

## **FIRST RESULTS IN DETERMINING PERMANENT RESIDENCY STATUS IN REGISTER-BASED CENSUS**

Ethel Maasing  
Statistics Estonia, Estonia, ethel.maasing@stat.ee

The next population and housing census in Estonia at the end of 2020 is intended to be register-based. At the moment analysts and methodologists are analysing different administrative registers to determine the total population of persons, households and dwellings. This presentation will give an overview of the first results of determining the total population of persons. The work was done for the Master's thesis in mathematical statistics at the University of Tartu. The author used logistic regression analysis and other Tartu University postgraduate students used different assumptions of logistical and linear regression and discriminatory analysis.

All the data about Estonian citizens and foreigners, who have registered their address in Estonia or have got an Estonian residence permit are collected at the Population Register (PR). All persons have a unique identification code that is also used by other administrative registers in Estonia. Everybody is obliged to register their right address to PR by the law. There have been situations where people who have left Estonia do not register their leaving in PR or people who have come (back) into Estonia do not give this information to PR. It can be assumed that the people, who actually live in Estonia are represented in other administrative registers, because they are using services and receive payments.

Besides PR there were 10 administrative registers used: Estonian Education Information System; Register of Social Services and Benefits; Health Insurance Database; National Defence Obligation Register; State Pension Insurance Register; Register of persons registered as unemployed or job-seekers, and of provision of labour market services; Register of Residence and Work Permits; E-file system; Estonian Traffic Register; Register of Employment. Furthermore last census data that was held on the end of 2011 was used to determine the actual residents and non-residents groups.

The work carried out by the author using logistic regression analysis showed that it was easiest to differentiate residents from non-residents using administrative registers among 7–16-year-olds, but most difficult among men aged 23–62. Statistics Estonia published the total population number on the basis of the personalized population base after the last census. Comparison with the analysis results and the personalized population base showed that discriminant analysis gave the closest results.

Work with the determination of total population will continue using administrative registers that were left out of the analysis because of technical reasons and the control groups will be adjusted using the proposals of the thesis.