Central Statistical Bureau of Latvia

Method Used to Produce Population Statistics

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Abstract

Within the Population and Housing Census 2011 it was found out that at the beginning of 2011 Latvia had usually resident population of 2 074.6 thousand, which was 7 % fewer people than in the Register of Natural Persons[1] supervised by the Office of Citizenship and Migration Affairs (2 228.0 thousand). Central Statistical Bureau of Latvia worked out a method that may be used to estimate population of Latvia more precisely. The method is based on statistical classification and migration mirror statistics and is aimed at dividing population in the Register of Natural Persons of Latvia into two classes – persons actually living in Latvia and persons actually living abroad. The statistical classification model was developed based on a logistic regression.

[1] Population Register until 1 June 2021.

Contents

1 Introduction

Before 2011 Central Statistical Bureau of Latvia (hereinafter – the CSB) estimated population and composition thereof at the beginning of each year by using information from the Register of Natural Persons of the Office of Citizenship and Migration Affairs (hereinafter – the OCMA). The estimate was based on individual data about each person. By using data in the Register of Natural Persons, calculations regarding international long-term migration were made as well (European Parliament and Council Regulation on Community statistics regarding migration and international protection (11) stipulates that 'emigration' means the action by which a person, having previously been usually resident in the territory of a Member State, ceases to have his or her usual residence in that Member State for a period that is, or is expected to be, of at least 12 months; 'immigration' means the action by which a person establishes his or her usual residence in the territory of a Member State for a period that is, or is expected to be, of at least 12 months, having previously been usually resident in another Member State or a third country). Natural population change over the year was estimated based on the information in civil status registers.

Population and Housing Census 2011 (hereinafter – the Census 2011) helped to acquire all the information necessary for the CSB to specify population and composition thereof in the country. On 1 January 2011 Latvia had a population of 2 074.6. Compared to the information published before, population had declined by approximately 155 thousand people or 7 %. It confirmed that part of the population does not fulfil requirements of the Law on the Register of Natural Persons (16) and that the Register of Natural Persons information on actual population of the country is incomplete.

In line with Article 4 of the Regulation of the European Parliament and of the Council on demography statistics (13), Member States may estimate the total population from the legally resident or registered population using scientifically-based, well-documented, and publicly available statistical estimation methods. Currently there is no common population estimate method in the European Union (hereinafter – the EU) countries. European countries are using differing approaches for population and its composition estimates, e.g.,:

- based on the information in the Register of Natural Persons (e.g., in Finland (8), etc.);
- by compiling information from local governments (e.g., in Germany (10));
- by using information from several administrative registers (e.g., in Netherlands (6));
- in countries not having identity code, by using data of the Census, sample surveys, and information compiled by other organisations (e.g., in united Kingdom (5), Ireland (4)).

As of 2016 Statistics Estonia is estimating population with a new method that is based on recording *life features* of each person in administrative registers, resulting in the residence index estimate based on mathematical methods. The index is used to find out place of usual residence of each person – in Estonia or abroad.

The number of respondents in surveys conducted by the CSB is not sufficient to produce high-quality information in the breakdowns needed for national and international data users. Population statistics shall be

produced in breakdown by gender, age, administrative territory (regions, municipalities, parishes and municipality towns, neighbourhoods of Riga and Valmiera, densely populated areas), etc.

CSB publishes population statistics based on both administrative territorial division in force until 1 July 2021 and that in force after administrative-territorial reform (data on 2021 and 2022).

CSB population estimate method is based on the data in the Register of Natural Persons as well as other administrative registers used to find out usual place of residence (in Latvia or abroad) of each person registered in Latvia at the beginning of the year.

Apart from using administrative data for population estimates CSB also uses this information to specify number of inhabitants and for quality control. Such processing is done for public interest and is provided for in the Statistics Law (18) and respective Regulations of the Cabinet stipulating measures for protection of sensitive data. Data processing in the calculations is performed in line with the requirements of Personal Data Processing Law (17) and EU regulatory enactments (12).

In compliance with the Article 2 (b) of the Commission Implementing Regulation (EU) No 205/2014 laying down uniformed conditions for the implementation of Regulation (EU) No 1260/2013 of the European Parliament and the Council on European demographic statistics (13), as regards breakdowns of data, deadlines and data revisions (14), also methodology used to calculate natural increase was changed. The number of births also includes children born outside Latvia to mother (permanent resident of Latvia) temporarily (for less than one year) abroad.

Along with wider use of administrative data, Population and Housing Census 2021 no longer is conducted with face-to-face interviews. It is based on population statistics which is supplemented with Population and Housing Census results meeting Commission Implementing Regulation (EU) 2017/543 laying down rules for the application of Regulation (EC) No 763/2008 of the European Parliament and of the Council on population and housing censuses as regards the technical specifications of the topics and of their breakdowns.

2 Definitions

Usually resident population – resident population of the corresponding administrative territory only includes persons who have lived in their usual place of residence for at least 12 months as well as persons who have arrived at their usual place of residence with an intention to stay there for at least one year.

Emigrants – emigrants of the respective administrative territory are the persons discontinuing their usual residence in the respective territory for a period lasting for or expected to last for at least 12 months.

Immigrants – immigrants of the respective administrative territory are the persons moving to this territory for a permanent residence from another administrative territory for a period lasting for or expected to last for at least 12 months.

Actual residence – a place of residence defined based on the Population and Housing Census 2011 data and revised in line with the changes in OCMA Register of Natural Persons showing change of the registered place

of residence and taking place after the critical moment of the Census 2011 as well as based on the information available in other administrative sources on people in institutional dwellings. Actual residence is published until 2019 (including).

Registered residence – place of residence in Latvia defined based on the address registered in the OCMA Register of Natural Persons and information available in other administrative sources on people in institutional dwellings as well as by revising registered address of certain population groups (children registered without parents; fathers registered with children only; persons not having address code). Data by registered residence are available for the period as of 2020.

Collective living quarters (institutional dwellings) – various organizations or institutions (hospitals, elderly care facilities, monasteries, barracks, prisons, etc.) accommodating people and providing them with the necessary shelter and provisions for a certain period as well as dormitories of educational institutions.

Institutional households – people the need for shelter and provisions whereof is fulfilled by an institution. Institution is a legal entity providing a group of persons with a short-term accommodation and services. Institutions usually have facilities and premises that are shared by residents (bathrooms, lounges, dining rooms, sleeping quarters, etc.) (15).

3 Data sources

3.1 Office of Citizenship and Migration Affairs

Population is estimated by using the data files provided by OCMA from the Register of Natural Persons (Common Migration Information System sub-system), i.e., information on gender, birth date, birth country, citizenship, ethnicity, legal marital status, code of administrative territory of registered place of residence in compliance with the Classification of Territories and Territorial Units (CATTU) (21), type of residence permit, etc.

Since January 2013 CSB every year receives information on registration of civil status (marriages, births, and deaths) from the OCMA Civil Status Registration Common Information System (hereinafter – the CARIS), which is a sub-system of OCMA Common Migration Information System (previously information was received from county civil registry offices in a paper form). Annual data on the number of births and deaths are produced Based on this information.

As in compliance with the Section 24 of the Civil Status Registration Law (19), the civil status registry office (incl. consular representation offices abroad) has to be informed about birth of a child within a month after the birth, the Register of Natural Persons data received from the OCMA at the beginning of the year are revised by also including children born in December of the previous year, but registered in January and February of the current year. In line with the Section 38 of this Law, death should be reported to the civil status registry office no later than within six working days after the death or after a person was found dead, therefore Register of Natural Persons data received from the OCMA at the beginning of the year are revised by excluding persons whose death was registered at the beginning of the current year, but who died at the end of the previous year.

In case of a stillbirth or child death during delivery, in line with the Section 28 of the Civil Status Registration Law, the medical institution or specialist is obliged to inform the civil status registry office about this fact within eight days. With an aim to also include children born outside Latvia to a mother (usually resident of Latvia) while temporary living abroad (for less than one year), the information of the Register of Natural Persons about children born outside Latvia and having Latvia as their country of residence is used. Before including child in the number of births, information on the place of residence of the mother in the previous year is assessed, and information is compared with the State Health Service data on whether infant has received state-funded health services (in compliance with the paragraphs 1.1.2–1.1.3 of the Annex 1 Procedure for Health Care Organisation and Funding (20) to the Regulations No 55 of the Cabinet of 2018, until the age of six months child has to undergo preventive examination once a month, from seven to eleven months – twice during the mentioned period; if child does not have the examination, nurse or doctor's assistant makes a home visit). If the records on a child born abroad and afterwards registered in Latvia are insufficient to define the child as a usually resident of Latvia, the child is excluded from the birth number as well. Birth number also does not include children born abroad to a mother residence whereof was not registered in Latvia at all, as well as children whose both parents are foreigners (do not have identity code).

Using the data files received from the OCMA in January, February, and March of the current year as well as November and December of the previous year, the population of Latvia registered on January 1 of the respective year, or the Register of Natural Persons frame, is created. The frame serves as a base of the population estimate. By evaluating person's activities (information about the person in various administrative registers), part of the people included in the Register of Natural Persons frame is included in the population estimate while part of the people is so inactive that it may be concluded that the people are abroad.

Register of Natural Persons frame is revised by using information on births and deaths, changed identity codes, as well as people living in collective living quarters. Register of Natural Persons frame is supplemented with people temporary excluded from the OCMA register files, as they are undergoing process of citizenship change, as well as have registered their place of residence abroad for 1–3 months and will return in February or March. People born more than 110 years ago, those who have lost their judicial status, citizens of other countries registered at their workplaces, as well as people imprisoned abroad also are excluded from the Register of Natural Persons frame.

The military offensive launched by Russia in February 2022 forced many Ukrainians to flee. In the host countries, refugees were granted a temporary legal protection status (the rights of usual residents) and received support. On 1 January 2023 the data on people who were granted temporary protection status were excluded from the population frame. The data were processed separately and afterwards partly included in the usually resident population of Latvia.

