METHODOLOGICAL NOTE ON THE ESTIMATED MIGRATION FLOWS OF 2016 AND THE ESTIMATED POPULATION ON 1.1.2017

BACKGROUND

This note presents the first estimates of migration flows for 2016 on which the estimated population on 1.1.2017 is based. As regards immigration flows, the model that has been 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:

 http://www.statistics.gr/documents/20181/a483cf24-b563-4ef8-8ae9-d502d7d21675 .

To this estimation number of people living in the country due to the refugee crisis is added. The estimation of emigration is based on the data on immigrants from Greece to Germany, as reported by the German Statistical Office (DESTATIS), given that neither the Greek Ministry of Foreign Affairs nor any other country have any relevant data. Knowing that Germany is the more popular destination country for Greek emigrants,   the data of Germany are used by applying regression models.

IMMIGRATION

On the basis of 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:

$$\ln(X_t) = 3{,}219 + 0{,}711 * \ln(X_{t-1}) + 0{,}008 * Z_{t-1} \qquad (1)$$

where,

X_t: Total annual immigration

X_{t-1}: Total annual immigration (previous year)

Z_{t-1}: Percentage change of Gross Domestic Product (previous year)

If $X_{2015} = 60.944$ and $Z_{2015} = -1{,}31$, the estimated immigration for 2016 is: $X_{2016} = 62.449$.

Moreover, to this number 54.418 persons will be added pertaining to the refugee crisis and living in the country on 1.1.2017 who meet the requirements of the Regulation of the E. Parliament and of the Council (EC) 862/2007 on Community statistics on migration and international protection to be considered immigrants. Therefore, the total number of the estimated immigration for 2016 is **116.867.**

The estimated immigrants (62.449) are disaggregated by sex, age and groups of citizenship/country of birth/country of previous residence on the basis of the 2011 Population Census data. Persons living in the Country due to the refugee crisis are allocated on the basis of administrative data from the Asylum Service and the Refugees Coordination Body (KEPOM).

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 previously published study "Short methodological note on the estimated migration flows and the estimated population 1991-2014".

For the years from 2014 onwards, the model applied is outlined in the note "Methodological note on the migration flows 2014 and the estimated population on 1.1.2015" The note is available at the following link:

http://www.statistics.gr/en/statistics?p_p_id=documents_WAR_publicationsportlet_INSTANCE_

The regression model that has been applied in based on the available data on immigrants from Greece to Germany, as reported by the German Statistical Office DESTATIS.

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 for 2016, for which according to provisional estimations for the German data, immigrants from Greece amounted to 31.602, the resulting estimate for total emigrants is **106.535**.

Emigrants are disaggregated by sex on the basis of the German data on immigration from Greece.

ESTIMATED POPULATION ON 1.1.2017

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

where,

$P_{2016} = 10.783.748$ (population 1.1.2016)

$B_{2016} = 92.898$ live births

$D_{2016} = 118.785$ deaths

$I_{2016} = 116.867$ (estimated immigrants)

$E_{2016} = 106.535$ (estimated emigrants)

the estimated population on 1.1.2017 is: P_{2016} **= 10.768.193**.