F41), and the political placement (F46). Based on the aforementioned findings, factors affecting the attitude towards immigrants differ in relation to the aspects that affect the attitude towards refugees. In particular, age appears to be statistically significant in the model of refugees only. The reverse evidence emerges for gender, which is statistically significant in the model of immigrants only.

#### **Discussion**

Our study identifies the main factors that shape attitudes towards immigrants and refugees in Greece based on a statistical analysis of primary data collected through interviews during the outbreak of mass refugee and immigration flows in 2015. These factors include contingent difficulties derived from the mass flows of refugees, threats indigenous people may feel for some public goods and values, the indirect effect of migration flows on the economy of the island, *religious and cultural factors*, the frequency of contact with refugees and immigrants, the prospect of solving the issue in the near future, the role of media as well as gender, education level, and political placement. To the best of our knowledge, no other study has examined the perceptions of locals in Greece towards immigrants and refugees on a regional scale.

Based on these findings, the theoretical framework of realistic and symbolic threats, which appertains to the wider context of the integrated threat theory, is adopted to interpret anti-immigrant sentiments at the local scale (see also Simonovits 2016). The feelings of the local community towards migrants are also influenced by political factors. In particular, political placement is a significant predictor of perceived threats (see Hainmueller et al. 2016). A placement leading more towards the right-wing on the political scale is associated with more negative attitudes towards refugees and economic immigrants.

In addition to the sense of threat for some public goods or values, our study documents how views about the existence of difficulties, resulting from the sudden intensification of migratory flows towards Greece, spread over host societies (Salvati–Benassi 2021). However, personal contact seems to be an important factor in understanding the interaction between locals and the incoming population (Allport 1954). Negative perceptions about their social inclusion owing to religious features and cultural diversity and the way the issue is confronted by the mass media are additional factors that mould individual attitudes towards immigrants and refugees.

Our research outcome may also apply to countries with similar socioeconomic conditions and cultural settings as Greece. Consequently, our results could be

potentially extended to Mediterranean countries, such as Italy and Spain, which have also received large waves of immigrants and refugees. Additionally, these countries confront severe budget strains, which have escalated due to the recent financial crisis. The intense and prolonged crisis in Greece makes an additional contribution to such perceptions (e.g. Di Feliciantonio–Salvati 2015, Salvati et al. 2016, Zambon et al. 2017). Based on these perspectives, the geographical notion of 'Southern Europe' has not only territorial implications (e.g. Pili et al. 2017, Zambon et al. 2018, Duvernoy et al. 2018) but also a profound social and economic connotations (Baumeister–Sala 2015).

The aforementioned results are in line with the earlier literature focussing on the role of migration policy in relation to the extent of perceived threat. Additionally, many people express concerns regarding public health, increased deviance, and social degradation of neighbourhoods. Meanwhile, immigrants' needs are associated with other policies to upgrade living standards – territorial, economic social, and cultural – as well as providing psychosocial counselling services and medical care, combined with accommodation problems and housing issues (e.g., Salvati et al. 2019). Therefore, the integration process can be mitigated through the establishment of a more effective strategy concerning the smooth transition of both refugees and economic immigrants into host communities under specific socioeconomic contexts.

Consequently, the relationship between host societies and immigrants, as well as the perceived threats on behalf of local communities, is largely based on local societies' views. However, a possible limitation of this assumption is that the relationship between migrants and members of local societies is multi-dimensional, being shaped by beliefs and attitudes of both native and non-locals, as well as the continuous interaction between them. Thus, future investigations should consider political agents responsible for the mitigation of prejudices and negative stereotypes concerning immigration, hopefully with a specific distinction between economic migrants and refugees (Horváth 2016, Bálint et al. 2018, Farkas–Dövényi 2018). A more comprehensive analysis of the effectiveness of migration policies at different spatial and operational scales is particularly appropriate in this direction.

#### Concluding remarks

Our study documents important differences in the perceptions and attitudes towards refugees and economic immigrants. The attitude of the local society towards refugees is revealed to be more positive than the attitude towards immigrants. On the one hand, stances towards refugees are shaped by views regarding the effect of incoming flows on employment, level of wealth, and age of respondents. On the other hand, the attitude towards economic immigrants is mostly affected by gender, frequency of contact, individual view about the effect of

rising migratory flows on the economy, and prospect of solving the issue. Most of the arguments provided by the respondents reflect the existence of difficulties and the sense of threat for some public goods or values owing to the arrival of immigrants and refugees. Moreover, the respondents express concerns about the social integration of immigrants and refugees because of different cultural and religious characteristics. The age of interviewees is proven to impact negatively on the attitude towards refugees and immigrants. Concerning the education level, it emerges that higher levels of education are related to positive attitude towards immigrants and refugees. Conversely, right placement on the political scale is linked to negative attitudes towards immigrants and refugees. The gender is also a factor that affects the attitude of local societies towards immigrants and refugees. Mass media seem to negatively affect the configuration of such attitudes, while direct interaction may improve perceptions and beliefs towards both refugees and economic immigrants.