3.2 Other administrative registers

Apart from the OCMA data, population statistics is produced based on other administrative information available to the CSB. The information meeting the needs of the statistical model is that available starting from 2010. CSB has access to the data in administrative registers managed by the following institutions:

- State Revenue Service (SRS);
- State Social Insurance Agency (SSIA);
- Ministry of Education and Science (MES);
- State Education Development Agency (SEDA);
- Agricultural Data Centre (ADC);
- Rural Support Service (RSS);
- National Health Service (NHS);
- State Employment Agency (SEA);
- Road Traffic Safety Directorate (CSDD);
- Ministry of Welfare (MW);
- Until 2017 data from higher education institutions (since 2018 – from MES):
    - University of Latvia (UL);
    - Riga Technical University (RTU);
    - Transport and Telecommunications Institute (TSI);
    - Riga Teacher Training and Educational Management Academy (RTTEMA)[1];
    - Baltic International Academy (BIA);
    - Rezekne Academy of Technologies (RTA)[2];
    - Liepaja University (LiepU);
    - Riga Building College (RBC);
    - Riga Technical College (RTC);
    - Malnava College (MC);
    - Riga Medical College of the University of Latvia (RMCUL);
    - Daugavpils Medical College (DMC);
    - Riga 1st Medical College (R1MC);
    - Jāzeps Vītols Latvian Academy of Music (JVLMA);

[1] Since 2018, RPIVA is a part of University of Latvia and Jāzeps Vītols Latvian Academy of Music.
[2] Until 1 January 2016 – Rezekne Higher Education Institution.

- Latvian Academy of Culture (LAC);
- Latvian College of Culture at the Latvian Academy of Culture (LAC LCC);
- State Police College (SPC);
- Red Cross Medical College of Riga Stradiņš University (RSU RCMC);
- Stockholm School of Economics in Riga (SSE Riga);
- RISEBA University of Applied Sciences (RISEBA).

The CSB also has Social Security Administration Information System (hereinafter – the SSAIS) data on people who have received municipal social benefits. As the information is available from 2012 onwards (no data on eight municipalities in 2012), it is used to specify population in the age group 18–30 and assess quality of the model. As of 2017 there are SSAIS data on people in municipal long-term social care institutions and people using night shelter services. SSAIS also provides information on people who in 2022 had received municipal statement granting EU immediate food aid in crisis (people having temporary legal protection status in Latvia) which is used to see whether they are usual residents of Latvia.

The CSB is continuously evaluating additional data sources that might be used to produce official statistics, and thus agreements were concluded on acquisition of additional administrative data that are suitable for the production of population statistics.

- As of 2015 population is specified as well as registered (declared) place of residence is defined by also using Prison Administration (PA) data on the persons in imprisonment.
- As of 2016 population is specified as well as registered (declared) place of residence is defined by also using SSIA data on persons who are recipients of benefits/pensions and are in social care institutions.
- As of 2018 CSB uses data of the Ministry of Welfare on people in social care institutions.
- As of 2018 CSB may also specify population estimate by using information on students in Latvian higher education institutions (source – MES).
- As of 2019 State Education Quality Service data on children not registered with any educational institution are available.
- As of 2020 Maintenance Guarantee Fund data on persons having submitted a claim for maintenance, on persons for whom maintenance is paid, and on persons in lieu of which maintenance is paid, are available.

3.3 CSB databases

Population estimate is also based on several CSB databases used to select the people as well as ensure that the data are mutually harmonised.

Depending on the population estimate stage in which the data are used, they may be broken down into:

- Data needed to create specified population datafile (estimate):
  - ✓ birth database;
  - ✓ death database;
  - ✓ marriage database;
  - ✓ identity code change database;
  - ✓ institutional dwelling database;
  - ✓ people to be excluded from the Register of Natural Persons frame.
- Logistic regression model needs data which are processed before the use thereof:
  - ✓ data on students of higher education institutions on all years used for the estimate – the data are updated annually starting from the period on 2011;
  - ✓ SSIA data on benefit recipients in the running year;
  - ✓ internal migration database of the running year.
- Database of young people etc. specific groups:
  - ✓ SSAIS data on benefit recipients aged 18–30 on the running year;
  - ✓ full-time students of all higher education institutions (except for Alberta College) at the estimate moment;
  - ✓ enrolments of all Latvian pre-school education institutions and schools (except for distance learning programmes) aged 19 and younger in the running school year;
  - ✓ people in places of detention, long-term childcare institutions (children's homes), medical institutions and old people's, care and nursing homes at the estimate moment;
  - ✓ refugees at the estimate moment.
- Database containing information about the people who have Latvian legal protection status on 1 January 2023 and shall be included in the usual resident population of Latvia.
- The data necessary to determine place of residence – State Land Service Address Register (VARIS) addressing object code (hereinafter – the addressing object code) – CATTU transition table.

Additionally to CARIS data, **Birth database** also includes:

- children born abroad to mothers residence whereof is registered in Latvia in previous year (at the beginning or end) and by using population estimate method included in the usually resident population of Latvia;
- children of foreigners born in Latvia the birth certificate whereof was issued not by OCMA, but by the consular service of the country of parent nationality, therefore these children are not included

in CARIS data, but by using population estimate method are included in the usually resident population of Latvia.

Death database is based on the CARIS data. In a person browser, information on people not included in CARIS database but possibly dead is specified.

In case the person:

- is citizen or non-citizen of Latvia;
- was included in the OCMA register at the beginning of the previous year;
- is no more included in OCMA register at the beginning of the running year,

it is verified whether the person has passed away abroad. If it is found that the person shall be included in the death database, the date of the death is specified.

Marriage database is used to link correct family status (code) to the people married or divorced at the end of the year or married or divorced abroad.

Identity code change database is used to link information on the person in registers with the old and new identity code.

Internal migration database is used as the model testing approved that declaration of the residence in other municipality increases probability that person is resident of Latvia.

Institutional dwelling database has two parts:

- persons to be included in the estimate definitely – refugees, prisoners, social care clients (approximately 17 thousand people);
- persons living in collective living quarters and possibly not to be included in the estimate (depending on their activities) – people living in student hostels, monasteries, social shelters (approximately 10 thousand people).

Each of the parts has its own addressing object codes that do not overlap.

Population estimate does not include:

- people registered in the blocked large addresses (addresses with more than 20 people registered, e.g., employees registered at workplace address). Each address having 20 or more people registered and not classified as collective living quarter is evaluated separately, verifying citizenship and place of work of persons registered there as on December 2021 as well as information on the address available in the Business Register. According to export estimate, citizens of Latvia registered in such addresses are kept in the population frame, while other people are excluded from the estimate;
- people who have lost their judicial status. OCMA population list has persons on which OCMA have information that they do not live in Latvia, but there is no documented proof of that, however the information is available in the OCMA Register of Natural Persons Personal data online browser.

If prior it was found out that person has lost his/her legal status, it is assumed that the person has the same status also this year. Persons the reasons for changing residence whereof are INL (leaving Latvia) and SAN (due to death) are also excluded. If person is aged 75 or over, but was not included in OCMA, SRS or SEA data in the previous year, by using additional information on the place of residence of children and spouse, a decision is made on whether the person shall be included in the Register of Natural Persons frame or not.

Database of young people etc. specific groups is used to specify emigration data mainly in the youth age group within the second estimation stage, revising the probabilities used based on the migration. Part of persons included in this database increases the number of persons included in their age/sex group, but part, regardless of estimated probability, is included in the usually resident population. The database includes:

- persons aged 18–30 receiving local government and SSAIS benefits;
- enrolments aged 19 and younger of all Latvian pre-school education institutions and schools (except for vocational and distance learning schools);
- full-time students of all higher education institutions (except for Alberta College as it offers distance learning);
- residents of prisons, children's homes, medical institutions, and old people's homes;
- refugees.

See Section 4.8.

Database containing information about people who on 1 January 2023 have Latvian legal protection status and should be included in the usual resident population of Latvia. The data cover people who on 1 January 2023 have Latvian legal protection status and fall within one of the following groups:

- people who live in collective living quarters (refugees, prisoners, social care clients) and should be included in the estimate;
- people who based on the SRS data in January 2023 were employed;
- people who in October, November or December 2022 received municipal allowances/benefits or were granted municipal crisis statement;
- people who in January 2023 used Rīgas satiksme personalized e-ticket;
- people who on 31 December 2022 were registered with a pre-school, general, vocational or higher education institution;
- people who in January 2023 were registered with SEA;
- people who in October, November or December 2022 had used healthcare services;
- children aged 18 or under parents whereof fall within any of the listed groups.

As the second step of the estimate is completed, people included in this database are added to the usual residents database.

Addressing object code – CATTU transition table is used to determine place of registered residence. The table is updated based on the State Land Service information by including the information on the addressing

object code of each apartment in the housing and house, CATTU code, reason behind the change (changes in boundaries, correction of an error in the register), and flag for institutional housings.

Databases for specifying addressing object codes

Persons might be granted only an addressing object code of the registered place of residence which, based on the State Land Service information, corresponds to the real place of residence. However, comparison of addressing object codes indicated in OCMA register with codes indicated in Address Register, showed that there are persons:

- registered in an apartment but actually living in a house, as the house is not divided into apartments;
- registered in a house but actually living in an apartment, as there are several apartments in this house;
- having village code indicated as an residence addressing object code.

To adjust these inaccuracies and change addressing object code to the code of the most credible place of residence of a person, the following is prepared:

- databases of these persons and housings;
- database with areas of housings.

3.4 Migration mirror statistics

International long-term emigration from residence country to another country corresponds with the international long-term immigration from the residence country to the respective country. This correlation is called mirror statistics, and it is used to estimate long-term international emigration.

When estimating long-term international emigration, the information regarding immigration from Latvia received from other countries – Denmark, Finland, Sweden, Norway, Spain, the Netherlands, Austria, Iceland, Germany – is used. Not all countries produce data on immigrants from Latvia, as Article 3 of the Regulation of the European Parliament and of the Council on Community Statistics on Migration and International Protection (11) stipulates that countries may provide information on immigrants in breakdown by group of previous usual place of residence: EU Member States, European Free Trade Association countries, candidate countries, and other non-member countries.

To estimate emigration from Latvia to the United Kingdom and Ireland, the information on the number of UK National Insurance Numbers granted for the first time and the number of Ireland Personal Public Service Numbers granted for the first time is used. It should be noted that these data are only used to evaluate general trends, because the respective numbers are also given to the residents of Latvia staying in the UK or Ireland for less than one year, moreover, one person may be registered several times if he/she has reported leaving the country and has arrived there repeatedly (see Section 4.3). Experts of the UK and Ireland statistical institutes have pointed out that the number of persons registered with the mentioned systems cannot be used as the number of immigrants from Latvia as show general trends. The reason behind such a statement is that that the system also contains information on the persons planning to stay in the country for less than one year; if person is arriving to the country repeatedly, he/she does not have to register in the system again. Moreover, the Ireland

system only contains information on the persons aged 15 or over. Every year Statistics Ireland analyses Personal Public Service Numbers granted, and the tends show that every year the number of persons granted Personal Public Service Numbers and employed or receiving social benefits, i.e., residing the country, is growing. Only 37 % of the foreigners who were granted Personal Public Service Number were employed in 2011, whereas in 2016 the indicator went up to 54.7 % (1). However in the case of Ireland, the data on the number of foreigners granted Personal Public Service Number are produced based on the citizenship and not the former residence country, therefore not only people arrived from Latvia but also those coming from e.g., United Kingdom and having Latvian citizenship, are included.

