

# METHODOLOGICAL NOTE ON THE ESTIMATED MIGRATION FLOWS OF 2022 AND THE ESTIMATED POPULATION ON 1.1.2023

## BACKGROUND

This note presents the first estimates of migration flows for 2022 upon which the estimated population on 1.1.2023 is based. As regards immigration flows, the model to be applied is the same as the one outlined in the note entitled “Short methodological note on the estimated migration flows and the estimated population 1991-2014”. The note is available at the following link:

[Short methodological note on population and migration estimation 1991-2014 \(EN\)](#)

In this estimation, the number of persons living in the country seeking international or temporary protection is added.

The estimation of emigration is based upon data on immigrants from Greece to Germany, as reported by the German Statistical Office (DESTATIS), given that relevant data of other countries are not available. Bearing in mind that Germany has long been the most popular destination country for Greek emigrants, the data of Germany are used by applying regression models.

## IMMIGRATION

Using the aforementioned note on estimating immigration flows for the years 1991-2014 and taking also into consideration the advantages and disadvantages of the examined models, a model with two independent variables was selected, namely immigration of the previous year and the percentage change of Gross Domestic Product (GDP) for the previous year, as well.

The formula is as follows:

$$\ln(X_t) = 3.219 + 0.711 * \ln(X_{t-1}) + 0,008 * Z_{t-1} \quad (1)$$

where,

**X<sub>t</sub>**: Total annual immigration

**X<sub>t-1</sub>**: Total annual immigration (previous year)

**Z<sub>t-1</sub>**: percentage change of Gross Domestic Product (previous year)

If **X<sub>2021</sub>** = 48.375 and **Z<sub>2021</sub>** = 10,0,

the estimated immigration for 2022 is:  $X_{2022}=58,010$ .

Additionally, persons residing permanently in the Country, who meet the conditions of European Regulation (EC) 862/2007 on Community statistics on migration and international protection, are also considered incoming migrants. Relevant data are drawn from the Ministry of Migration and Asylum for 2022 and refer to 17,122 persons who applied for international protection status as well as 21,530 persons who, coming from Ukraine, applied for the temporary protection status in Greece, which was activated especially in E.U. countries for refugees from Ukraine. Therefore, the total number of estimated inbound migration for 2022 is 96,662.

The distribution of 58,010 incoming migrants and persons seeking international protection by gender, age, nationality groups/places of birth/places of previous residence is based on the data of the 2021 Population Census, while the distribution of people from Ukraine is based on data from the Ministry of Migration and Asylum.

## **EMIGRATION**

Estimates for the years 1991 – 2013 were produced on the basis of the results of the MIMOSA projects and immigration data of other countries. These estimates are included in the aforementioned note “Short methodological note on the estimated migration flows and the estimated population 1991-2014”.

A regression model, based on available data regarding immigrants from Greece to Germany, as reported by the German Statistical Office DESTATIS, is being applied as of 2014.

The regression formula that was selected is the following:

$$E_t = 6755,205 + 3.157393 * D_t$$

where  $E_t$  is t total emigration during the year t and  $D_t$  is data on migration from Greece to Germany, for the same year, according to DESTATIS.

By applying the regression formula to the 23,295 migrants from Greece to Germany according to DESTATIS data for 2022, the resulting estimate for total emigrants is **80,307**.

As regards disaggregation of emigrants by sex and age, Population and Housing Census 2021 results were used.

### **ESTIMATED POPULATION ON 1.1.2023**

On the basis of the demographic equation  $P_{t+1} = P_t + B_t - D_t + I_t - E_t$ ,

where,  $t=2022$  and  $t+1= 2023$ ,

$P_{2023}=P_{t+1}$  (population on 1.1.2023)

$P_{2022} = 10,461,627$  (population on 1.1.2022)

$B_{2022} = 75,921$  live births (excluding mothers residing abroad)

$D_{2022} = 139,921$  deaths (excluding deceased persons non-residents)

$I_{2022} = 96,662$  (immigrants)

$E_{2022} = 80,307$  (emigrants)

Therefore, the estimated population on 1.1.2023 is as follows:  **$P_{2023} = 10.413.982$ .**