UNITED NATIONS
ECONOMIC COMMISSION FOR EUROPE
CONFERENCE OF EUROPEAN STATISTICIANS

05 October 2021

UNECE Online Meetings on Migration Statistics, 26–28 October 2021

ABSTRACT

Title	Benefits and challenges of using signs of life approach to estimate unregistered migration
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Session	Improvements in use of administrative data for migration statistics (27-28 October)

Since 2016, demographic analysis in Statistics Estonia are based on a unique approach called residency index. This index uses an array of national administrative databases that cover different aspects of life, such as employment information, medical records, military conscription, car ownership, drivers' licence. The main principle behind this approach is that whenever a person uses services or is in other ways reflected in any of those databases in a given year, they collect so-called signs of life. Over the course of a year, each person accumulates a certain number of signs of life. Then, an algorithm, calibrated to our best of knowledge gives a score to each person ranging between 0 and 1. Higher score indicates that a person actually lives in Estonia.

There are only four ways to be included or excluded from the index in comparison to the previous year – birth, death, immigration, emigration. Since the former two are very well documented, we can with high confidence expect that persons whose index changes significantly from one year to another has moved into or out of Estonia. So, the residency index has not only improved the accuracy of population figure but also significantly enhance our ability to detect unregistered migration.

On the other hand, there are some challenges in using this approach in migration statistics. For example, we can determine if a person lives in Estonia or not, but there is often a lack of further information about a person such as citizenship and country of origin. This has led to a significant ratio of people with unknown citizenship and country or origin in our migration statistics.

In addition, the characteristics of migration flows into and from Estonia are changing in time. International students, digital nomads, transnational workers, expatriates and out-of-country second-home owners all contribute to what is becoming more and more diverse forms of migration with various temporal and spatial behaviours. In further developments of our approach, we hope to be able to determine the new forms of migration such as transnational living and commuters.