3.5 Sample surveys of individuals conducted by the CSB

The accuracy of the population estimate is evaluated by using results from various CSB surveys that contain identity codes of respondents:

- Labour Force Survey (LFS) (from 2011);
- EU Statistics on Income and Living Conditions (EU-SILC) (from 2011);
- European Health and Social Integration Survey (EHSIS) (1 September 2012);
- European Health Interview Survey (EHIS) (end of 2014–beginning of 2015 and end of 2019–beginning of 2020);
- Community Survey on ICT Usage in Households and by Individuals (ICT) (2017–2020, 2021);
- Adult Education Survey (AES) (2016 and 2022);
- Mobility Survey of Latvia Population (MOBA) (2017);
- External Migration Survey (ĀMA) (2017 and 2018).
- Careers of Doctorate Holders (DH) survey (2019).

While getting prepared for the Census 2021, in 2015 CSB carried out a Population Microcensus. The Microcensus data were used to estimate the overall international immigration in Latvia during 2015 and will be used to evaluate accuracy of the population statistics produced.

External Migration Survey was conducted in 20 thousand households by surveying respondents twice – at the end of 2017 and 2018 (aiming to find out information about 2016, 2017 and 2018). Each survey wave allowed to acquire information from more than 35 thousand households, 7 % of which filled in online questionnaires.

4 Models and assumptions

4.1 Logistic regression model

Logistic regression model (hereinafter – the model) is based on the assumption that probability p_i that a person registered with the Register of Natural Persons of Latvia with an index i (i varies from 1 to N) is usually resident of Latvia may be expressed as:

$$p_i = E(y_i|x_i) = \frac{1}{1 + e^{-(\beta_0 + \sum_k^K \beta_k x_{ik} + \varepsilon_i)}},$$

where the dependent variable (indicated with y_is distributed binomially.

$$y_i = \begin{cases} 1, \text{if } i-th \text{ person is actually living in Latvia,} \\ 0, \text{if } i\ -th \text{ person is actually living abroad.} \end{cases}$$

In its turn, $x_{ik}$is the binary auxiliary variables of the person i indexed with an index k (from 1 to K), which take the values:

$$x_{ik} = \begin{cases} 1, \text{if } i-th \text{ person has feature of the } k-th \text{ binary variable,} \\ 0, \text{if } i\ -th \text{ person does not have feature of the } k-th \text{ binary variable.} \end{cases}$$

For example, if *k-th* binary variable is information on whether the person i receives old-age pension, then $x_{ik} = 1$ for all persons *i* receiving old-age pension, and 0 for all other persons.

With the help of administrative data, 206 binary variables were developed on each person registered with the Register of Natural Persons of Latvia, e.g., gender, age groups, indicators on the fact that person has received wage or salary, social benefits, has acquired education, etc. (see Table 5 in the Annex 2).

To produce estimates $\hat{\beta}_k$ of the model coefficients β_k, the data on usual place of residence acquired within the Census 2011 as well as information in administrative registers on 2010, 1 January 2011, or 1 March 2011 was used.

During the model development phase, several possible model versions that differed in the choice and construction of explanatory or independent variables were studied. Also, different variables derived from the administrative registers available to the CSB were created and included in the model, e.g., based on the age of a person the binary variables characterising belonging of the person to one of the ten age groups (0–9, 10–19, …, 90–99, 100+) or one of the five age groups (0–4, 5–9, …, 95–99, 100+).

The explanatory variables were standardised as follows:

$$\tilde{x}_{ik} = \frac{x_{ik} - \bar{x}_k}{\sigma_k},$$

where x_{ik} – value of the *k-th* variable of the *i-th* person,

$\bar{x}_k$ – the average value of the *k-th* variable,

σ_k – standard deviation of the *k-th* variable.

Model versions were compared by their predictive power. The model predictive power was measured with the help of pseudo *Nagelkerke* determination coefficient that is calculated as follows:

$$\mathrm{R}^2 = \frac{1 - \left(\frac{L(M_{Intercept})}{L(M_{Full})}\right)^{2/N}}{1 - L(M_{Intercept})^{2/N}},$$

where $M_{Intercept}$ is a model without independent variables and M_{Full} is a model with selected independent variables, and L is a likelihood function. The maximum value of *Nagelkerke* determination coefficient is one. Model coefficient estimates were analysed by their statistical significance (Sig).

The model was initially formed by using solely OCMA data. Best model based on OCMA data explained only 13 % of the model dependent variable dispersion (by pseudo *Nagelkerke* determination coefficient), therefore model was supplemented with additional independent variables that were created by using administrative the data available to the CSB. To determine how additional administrative register data influence predictive power of the model, the data were included in the model sequentially (see Table 1).

Table 1 Comparison of logistic regression models

No	Administrative register data included in logistic regression model	$-2LL$	Nagelkerke R^2
1	OCMA	1 047 445	0.13
2	OCMA; SRS	823 391	0.35
3	OCMA; SRS; RSS; ADC; SEA	763 518	0.41
4	OCMA; SRS; RSS; ADC; SEA; SSIA	674 877	0.49
5	OCMA; SRS; RSS; ADC; SEA; SSIA; MES; UL; RTU; information about parents[3]	594 059	0.56
6	OCMA; SRS; RSS; ADC; SEA; SSIA; MES; UL; RTU; information about parents; SHS	527 458	0.61
7	OCMA; SRS; RSS; ADC; SEA; SSIA; MES; UL; RTU; information about parents; SHS; CSDD; TSI / RTTEMA / BIA / RTA / LiepU	508 462	0.61
8	OCMA; SRS; RSS; ADC; SEA; SSIA; MES; UL; RTU; information about parents; SHS; CSDD; TSI / RTTEMA / BIA / RTA / LiepU / RBC / RTC / MC / RMCUL / DMC / RMC1 / JVLMA / LAC / LAC LCC / SPC / RCMC / SSE Riga	506 414	0.61

Within the step 8, the model was able to explain 61 % of dependant variable dispersion (by pseudo *Nagelkerke* determination coefficient).

Model compliance to data was assessed additionally by calculating negative double-log likelihood (*-2 log* likelihood ($-2LL$) as follows:

$$-2LL = -2\sum_{i=1}^{n}\left\{y_i ln\left[\frac{\hat{p}_i}{y_i}\right] + (1-y_i) ln\left[\frac{1-\hat{p}_i}{1-y_i}\right]\right\},$$

In statistics $-2LL$ is a badness-of-fit indicator. The greater the $-2LL$ value, the worse is the fit of the model to the data.

Table 1 contains pseudo *Nagelkerke* determination coefficient and $-2LL$ value changes depending on the volume of additional information used in the model. There were no cases where both statistics give contradictory model comparison (if model *A* has a higher *Nagelkerke* determination coefficient, as compared

[3] Information about parents consists of nine model variables containing information about parents of a person. The variables are calculated only on persons aged 0–25. Value of the variable used for other persons equals 0. The data sources used for these nine variables are described in Table 5 *Dependent variables of logistic regression model and model coefficient estimates* in Annex 2. The description of the variables includes a phrase 'only of persons aged 0–25'.

to model B, then in all cases the $-2LL$ value for model A was lower than the $-2LL$ value for model B). All of the developed models were assessed additionally by performing demographic analysis of the model results.

Initially model was created with the help of binary logistic regression algorithm integrated in the statistical calculation software *IBM SPSS Statistics* (2). As the model was developed further, the software code was re-written in the statistical programming language R (7). Independent variables of the developed model and estimates of the coefficients thereof are presented in the Table 5 of the Annex 2.

For each person i registered with the Register of Natural Persons of Latvia the estimated probability $\hat{p}_i$, with which this person may be regarded as usually resident of Latvia may be expressed as follows:

$$\hat{p}_i = \frac{1}{1 + e^{-(\hat{\beta}_0 + \sum_k^K \hat{\beta}_k \tilde{x}_{ik})}}.$$

4.2 Determining registered place of residence

Until 2020 (including) both actual and registered place of residence was determined for all persons included in the population estimate, but as of 2020 only registered place of residence is determined by publishing both versions of the summary tables on the CSB database from 2014 to 2019.

Actual place of residence is determined based on the place of residence specified in the Census 2011 and changes made in the OCMA Register of Natural Persons. However, as years pass by, it becomes more and more difficult to determine place of actual residence, as people in Register of Natural Persons change their registered place of residence not only when moving to another residence, but also due to other reasons, e.g., to avoid paying higher real estate tax, a person not actually living in the address is registered there, or to have a place in a suitable kindergarten child is registered within the administrative territory of that kindergarten. Often when emigrating abroad, registered place of residence is not changed or it is done with a delay of several years. Therefore, in the Census 2021 conducted solely based on administrative registers (23) only the registered place of residence was used and a decision was taken not to determine the actual place of residence anymore. Data on the registered place of residence are published in the database also for 2020.

Registered place of residence is determined on several stages:

- finding initial addressing object code;
- allocating people into families based on family structure algorithm;
- adjustment of addressing object codes by changing addressing object code of a female living separately to that of a dwelling in which her husband lives together with common children aged 0–15. Such an approach is used because, when evaluating family structure recorded in the Census 2011, it was concluded that such an adjustment reflects actual situation more precisely. The initial addressing object code is defined by using addressing object codes which are added from the Register of Natural Persons January datafile. For persons that cannot be given an addressing object codes in such a way, the codes together with a date are added from the Register of Natural Persons datafile of December and November of the previous year and Register of Natural Persons monthly

datafile of February and March of the running year, verifying whether addressing object code is not one of an institutional dwelling. Such codes are not added to ensure that dates match and institutional dwellings include only persons residing them on 1 January.

To persons not having addressing object code, the addressing object codes of relatives are added in the following order – spouse, mother, father, child (the youngest child having addressing object code), i.e., if person is not married, addressing object code of a mother is added, etc. The codes of relatives are added regardless of the initial CATTU code of a person and fact whether the relative is included in the population estimate of the respective year, except for the specific cases when address of a child is changed to that of a mother or father (see explanation further in the text).

None of the personal addressing object codes is changed to institutional dwelling code, i.e., an addressing object code of a relative in institutional dwelling is not added.