As indicated in the previous paragraph, the inherent complexity of survey outcomes justifies an in-depth analysis of attitudes and perceptions of local communities towards economic immigrants and refugees separately. A thorough distinction of these two classes is not only particularly interesting *per sé* (e.g., within pilot sociological studies) but also rather effective when designing broader surveys of potential interest for official statistics. It should be considered that the production of statistical data, variables, and indicators on international migration is rather mixed and, in some cases, restricted, not only in emerging economies but also in Europe, as the Greek case evidently demonstrates. Based on a stratified sample of a hotspot community, such as Lesvos, the survey proposed here can represent a prototypal base for larger official surveys on the perceptions and attitudes towards migrants that can be incorporated into the broader framework of social statistics' official production at both the continental and country scale in Europe.

The limitations of the present study are grounded in the coverage of the sample, which is restricted to a local community exposed, for a long time, to incoming flows of migrants from Turkey. Different results, expected to emerge from various regional contexts in Greece and, more generally, in Europe, may justify the need for a broader survey. Meanwhile, based on the working hypothesis of this study, the role of 'objective' factors (such as the socioeconomic profile of the respondents based on age, gender, occupation, and wealth conditions) should be better compared with the role of each respondent's intimately 'subjective' characteristics that are assessed, at least in part, here, and that may require further conceptualisation and operationalisation. The importance of these two classes of factors that shape perceptions and attitudes towards migrants is apparently different, considering refugees and economic immigrants separately, and this justifies the importance of such surveys when designing more effective integration policies and a broader strategy for regulating immigration in Greece and, possibly, in Europe.

## Annex 1

## Questionnaire items

| Initial question  | New question  | Recodification of answers |     |
|---|---|---------------------------|-----|
|   |   | initial                   | new |
| B11. How has your everyday life become with so large flows of refugees-immigrants?  | B11. Your everyday life has become more difficult with so large flows of refugees-immigrants?   | Unbearable                | YES |
|   |   | Difficult                 |     |
|   |   | Relatively difficult      |     |
|   |   | Not affected much         | NO  |
|   |   | Not affected at all       |     |
| B16. Has there been a direct  | B16. Has there been an effect   | Large                     | YES |
| effect of immigrant and refugee flows on family income?   | of immigrant and refugee flows on family income?  | None                      | NO  |
|   |   | Small                     |     |
| B18. In general, how do you believe that the immigrant-refugee flow has affected the island's economy:                          | B18. In general, how you believe that the immigrant-refugee flow has positively affected the island's economy?  | Very positive             | t   |
|   |   | Positive                  | YES |
|   |   | Negative                  | NO  |
|   |   | Very negative             |     |
|   |   | Neutrally                 |     |
| B20. The great inflow of immigrants-refugees had a positive effect on the increase of the island's employment even temporarily? | B20. The great inflow of immigrants-refugees had an effect on the increase of the island's employment even temporarily?                                   | Large                     | YES |
|   |   | Moderately                |     |
|   |   | Moderatery                |     |
|   |   | Not at all                |     |
|   |   |                           |     |
| C21. Do you consider that in the framework of humanitarian treatment, the discrimination between immigrants and refugees:       | C21. Do you consider that in<br>the framework of humanitarian<br>treatment, the discrimination<br>between immigrants and<br>refugees should be taken into | Should be taken into      | YES |
|   |   | account                   |     |
|   |   | Should not be taken into  | NO  |
|   |   | account                   |     |
|   |   |                           |     |
| C22. Do you feel sympathy for the plight of refugees?   | account.  C22. Do you feel sympathy for the plight of refugees?   | T7 1                      |     |
|   |   | Very much                 |     |
|   |   | Much                      |     |
|   |   | Moderately                |     |
|   |   | Not at all                |     |
|   |   | Enough                    |     |
| C23. Do you feel sympathy for the plight of immigrants?   | Do you feel sympathy for the plight of immigrants?  | Very much                 |     |
|   |   | Much                      |     |
|   |   | Moderately                |     |
|   |   | Not at all                |     |
|   |   | Enough                    |     |
| C32. How often did you contact with immigrants-refugees?  | C32. Did you often contact with immigrants-refugees?  | Very much                 |     |
|   |   | Much                      |     |
|   |   | Moderately                | 1   |
|   |   | Not at all                | 1   |
|   |   | Enough                    | 1   |

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