**Method for estimation of the demographic events in Bulgaria between the last two censuses (2001 - 2011) by districts**

**Purpose:**

To produce estimates on the number of demographic events in Bulgaria - births, deaths and net migration, as well as on the population number at the end of each year within the period between the last two censuses, 2001 - 2011.

**Demographic indicators:**

Sex, single ages and country districts

**Approach:**

The high quality and particularity of the demographic data available in the NSI demographic information system allowed the application of a cohort- component approach for structuring of the tabular information according to the Lexis diagram requirements.

**To achieve the target set, the following tasks are solved:**

1. Based on the NSI demographic information system, the number of demographic events (births and deaths) within the period 2001 – 2011 is produced, distributed by districts, sex, single ages, year of birth and year of occurrence of the event.

2. The demographic events are tabulated in dynamics by one-year cohorts divided by "elementary triangles" on the studied demographic indicators, according to the Lexis diagram requirements. Births and deaths processed with a delay i.e. after the annual publication of data are re-distributed to the real year of occurrence of the event.

3. The 2011 census population (by districts, sex and single ages) is retrospectively distributed over the time i.e. calendar years within the period 2001 -2011, by one-year cohorts of the Lexis diagram regarding the respective demographic events, broken down by elementary triangles according to the demographic indicators surveyed and the year of birth, defining the cohorts.

4. Based on the well known "balance equation", the difference between the calculated in this way hypothetical population at the beginning of 2001, without considering the migration processes in the country districts within the period 2001-2011 and the resident population, enumerated in the 2001 census is a reliable estimate of the net migration by the surveyed indicators.

5. Thus calculated net migration estimate is uniformly distributed by calendar years as the empirical structure by all surveyed demographic indicators, incl. age profile satisfies the balance equation for each calendar year within the period.

**Result:**

The produced estimates on the number of births, deaths and net migration, as well as on the number of population at the end of each calendar year within the period 2001-2011 are realistic and well grounded, based on well selected scientific approach and satisfy the population balance equation for each calendar year.

**Conclusion:**

The produced theoretical estimates respect the logics of demographic events that occurred during the period - births, deaths and migration.

Thanks to the high quality of information available in the NSI information system “Demography”, as well as to the well chosen and precisely realized scientific approach, the produced estimates are of high quality and can practically be used for analytical purposes.