In respect to the children aged 15 and younger (except for those living in collective living quarters), a fact whether also any of the parents is registered in the dwelling is verified. If child is registered alone (without any of the parents), his/her addressing object code is changed to that of a mother (if mother does not have one, to that of a father). Address of a child is changed to the dwelling address of parents also if child is registered with another adult, e.g., grandmother, as in line with the UN Population and Housing Census recommendations (9) family (family nucleus) is formed by family members of two consecutive generations (children and parents). Addressing object code of a child is not changed to that of a parent if population estimate method allowing to conclude that any of the parents lives abroad. As this approach does not fully allow to eradicate the number of cases when child is the only occupant of the dwelling, since 2021 situations when none of the 0–15 years-old children parents lives in Latvia and the child does not live in a collective living quarter it is assumed that most probably he/she lives with grandparents and his/her addressing code is changed to the addressing code of one of his/her grandparents.

Within the second stage of determining registered place of residence, with the help of family nucleus analysis algorithm the people living in private dwellings are broken down into families. After dividing persons into families, residences of separate people are adjusted by changing addressing object code of a female living separately to that of a dwelling in which her husband lives together with common children aged 0–15.

This adjusted database is supplemented with persons the address codes whereof do not meet the population group ‘family’ defined in the Population and Housing Census methodology, i.e., people living in collective living quarters, in houses not separated into apartments, as well as single people (not having spouse, parents and children) not having addressing object code and residence place whereof is known only at municipality level. In line with the updated addressing object code, i.e., CATTU transition table, registered residence of each person is defined at the level of municipality rural territory, city and municipality, morover based on both administrative territorial division in force until 1 July 2021 and that in force after administrative-territorial reform.

Addressing object codes of place of residence are specified for persons whose codes, based on the State Land Service information, do not correspond to the actual place of residence, by changing them to a housing code of relative or other suitable housing code.

4.3 Long-term international emigration estimates

Long-term international emigration is estimated based on the data sources listed in the Section 2.4.

In 2012, after the Census 2011, CSB recalculated emigration indicators on the period from 2000 to 2010. The recalculation was carried out by using Census results (from questions on emigration from Latvia) as well as data from the Register of Natural Persons on emigration registered during this period. The data obtained were compared with other country statistics on immigration from Latvia. As a result, it was concluded that migration calculation corresponds to the statistics on immigrants from Latvia produced in other countries (mirror statistics).

International emigration change coefficient k_x is calculated starting from 2011. E.g., to compare 2010 with 2011, a coefficient k_{2011} was calculated, to compare 2011 with 2012 – k_{2012}, etc. To estimate the total emigration in 2011, the previously calculated coefficient k_{2011} was attributed to the volume of emigration estimated for 2010, whereas to get the total volume of emigration in 2012, the coefficient k_{2012} was attributed to the volume of emigration estimated 2011. In such a way, the total annual emigration is calculated:

$$\grave{EM}_x = \grave{EM}_{x-1} k_x,$$

$$\text{e.g.:} \grave{EM}_{2011} = \grave{EM}_{2010} k_{2011}$$

As a result, the estimate of international long-term emigration from 2011 onwards was acquired.

To break down emigration into country groups, initially the emigration estimate by country is developed.

Based on the information in the OCMA Register of Natural Persons, the data (country of residence) are developed on each emigrant; the persons that do not have record on other country of residence (in line with the Register, their country of residence is Latvia) are allocated to the same country as similar emigrants (based on demographic characteristics).

- In line with the other country statistics on immigration from Latvia (Denmark, Finland, Sweden, Norway, the Netherlands, Austria, Germany, Spain, Iceland) the number of persons emigrated to these countries is specified. Emigration from Latvia to the United Kingdom is estimated by using information on changes in the number of National Insurance Numbers granted for the first time to the Latvia residents arriving to the UK. Changes in emigration to the UK are found out by calculating coefficient of changes in the number of first-time-granted national insurance numbers in the UK (1), from 2011 onwards, attributing the amount of numbers granted during a year against the previous year. In order to estimate emigration to the UK in 2011, the calculated coefficient *l2011* was attributed to the emigration of the Latvia residents to the UK calculated by the CSB in 2010 (in accordance with the international long-term emigration re-calculation carried out based

on the Census 2011 results) and, correspondingly, the coefficient l of each of the following years is attributed to the calculated emigration to the UK in the previous year.

- Emigration from Latvia to Ireland is estimated by using coefficient of change in the number of Personal Public Service Numbers granted in Ireland for the first time to the persons arriving from Latvia (4). Similarly as it was in the case of the UK, the coefficient of change was used and emigration from Latvia to Ireland in 2010 was calculated in line with the re-calculation of long-term international emigration carried out based on the results of the Census 2011.

Immigration by country group is estimated by using OCMA Register of Natural Persons data. The persons that do not have record on the previous country of residence are allocated to the same country as similar immigrants (based on demographic characteristics).

While analysing long-term international emigration and immigration registered with the OCMA Register of Natural Persons, the data at individual level were compared with the population acquired.

Conclusions:

1. Only part of the persons who have received resident permits due to capital investment live in Latvia on a permanent basis (in line with the Section 23, Paragraph 28 of the Immigration Law (22) – a foreigner shall have the right to apply for a temporary residence permit for a period of time not exceeding five years if he or she has made investment in the equity capital of a capital company) or due to purchase of real estate (in accordance with the Section 23, Paragraph 29 of the Immigration Law – a foreigner shall have the right to apply for a temporary residence permit for a period of time not exceeding five years if he or she has acquired in the Republic of Latvia and he or she owns one functionally related built-up real estate). E.g., out of almost 4 000 people who received Latvia resident permit in 2013 due to the purchase of real estate or capital investment, only approximately 10 % were included in the CSB population estimate (previously already pointed out by the OCMA).
2. Emigrants do not immediately provide information to the Register of Natural Persons. For example, according to the CSB estimate, two thirds of the emigrants registered in 2013 have actually emigrated already in the previous years and are included in non-registered emigration. It was also confirmed by the Census 2011 data: the registered year of emigration not always corresponds with the actual situation, since many people register their place of residence abroad only when it is required by some specific reasons.
3. Not all children (aged 0–1) born abroad and having place of usual residence registered in Latvia (Register of Natural Persons) are included in the total population. In accordance with the population estimate, only a part of them live in Latvia permanently.

4.4 Producing statistics

Coding

Migration statistics is produced by defining variables for each person (see Table 3).

Table 3 Variables used for population estimate

Variable	Name	Value	Description
R_i	Classification status at the beginning and at the end of the year	11	Person i is registered as a usually resident both at the beginning and at the end of the year
		10	Person i is registered as a usually resident only at the beginning of the year
		01	Person i is registered as a usually resident only at the end of the year
		00	Person i is not registered as a usually resident both at the beginning and at the end of the year
c_i	Classification status at the end of the year	1	Person i is classified as a usually resident at the end of the year
		0	Person i is not classified as a usually resident at the end of the year
		NULL	Person i is not registered as a usually resident at the end of the year
$\acute{c}_i$	Classification status at the beginning of the year	1	Person i is classified as a usually resident at the beginning of the year
		0	Person i is not classified as a usually resident at the beginning of the year
		NULL	Person i is not registered as a usually resident at the beginning of the year
C_i	Classification status at the beginning and at the end of the year	11	Person i is classified as a usually resident both at the beginning and at the end of the year
		10	Person i is classified as a usually resident only at the beginning of the year
		01	Person i is registered as a usually resident only at the end of the year
		00	Person i is not classified as a usually resident both at the beginning and at the end of the year
MI_i	Death characteristic	1	Person has died during the corresponding year
		0	Person has not died during the corresponding year
DZ_i	Birth characteristic	1	Person was born during the corresponding year
		0	Person was not born during the corresponding year
d_i	Binary variable characterising affiliation of the person to the domain	1	Person belongs to domain d
		0	Person does not belong to domain d

Number of registered emigrants (total and in domain d) is calculated as follows:

$$REM = \sum_{R_i=10 \,\&\, C_i=10 \,\&\, MI_i=0} 1, \tag{1}$$

$$REM_d = \sum_{R_i=10 \,\&\, C_i=10 \,\&\, MI_i=0} d_i. \tag{2}$$

Number of registered immigrants (total and in domain d) is calculated as follows:

$$RIM = \sum_{R_i=01 \,\&\, C_i=01 \,\&\, DZ_i=0} 1, \tag{3}$$

$$RIM_d = \sum_{R_i=01 \,\&\, C_i=01 \,\&\, DZ_i=0} d_i. \quad (4)$$

Number of non-registered emigrants (total and in domain d) is calculated as follows:

$$NEM = \sum_{R_i=11 \,\&\, C_i=10} 1, \quad (5)$$

$$NEM_d = \sum_{R_i=11 \,\&\, C_i=10} d_i. \quad (6)$$

Number of non-registered immigrants (total and in domain d) is calculated as follows:

$$NIM = \sum_{R_i=11 \,\&\, C_i=01} 1, \quad (7)$$

$$NIM_d = \sum_{R_i=11 \,\&\, C_i=01} d_i. \quad (8)$$

Image 4 schematically shows the classification of persons depending on the values of pre-defined variables.

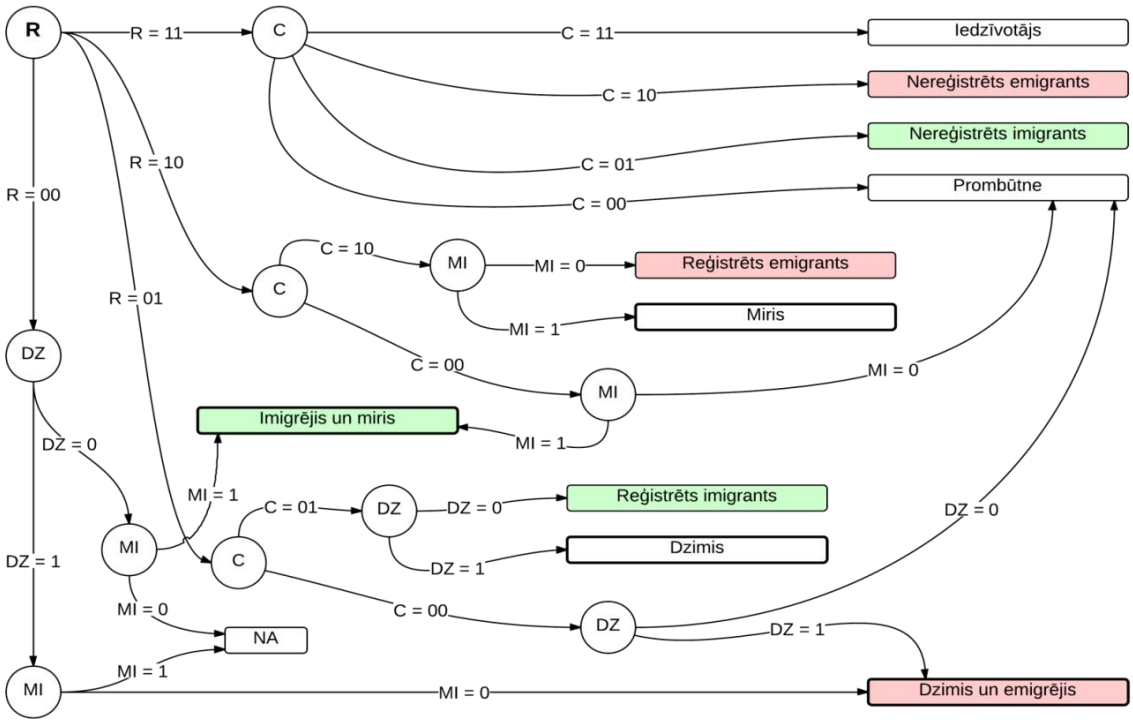

Image 4 Population classification scheme

4.5 Initial probabilities and thresholds for probabilities

From 2012 onwards, the initial probability to be classified as a usually resident of Latvia is estimated for each person who is registered as a usually resident of Latvia at the beginning of a year. The initial probability is estimated using personal variables (see Section 4.1) that are calculated using administrative data (see Section 4.1 and 3.2) and the logistic regression model (see Section 4.1).

The initial population estimate is calculated for groups (by totally acquiring 202 groups) in the following breakdowns:

- males aged 0, 1, 2, …, 99, 100 and older;
- females aged 0, 1, 2, …, 99, 100 and older.

In each group h, the estimate is acquired as the sum of initial probabilities of the respective group:

$$\widehat{N}_h = \sum_{i \in U_h} \hat{p}_{hi},$$

Where $\hat{p}_{hi}$ is the initial probability to be a usually resident of Latvia for person i from group h and U_h is the person index set for the group h.

Residents in each group are sorted in descending order by probability and numbered according to the order: $1, 2, \cdots, R_h$, where R_h is the number of registered persons in the group h, $R_h = |U_h|$. Within each group h, a person with sequence number $s = ROUND(\widehat{N}_h)$ is found; the initial probability of this person is denoted with $\hat{p}_{hs}$. For the group h, the probability threshold S_h is defined:

$$S_h = \hat{p}_{hs}.$$

4.6 Initial emigration and immigration estimate

Net migration is the difference between the number of immigrants and the number of emigrants during a year:

$$MS_t = IM_t - EM_t, \quad (13)$$

where MS_t is net migration during year;

IM_t is the number of immigrants during year;

EM_t is the number of emigrants during year.

Population at the beginning and at the end of a year is characterised by the following equation:

$$I_t = I_{t-1} + DZ_t - M_t + MS_t, \quad (14)$$

where I_{t-1} is population at the beginning of the year;

I_t is population at the end of the year;

DZ_t is the number of births during the year;

M_t is the number of deaths during the year.

The net migration may be expressed from the equation (14) as follows:

$$MS_t = I_t - I_{t-1} - DZ_t + M_t$$

and estimated as:

$$\widehat{MS}_t = \sum c_i - \sum \acute{c}_i - \sum DZ_i + \sum MI_i. \quad (15)$$

The estimate $\widehat{EM}_t$ of the total emigration during a year EM_t is made with the method described in Section 4.3 (except for 2015). The total immigration $\widehat{IM}_t$ may be estimated with an equations (13) and (15) as follows:

$$\widehat{IM}_t = \widehat{MS}_t + \widehat{EM}_t.$$

The migration statistics of 2015 was estimated based on data of the Population Microcensus. By using the respective data, the total immigration volume $\widehat{IM}_{2015}$ was estimated, and by using equation (13) the total emigration volume in $\widehat{EM}_{2015}$ was estimated as follows:

$$\widehat{EM}_{2015} = \widehat{IM}_{2015} - \widehat{MS}_{2015}.$$

Emigration and immigration estimates on the period from 2011 to 2019 are shown in the Table 4.

Table 4 Total emigration and immigration estimates

Year	**Emigration** (thousand)	**Immigration** (thousand)
2011	30	10
2012	25	13
2013	23	8
2014	19	10
2015	20	9
2016	20	8
2017	18	10
2018	15	11
2019	15	11
2020	12	9
2021	13	13

4.7 Migration estimates by gender and age group

At the beginning of each year, the values of the variables R_i, DZ_i, and MI_i are calculated for each person (see Table 2). At first, registration status at the beginning and at the end of a year is computed (R_i). Persons with residence permit in Latvia up to one year are counted separately (they are not included in the number of usually residents registered in Latvia). The values of birth (DZ_i) and death (MI_i) variables also are assigned for each person in compliance with the civil status records.

Each person who was registered as usually resident of Latvia at the beginning of the year gets classification status at the beginning of a year $\acute{c}_i$, and it is the same as the classification status at the end of the previous year. Classification status at the beginning of a year $\acute{c}_i$ was calculated for the first time for the beginning of 2011 by using the data of Census 2011 as well as Register of Natural Persons information on January and February of 2011. For the following years, it was assumed that $\acute{c}_i$ is equal to the c_i of the previous year.

For each person who is registered as usually resident of Latvia at the end of a year, the initial classification status at the end of the year is calculated:

$$c_i = c_{hi} = \begin{cases} 1, ja\ \hat{p}_{hi} > S_h; \\ 0, ja\ \hat{p}_{hi} \leq S_h. \end{cases}$$

There are cases when c_i is adjusted based on additional administrative data not included in the model. Persons which regardless of the estimated probability are included in the usually resident population:

- people aged 18–30 receiving municipal benefit (SSAIS);
- enrolments of all Latvian pre-school education institutions and schools aged 19 and younger;
- full-time students of all higher education institutions (except for Alberta College) at the estimate moment;
- residents of prisons, children's homes, medical institutions, religious organisations, and old people's homes;
- refugees.

If person shall be included in the set of usually resident population, the values c_i and $\hat{p}_{hi}$ of the persons are defined as equal to 1.

If during the estimation process it is found out that the set of usually resident population includes person not meeting inclusion criteria (e.g., person has died in the previous year, but the death fact was registered later), the values c_i and $\hat{p}_{hi}$ of the person are defined as equal to 0.

The initial classification status at the beginning and at the end of the year is calculated for each person as follows:

$$C_i = \begin{cases} 11, ja\ \acute{c}_i = 1\ un\ c_i = 1; \\ 10, ja\ \acute{c}_i = 1\ un\ (c_i = 0 \text{ vai } c_i = NULL); \\ 01, ja\ (\acute{c}_i = 0\ vai\ \acute{c}_i = NULL)\ un\ c_i = 1; \\ 00, ja\ (\acute{c}_i = 0\ vai\ \acute{c}_i = NULL)\ un\ (c_i = 0 \text{ vai } c_i = NULL), \end{cases}$$

where $\acute{c}_i$ is the classification status of person i at the beginning of a year.

With the help of R_i, DZ_i, MI_i, and C_i, the REM_h, NEM_h, RIM_h, and NIM_h for each group as well as REM, NEM, RIM, and NIM totally in Latvia is calculated using formulas (1)–(8). Migration is estimated in each of the 202 groups:

$$\widehat{EM}_h = REM_h + \left(\widehat{EM} - REM\right)\frac{NEM_h}{NEM},$$

$$\widehat{IM}_h = RIM_h + (\widehat{IM} - RIM)\frac{NIM_h}{NIM},$$

where $\widehat{EM}$ is the total emigration (see Section 4.3), and $\widehat{IM}$ is the total emigration (see Section 4.3).

4.8 Adjustments for probabilities

In each age and gender group h, the initial probabilities are adjusted. It is done to ensure that migration statistics acquired by summing adjusted probabilities $\tilde{p}_{hi}$ is harmonised with the migration estimates $\widehat{EM}_h\ un\ \widehat{IM}_h$ described in the Section 5.4. The probabilities are adjusted in three steps:

1) For each group h, a constant α_{h1} is calculated in a way that by adding $\hat{p}_{hi}$ to all probabilities of the group and summing them the emigration $\widehat{EM}_h$. estimated in the step 5.4 is acquired.

2) For each group h, a constant α_{h2} is calculated in a way that by adding $\hat{p}_{hi}$ to all probabilities of the group and summing them the immigration $\widehat{IM}_h$. estimated in the step 5.4 is acquired.

3) The adjusted probabilities $\tilde{p}_{hi}$ are calculated in line with (16).

$$\tilde{p}_{hi} = \begin{cases} \hat{p}_{hi} - \alpha_{h1}, \text{ja } R_i = 11 \ \ un \ C_i = 01; \\ \hat{p}_{hi} + \alpha_{h2}, \text{ja } R_i = 11 \ \ un \ C_i = 10; \\ \hat{p}_{hi}, \text{pārējos gadījumos;} \end{cases} \quad (16)$$

After the adjustment of probabilities, the adjusted classification status of each person ($\tilde{c}_i$) is computed:

$$\tilde{c}_i = \tilde{c}_{hi} = \begin{cases} 1, ja \ \tilde{p}_{hi} > S_h \\ 0, ja \ \tilde{p}_{hi} \leq S_h \end{cases}.$$

By using adjusted classification status $\tilde{c}_i$, registered and non-registered migration in each group is recalculated: $\widetilde{REM}_h$, $\widetilde{NEM}_h$, $\widetilde{RIM}_h$ and $\widetilde{NIM}_h$. Adjustment constant α_{h1} and α_{h2} in each group are defined in a way to ensure that $\widetilde{REM}_h + \widetilde{NEM}_h$ is as close to $\widehat{EM}_h$ and $\widetilde{RIM}_h + \widetilde{NIM}_h$ as possible and as close to $\widehat{IM}_h$ as possible.

After finding optimum α_{h1} and α_{h2} values, $\tilde{c}_i$ is adjusted also in line with additional administrative data not included in the model. Irrespective of the $\tilde{c}_i$ value found, the set of usually resident population includes residents of prisons, children's homes, medical institutions, old people's homes as well as refugees. If necessary, birth, and death databases are also adjusted to ensure that there are no logical contradictions. After this adjustment, the final classification status $\tilde{c}_i$ is set, and it is not changed any more.

4.9 Producing population, natural population change, and migration statistics

By summing the persons with $\tilde{c}_i = 1$, the total population of Latvia is calculated as well as in breakdown by sex, age and municipality and any other random population domain. Thus statistics in all demography tables is harmonised.

The data on natural population change are produced by using information from civil status registers managed by the Civil Registry Offices (see Section 3.3). To produce data on long-term international migration:

- persons with $C_i = 01$ are included in immigration;
- persons with $C_i = 10$ are included in emigration;
- persons with $C_i = 00$ and died during the year in Latvia are included in immigration;
- persons with $C_i = 00$ and born during the year in Latvia are included in emigration.

5 Evaluating precision of population and its composition estimate

5.1 Precision of classification compared to the data of Census 2011

One of the ways used to estimate precision of the classification is calculation of classification values for the data of 1 March 2011 and comparison of the results at individual level with the data of the Census 2011. As a result, it is possible to calculate confusion matrix characterising number of cases when the values defined by the classification meet or do not meet the data acquired in the Census 2011. The confusion matrix may be calculation for the whole population as well as random sub-set of the population, e.g., males, females, or people at a certain age. When analysing confusion matrix the following characteristics shall be taken into account:

- the calculation is based on the classification values determined from the initial values (without migration adjustment);
- all data sources have errors (also data of the Census 2011);
- confusion matrix characterises precision at a micro level (individual level). Precision at micro-level (error of each individual) is not directly related to an error at macro-level (total population of a country or population sub-set).

Table 5 Confusion matrix of total population and gender breakdown

Population domain	Indicator	Census 2011 result	Classification includes in the population set	Classification does not include in the population set	Total
All population	Number	Census 2011 includes in the population set	1 912 867	154 848	2 067 715
		Census 2011 does not include in the population set	155 070	275	155 345
		Total	2 067 937	155 123	2 223 060
	Proportion	Census 2011 includes in the population set	0.8605	0.0697	0.9301
		Census 2011 does not include in the population set	0.0698	0.0001	0.0699
		Total	0.9302	0.0698	1.0000
Males	Number	Census 2011 includes in the population set	862 811	81 956	944 767
		Census 2011 does not include in the population set	82 071	174	82 245
		Total	944 882	82 130	1 027 012
	Proportion	Census 2011 includes in the population set	0.8401	0.0798	0.9199
		Classification does not include in the population set	0.0799	0.0002	0.0801
		Total	0.9200	0.0800	1.0000
Females	Number	Census 2011 includes in the population set	1 050 056	72 892	1 122 948
		Census 2011 does not include in the population set	72999	101	73100
		Total	1 123 055	72 993	1 196 048
	Proportion	Census 2011 includes in the population set	0.8779	0.0609	0.9389
		Census 2011 does not include in the population set	0.0610	0.0001	0.0611
		Total	0.9390	0.0610	1.0000

5.2 Classifier precision compared to SSAIS data and survey results

Each person $\tilde{c}_i$ has an estimate acquired by using the model and it may not meet the actual residential status of the person. By using the data of surveys and administrative registers described in the Section 3, it is possible to estimate the share of people classified as living abroad ($\tilde{c}_i = 0$), but actually being residents of Latvia. Target population of the surveys covers usually resident population of Latvia living in private households, therefore only such persons are respondents of the survey. However, it should be taken into account that population with the model is estimated at the beginning of the year, while reference periods of surveys usually do not meet beginning of the year. Only persons living in private households are surveyed, thus the data cannot be used to make conclusions about persons living in collective living quarters.

Table 6 Share of people not to be included in population estimate (%)

Data source	1 January on population estimate year											
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
SSAIS (2012)	1.05	0.92										
SSAIS (2013)		1.14	0.98									
SSAIS (2014)			1.25	1.09								
SSAIS (2015)				1.47	1.33							
SSAIS (2016)					1.71	1.59						
SSAIS (2017)						1.89	1.50					
SSAIS (2018)							1.81	1.60				
SSAIS (2019)								1.96	1.77			
SSAIS (2020)									2.05	1.87		
SSAIS (2021)										2.32	1.98	
SSAIS (2022)											2.51	4.48
SSAIS (2022), excl. Ukraine refugees												2.15
EHSIS (2012)	0.49	0.93										
LFS (2011)	1.15											
LFS (2012)	0.98	1.29										
LFS (2013)		1.36	1.42									
LFS (2014)			1.71	1.84								
LFS (2015)				1.99	2.10							
LFS (2016)					1.92	2.08						
LFS (2017)						2.13	2.22					
LFS (2018)							2.35	2.43				
LFS (2019)								2.37	2.40			
LFS (2020)									2.46	2.50		
LFS (2021)										3.05	2.88	
LFS (2022)											2.90	2.76
SILC (2011)	1.19											
SILC (2012)	1.01	1.23										
SILC (2013)		1.31	1.45									
SILC (2014)			1.38	1.49								
SILC (2015)				1.49	1.66							
SILC (2016)					1.80	1.99						
SILC (2017)						2.11	2.17					
SILC (2018)							2.09	2.17				
SILC (2019)								2.37	2.41			
SILC (2020)									2.26	2.29		
SILC (2021)										2.41	2.35	

Data source	1 January on population estimate year											
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
SILC (2022)											2.61	2.37
EHIS (2014)			1.43	1.54								
EHIS (2019)								0.85	1.03			
ICT (2017)						0.89	1.05					
ICT (2018)							0.98	1.11				
ICT (2019)								0.75	0.79			
ICT (2020)									0.41	0.53		
ICT (2021)										0.38	0.43	
ICT (2022)											0.74	0.90
ICT (2023)												0.55
AES (2017)						1.47						
AES (2022)											0.84	0.84
MOBA (2017)						0.67	0.77					
ĀMA (2017)							3.56	3.60				
ĀMA (2018)								3.66	3.73			
DH (2019)								0.30	0.30			
EU-GBV (2021)										1.42	1.56	

Differences in the data and model classification results may be partly explained by a mismatch between the data and population statistics reference periods, e.g., there are cases when person is indicated as an usually resident of Latvia in a survey at the beginning of a year while at the end of the year the same person has moved to another country or died. If the changes are registered in the Register of Natural Persons, the data on those persons are not used for the accuracy analysis. However, there are cases when a person who is indicated as an usually resident in a survey changes his/her place of residence but does not register it. It is possible that part of the persons who are indicated as usually residents in the survey, but have not been included in the population number, have been living in Latvia.

Approximately 9 % of the residents receive local government benefits. The information on the persons receiving benefits in 2012 was used to assess model quality, while starting from 2013 it is used to specify population estimates. The SSAIS information cannot be used in the logistic regression model, as the CSB does not have the local government data on 2010 and 2011.

It is more difficult to estimate another type of error – persons classified as usually residents ($\tilde{c}_i = 1$) but actually are living abroad. The Labour Force Survey allows to acquire information on such persons, however, the number is too small to make informative conclusions. Moreover, it is very likely that in several cases persons that have arrived to or departed from the country during the year are classified wrongly, because such persons may be very active in Latvia within a certain period of time and being registered in various databases, while spending most of their time abroad, thus they should be classified as persons living abroad ($\tilde{c}_i = 0\tilde{)}$.

In 2016 more detailed analysis of the declared places of residence of Latvia population was performed by geo-referencing and visualising the respective data cartographically. The analysis allowed detecting places with a great number of persons having declared their place of residence at the workplace thereof, therefore the method used to estimate usually resident population was improved, and, in line with the internationally adopted

definition, the number of persons having declared their place of usual residence at their workplace (enterprise registered in Latvia) but being foreigners and not actually living in Latvia (e.g., lorry drivers, who are guest workers from other countries) was excluded from the number of usually resident population. The changes were introduced starting from the data on 2017.

Due to the mentioned reason, the population change, e.g., in former Mārupe municipality, was increase of 5 % in 2015 and a decline of 0.5 % in 2016. The actual population increase in 2015 and 2016 constitutes 2–3 %. Similar situation may be observed in Riga and former Carnikava municipality, however population change in these areas is smaller.

The largest share of the people classified as living abroad ($\tilde{c}_i = 0$) but actually being residents of Latvia is registered in External Migration Survey (4.09 %), especially in the age group 28–36. In 2023, 4.48 % of the people who received municipal benefits (SSAIS data) were not included in the population estimate. Majority of those people were Ukraine refugees who received the benefit in the summer of 2022 while later went to another European country or back to Ukraine. Thus, the share of people who received municipal benefits, with the exclusion of this group, is similar to that estimated in another years – 2.15 %.

6 Conclusions and model improvement

Further work on the population estimate method will take two directions – improvement of the existing logistic regression model for population and migration flow estimation as well as work on the development of new population statistics methodology (model). The CSB aims at developing a model that is based on administrative data but does not include direct use of the Census 2011 results which year by year are becoming outdated and cannot reveal current situation.

Improvement of the existing model envisages incorporation of additional explanatory variables that will be developed from the data already available to the CSB or other supplementary data that may be accessed in the future. Verification and improvement of the existing model is also needed in cases when there are changes in administrative data or quality, structure, or form of receipt thereof. For example, as information in respect to data of SEA and SRS self-employed persons changed, the pattern was adjusted for assessment of 2020.

Model improvement requires annual (with periodicity of at least one year) individual data on the period starting from 2010 (one year before the Census 2011). Availability of such a data is very limited, as the CSB already has access to the individual data with the respective time series available in the largest Latvian administrative sources. Also, the data on several recent years or latest situation are very valuable to assess quality of the population estimate. To evaluate precision of the model, CSB uses the following additional individual data:

- individual data from higher education institutions of Latvia about students provided by MES;
- Rīgas satiksme Riga municipal limited liability company individual data about personalised e-ticket;

- SEDA individual data regarding persons who have received a study/student loan for studying abroad;
- Ministry of Education and Science data about children at school age who have not been registered with any of the educational institutions.

With an aim to ensure estimation of population in specific groups, in future it has been planned to keep seeking administrative registers that might have individual data, especially on young people, long-term emigrants, and homeless people.

While getting prepared for the Census 2021, in 2015 CSB conducted a Population Microcensus with the aim to acquire annual population, composition thereof, and long-term migration estimates independent from the methodology used for producing population statistics described.

Analysis of the total population allows concluding that number of inhabitants in population statistics and Microcensus results differs by 37 thousand (1.9 %), which is statistically significant difference, as the margin of error is 29 thousand (relative margin of error is 1.5 %). The Microcensus results show that the total population is overestimated.

There is a problem in the age group 19–24, in which verification of the hypothesis shows statistically significant difference between the population statistics and Microcensus results in five cases. Population statistics estimates exceed the Microcesnsus estimates. In this case, there is a reference to actual differences, since the fact that there are differences in several age groups in a row shows that sampling error is not the reason behind the difference.

Comparison of the Microcesnsus results with the population statistics proved that calculation of precise migration flows would need panel survey conducted for at least two years in a row. In 2017, the first stage of the survey was initiated. The sample includes 20 000 dwellings and it is aimed at asking about usual residents of the dwelling on 1 December 2016 and 1 December 2017. A separate sample was formed for Valka municipality and Valka town with an aim to estimate the number of employed people working in Estonia. The survey includes questions about mother tongue, language mainly spoken at home and foreign language knowledge. The second stage of the survey took place from 1 October 2018 to 15 December 2018. Within it, in addition to the questions about usual residents of a dwelling and questions about employment country asked to residents of Valka municipality and town residents also questions about highest level of education completed and country where education was acquired were asked. The results of the survey were published in the Q2 2019.

Migration figures from 1 December 2017 to 1 October 2018 (exact dates of the survey) are compiled and compared to CSB 2018 migration indicators. The data (on 12 months) collected differ from the annual migration estimate – emigration is higher and exceeds 20 % while immigration is smaller (by 38 %). Typically immigration is growing at the end of the year as people choose their future place of residence, however the survey did not include the last months of 2018. Another factor, also reflected by age structure of immigrants,

might be language barrier. It is observed that significantly less immigrants (mainly English-speaking) were surveyed in the age group under 40 while an opposite trend was observed in larger age groups. Breakdown of immigrants by region shows differences between the registered and actual place of residence. Main differences are observed in immigration indicators for Riga, Kurzeme and Latgale.

External Migration Survey provides valuable information about quality of the CSB migration estimate. It was concluded that migration needs more attention, however the fact that the key demography indicators have similar structure and differences may be explained by nature of both population estimate method and CSB survey is positive.

Within the framework of grant project G-19.10 Urban and Territorial Statistics in 2019, in 2019 population estimation method evaluation and elaboration of new or improved method was started. A test individual data on all cases when a person has appeared in SSIA, CSDD and SEA administrative registers were received.

In 2020, along with the project G-19.10 closing, testing of use of the Sol-Logit model for population estimates was started. Considering that logic regression and Sol-Logit model give differing results, it was decided to carry out coverage survey to evaluate precision of the methods and test some other methods that may be suitable for population estimates based on administrative data. In 2020 a substantiation was assessed and sample size was evaluated to organise coverage survey as well as CSB applied for a grant project to develop and test other methods as well as organise a pilot survey in 2023–2024 and thus get ready for the coverage survey.

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European Union Regulations

Document includes legal norms resulting from:

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Annex 1 – Tables

Table 1 Dependent variables of logistic regression model and model coefficient estimates

Administrative register	Description of variable (municipalities defined based on the administrative territorial division in force until 1 July 2021)	B	S.E	Sig	ExpB
OCMA	changed placed of residence during the year	0.081	0.005	0.000	1.085
OCMA	male	0.203	0.004	0.000	1.225
OCMA	single	-0.017	0.013	0.194	0.983
OCMA	married	-0.039	0.012	0.002	0.962
OCMA	divorced	-0.171	0.009	0.000	0.843
OCMA	born in Russia, Ukraine or Belarus	-0.023	0.005	0.000	0.977
OCMA	born in EU (except LV)	-0.086	0.003	0.000	0.918
OCMA	Estonian	-0.003	0.003	0.436	0.997
OCMA	German	-0.038	0.003	0.000	0.963
OCMA	Russian	-0.049	0.004	0.000	0.953
OCMA	Ukrainian	-0.021	0.004	0.000	0.979
OCMA	Pole	-0.028	0.004	0.000	0.972
OCMA	Jew	-0.108	0.003	0.000	0.898
OCMA	Roma	-0.016	0.002	0.000	0.984
OCMA	unspecified/ unknown ethnicity	-0.024	0.004	0.000	0.977
OCMA	lives in Kurzeme region	0.016	0.007	0.023	1.013
OCMA	lives in Pierīga region	0.013	0.006	0.017	1.008
OCMA	lives in Riga region	0.008	0.006	0.181	0.976
OCMA	lives in Vidzeme region	-0.024	0.006	0.000	0.978
OCMA	lives in city of Daugavpils	-0.022	0.004	0.000	0.978
OCMA	lives in Jelgava city	-0.022	0.004	0.000	0.978
OCMA	lives in Liepāja city	-0.045	0.005	0.000	0.956
OCMA	lives in Rēzekne city	-0.042	0.004	0.000	0.959
OCMA	lives in Valmiera city	-0.031	0.004	0.000	0.970
OCMA	lives in Ventspils city	-0.026	0.004	0.000	0.975
OCMA	lives in Tukums county	-0.022	0.004	0.000	0.978
OCMA	lives in Talsi county	-0.017	0.004	0.000	0.983
OCMA	lives in Strenči county	-0.015	0.004	0.000	0.985
OCMA	lives in Ropaži county	0.014	0.004	0.000	1.014
OCMA	lives in Ogre county	-0.014	0.004	0.000	0.986
OCMA	lives in Nereta county	0.027	0.004	0.000	1.028
OCMA	lives in Grobiņa county	-0.011	0.004	0.003	0.989
OCMA	lives in Cēsis county	-0.035	0.004	0.000	0.966

Administrative register	Description of variable (municipalities defined based on the administrative territorial division in force until 1 July 2021)	B	S.E	Sig	ExpB
OCMA	lives in Burtnieki county	0.035	0.004	0.000	1.036
OCMA	lives in Valka county	-0.017	0.004	0.000	0.983
OCMA	lives in Rugāji county	0.016	0.004	0.000	1.016
OCMA	lives in Saldus county	-0.016	0.004	0.000	0.984
OCMA	lives in Mārupe county	0.025	0.004	0.000	1.025
OCMA	lives in Ērgļi county	-0.014	0.004	0.000	0.986
OCMA	lives in Brocēni county	-0.015	0.004	0.000	0.985
OCMA	lives in Līvāni county	-0.013	0.004	0.000	0.987
OCMA	lives in Auce county	-0.023	0.004	0.000	0.978
OCMA	lives in Krāslava county	-0.019	0.004	0.000	0.981
OCMA	lives in Jēkabpils county	0.025	0.004	0.000	1.026
OCMA	lives in Dobele county	-0.017	0.004	0.000	0.983
OCMA	lives in Balvi county	-0.016	0.004	0.000	0.984
OCMA	lives in Alūksne county	-0.021	0.004	0.000	0.979
OCMA	citizen of Latvia	-0.015	0.006	0.012	0.985
OCMA	aged 1	-0.068	0.009	0.000	0.860
OCMA	aged 2	-0.150	0.008	0.000	0.826
OCMA	aged 3	-0.191	0.008	0.000	0.793
OCMA	aged 4	-0.232	0.008	0.000	0.769
OCMA	aged 5	-0.262	0.008	0.000	0.772
OCMA	aged 6	-0.259	0.008	0.000	0.753
OCMA	aged 7	-0.284	0.008	0.000	0.738
OCMA	aged 8	-0.303	0.008	0.000	0.748
OCMA	aged 9	-0.291	0.008	0.000	0.741
OCMA	aged 10	-0.300	0.008	0.000	0.741
OCMA	aged 11	-0.299	0.008	0.000	0.741
OCMA	aged 12	-0.289	0.008	0.000	0.749
OCMA	aged 13	-0.276	0.008	0.000	0.759
OCMA	aged 14	-0.293	0.008	0.000	0.746
OCMA	aged 15	-0.299	0.009	0.000	0.741
OCMA	aged 16	-0.297	0.009	0.000	0.743
OCMA	aged 17	-0.311	0.009	0.000	0.632
OCMA	aged 18	-0.402	0.009	0.000	0.669
OCMA	aged 19	-0.322	0.009	0.000	0.717
OCMA	aged 20	-0.320	0.009	0.000	0.726
OCMA	aged 21	-0.349	0.010	0.000	0.705

Administrative register	Description of variable (municipalities defined based on the administrative territorial division in force until 1 July 2021)	B	S.E	Sig	ExpB
OCMA	aged 22	-0.370	0.010	0.000	0.691
OCMA	aged 23	-0.400	0.010	0.000	0.670
OCMA	aged 24	-0.426	0.010	0.000	0.653
OCMA	aged 25	-0.426	0.010	0.000	0.653
OCMA	aged 26	-0.282	0.010	0.000	0.755
OCMA	aged 27	-0.290	0.010	0.000	0.748
OCMA	aged 28	-0.279	0.010	0.000	0.756
OCMA	aged 29	-0.273	0.009	0.000	0.761
OCMA	aged 30	-0.263	0.009	0.000	0.768
OCMA	aged 31	-0.260	0.009	0.000	0.771
OCMA	aged 32	-0.250	0.009	0.000	0.779
OCMA	aged 33	-0.237	0.009	0.000	0.789
OCMA	aged 34	-0.240	0.009	0.000	0.786
OCMA	aged 35	-0.233	0.009	0.000	0.792
OCMA	aged 36	-0.221	0.009	0.000	0.802
OCMA	aged 37	-0.211	0.009	0.000	0.810
OCMA	aged 38	-0.210	0.009	0.000	0.811
OCMA	aged 39	-0.206	0.010	0.000	0.814
OCMA	aged 40	-0.202	0.010	0.000	0.817
OCMA	aged 41	-0.184	0.009	0.000	0.832
OCMA	aged 42	-0.173	0.009	0.000	0.841
OCMA	aged 43	-0.175	0.009	0.000	0.839
OCMA	aged 44	-0.169	0.009	0.000	0.844
OCMA	aged 45	-0.163	0.009	0.000	0.850
OCMA	aged 46	-0.158	0.010	0.000	0.854
OCMA	aged 47	-0.159	0.010	0.000	0.853
OCMA	aged 48	-0.157	0.010	0.000	0.855
OCMA	aged 49	-0.147	0.010	0.000	0.863
OCMA	aged 50	-0.141	0.010	0.000	0.869
OCMA	aged 51	-0.138	0.010	0.000	0.871
OCMA	aged 52	-0.131	0.010	0.000	0.877
OCMA	aged 53	-0.117	0.010	0.000	0.890
OCMA	aged 54	-0.114	0.010	0.000	0.892
OCMA	aged 55	-0.107	0.010	0.000	0.898
OCMA	aged 56	-0.101	0.009	0.000	0.904
OCMA	aged 57	-0.093	0.009	0.000	0.912

Administrative register	Description of variable (municipalities defined based on the administrative territorial division in force until 1 July 2021)	B	S.E	Sig	ExpB
OCMA	aged 58	-0.088	0.009	0.000	0.916
OCMA	aged 59	-0.074	0.009	0.000	0.928
OCMA	aged 60	-0.100	0.009	0.000	0.905
OCMA	aged 61–64	-0.175	0.018	0.000	0.839
OCMA	aged 65	-0.045	0.012	0.000	0.956
OCMA	aged 66	-0.028	0.013	0.026	0.972
OCMA	aged 67	-0.021	0.013	0.115	0.979
OCMA	aged 68	-0.026	0.013	0.050	0.974
OCMA	aged 69	-0.032	0.013	0.018	0.969
OCMA	aged 70	-0.019	0.013	0.157	0.981
OCMA	aged 71	0.001	0.013	0.958	1.001
OCMA	aged 72	0.012	0.014	0.373	1.012
OCMA	aged 73	0.012	0.013	0.377	1.012
OCMA	aged 74	0.002	0.013	0.890	1.002
OCMA	aged 75	-0.014	0.012	0.233	0.986
OCMA	aged 76	-0.015	0.012	0.203	0.985
OCMA	aged 77	-0.008	0.012	0.488	0.992
OCMA	aged 78	-0.024	0.011	0.033	0.977
OCMA	aged 79	0.011	0.012	0.374	1.011
OCMA	aged 80	-0.013	0.011	0.219	0.987
OCMA	aged 81	-0.007	0.010	0.477	0.993
OCMA	aged 82	-0.020	0.010	0.052	0.981
OCMA	aged 83	0.004	0.010	0.709	1.004
OCMA	aged 84	-0.013	0.009	0.150	0.987
OCMA	aged 85	-0.013	0.009	0.136	0.987
OCMA	aged 86	-0.019	0.008	0.014	0.981
OCMA	aged 87	-0.001	0.008	0.143	0.989
OCMA	aged 88	-0.004	0.007	0.542	0.996
OCMA	aged 89	-0.017	0.006	0.007	0.983
OCMA	aged 90	-0.015	0.006	0.008	0.985
OCMA	aged 91	-0.015	0.005	0.004	0.986
OCMA	aged 92	-0.016	0.005	0.001	0.984
OCMA	aged 93	-0.013	0.005	0.005	0.987
OCMA	aged 94	-0.013	0.004	0.001	0.987
OCMA	aged 95	-0.015	0.004	0.000	0.985
OCMA	aged 96	-0.016	0.004	0.000	0.984

Administrative register	Description of variable (municipalities defined based on the administrative territorial division in force until 1 July 2021)	B	S.E	Sig	ExpB
OCMA	aged 97	-0.012	0.003	0.000	0.988
OCMA	aged 98	-0.014	0.003	0.000	0.986
OCMA	aged 99	-0.013	0.003	0.000	0.988
OCMA	aged 100+	-0.022	0.003	0.000	0.978
OCMA	has reached the statutory retirement age	-0.563	0.025	0.000	0.570
MES	is attending pre-school education establishment or secondary/special/ vocational education institution	1.063	0.009	0.000	2.896
SSIA	is receiving service pension	0.127	0.004	0.000	1.135
SSIA	is receiving old-age pension	2.095	0.014	0.000	8.129
SSIA	is receiving disability pension etc. benefits/ compensations for disabled persons	0.673	0.009	0.000	1.960
SRS	information about employee – employee has received unpaid leave	-0.053	0.008	0.000	0.948
SRS	information about employee – acquisition of the status of employee that is employed during custodial sentencing	0.081	0.016	0.000	1.084
SRS	information about employee – acquisition of the status of employee or micro enterprise employee that is to be insured in compliance with all types of state social insurance	0.480	0.008	0.000	1.617
SRS	information about employee – loss of employee or micro enterprise employee status	-0.354	0.011	0.000	0.702
SRS	employee (worker) for 1 month	0.036	0.004	0.000	1.037
SRS	employee (worker) for 2 months	0.237	0.005	0.000	1.268
SRS	employee (worker) for 3 months	0.264	0.006	0.000	1.303
SRS	employee (worker) for 4 months	0.267	0.006	0.000	1.306
SRS	employee (worker) for 5 months	0.263	0.006	0.000	1.301
SRS	employee (worker) for 6 months	0.274	0.006	0.000	1.315
SRS	employee (worker) for 7 months	0.274	0.007	0.000	1.315
SRS	employee (worker) for 8 months	0.283	0.007	0.000	1.327
SRS	employee (worker) for 9 months	0.286	0.007	0.000	1.331
SRS	employee (worker) for 10 months	0.367	0.008	0.000	1.443
SRS	employee (worker) for 11 months	0.590	0.011	0.000	1.805
SRS	employee (worker) for 12 months	1.998	0.019	0.000	7.374
SRS	self-employed person	0.261	0.011	0.000	1.329
UL/ RTU	studies at UL or RTU	0.261	0.006	0.000	1.298

Administrative register	Description of variable (municipalities defined based on the administrative territorial division in force until 1 July 2021)	B	S.E	Sig	ExpB
TSI/ RTTEMA/ BIA/ RTA/ LiepU/ RBC/ RTC/ MC/ RMCUL/ DMC/ R1MC/ JVLMA/ LAC/ LAC LCC/ SPC/ RSU RCMC/ SSE Riga	studies at TSI / RTTEMA / BIA / RTA / LiepU / RBC / RTC / MC / RMCUL / DMC / R1MC / JVLMA / LAC/ LAC LCC/ SPC/ RSU RCMC or SSE Riga	0.181	0.005	0.000	1.198
RSS	may be found in Rural Support Service data	0.160	0.009	0.000	1.173
ADC	herd owner	0.181	0.009	0.000	1.198
Census/ OCMA	lives in institutional dwelling	0.022	0.003	0.000	1.022
SRS	state social insurance contributions calculated from EUR 44.02 to 89.46	0.039	0.011	0.000	1.040
SRS	state social insurance contributions calculated from EUR 89.46 to 123.54	0.067	0.013	0.000	1.069
SRS	state social insurance contributions calculated from EUR 123.54 to 187.44	0.163	0.016	0.000	1.178
SRS	state social insurance contributions calculated from EUR 187.44 to 293.94	0.262	0.019	0.000	1.300
SRS	state social insurance contributions calculated from > EUR 293.94	0.306	0.020	0.000	1.358
SRS	registered income < EUR 2059	0.157	0.004	0.000	1.171
SRS	registered income from EUR 2059 to 3821.22	0.130	0.006	0.000	1.139
SRS	registered income from EUR 3821.22 to 5576.34	0.120	0.006	0.000	1.127
SRS	registered income from EUR 5576.34 to 8660.58	0.093	0.007	0.000	1.097
SRS	registered income from EUR 8660.58 to 13691.64	0.082	0.009	0.000	1.085
SRS	registered income < EUR 13691.64	0.103	0.010	0.000	1.109
MES/ UL/ RTU/ TSI/ RTTEMA/ BIA/ RTA/ LiepU/ RBC/ RTC/ MC/ RMCUL/ DMC/ R1MC/ JVLMA/ LAC/ LAC LCC/ SPC/ RSU RCMC/ SSE Riga	parents – only of persons aged 0–25	0.036	0.006	0.000	1.037
RSS/ADC	parents (RSS or ADC) – only of persons aged 0–25	0.066	0.004	0.000	1.068
SHS	parents (state compensated health care service) – only of persons aged 0–25	0.180	0.007	0.000	1.197

Administrative register	Description of variable (municipalities defined based on the administrative territorial division in force until 1 July 2021)	B	S.E	Sig	ExpB
SSIA	parents (SSIA, childbirth allowance, childcare benefit, state family benefit, maternity benefit, etc. benefits/ allowances, compensations for the performance of guardian's and foster family's duties) – only of persons aged 0–25	0.214	0.006	0.000	1.239
SSIA	parents (disability allowances/benefits or pension) – only of persons aged 0–25	0.041	0.004	0.000	1.042
SEA	parents (SEA) – only of persons aged 0–25	0.078	0.005	0.000	1.081
SRS	parents (SRS) – only of persons aged 0–25	0.130	0.010	0.000	1.139
SRS	monthly income of mother or father <EUR 1278 – only of persons aged 0–25	0.239	0.009	0.000	1.270
SRS	monthly income of mother or father >EUR 1278 – only of persons aged 0–25	0.128	0.005	0.000	1.136
CSDD	during the last year, has changed driver's licence abroad	-0.041	0.002	0.000	0.960
CSDD	during the last year, has obtained a driver's licence	0.043	0.004	0.000	1.044
CSDD[4]	during the last year, has obtained or changed boat driver licence	0.019	0.004	0.000	1.020
CSDD	during the last year, has obtained a bicycle driver licence	0.074	0.011	0.000	1.077
CSDD	during the last year, had to pay penalty for violations of road traffic rules	0.147	0.004	0.000	1.158
OCMA	born in Latvia and is not Latvian, and is not citizen of Latvia	0.113	0.005	0.000	1.119
SSIA/SRS	is receiving childbirth allowance/ childcare benefit, family allowance, maternity benefit and other benefits for the adoption and care of a child, or the person went on or returned from a childcare leave	0.555	0.005	0.000	1.742
SSIA	is receiving pension for the loss of a provider, other special benefits/ allowances or funeral benefit	0.171	0.006	0.000	1.186
SHS/SSIA	is receiving compensation for harm to the participants of the Chernobyl Nuclear Power Plant accident consequence elimination, benefits for losing one's ability to work (if harmed while at work) or sickness benefits, and receiving state-funded health care services	0.266	0.013	0.000	1.304

[5] As the Road Traffic Safety Directorate (CSDD) data received in 2021 do not contain information about the type of the driving license changed (boat or car), as of 2021 the values of the predicated variable are found in a different way. The status of the boat licence change is determined by combining information on the boat licences issued between 2010 and 2020 and comparing it with the information on licences changed in 2020.

Administrative register	Description of variable (municipalities defined based on the administrative territorial division in force until 1 July 2021)	B	S.E	Sig	ExpB
SHS/ SSIA	has received state-funded health care services at least once during the year, but does not receive any sickness benefits from SSIA	0.931	0.004	0.000	2.536
SHS/ SSIA	is receiving compensation for harm to the participants of the Chernobyl Nuclear Power Plant accident consequence elimination paid to persons who have lost 10–25 % of their ability to work, benefits for losing one's ability to work (if harmed while at work) or sickness benefits, but the respective person has not received any sickness benefits from SSIA during the year	0.030	0.009	0.001	1.030
SEA/ SSIA	is registered with the SEA as an unemployed person or a person seeking employment and receives unemployment benefit	0.314	0.005	0.000	1.368
SEA/ SSIA	is registered with the SEA as an unemployed person or a person seeking employment, but not receiving unemployment benefit	0.616	0.004	0.000	1.852
	model constant	5.326	0.012	0.000	205.639

Table 2 Share of people not included in the population by age group; 2012–2020 (%)

Age	Population on 01.01.2012						Population on 01.01.2013					
	SSAIS	EHSIS	DA (2011)	SSAIS	EHSIS	SILC (2012)	SSAIS	EHSIS	DA (2012)	SSAIS	EHSIS	SILC (2013)
0	0.83		0.00	0.00	2.38	0.93	0.35		0.00	0.74	0.00	0.00
1	0.82		0.00	1.27	0.00	0.76	0.56		0.00	0.00	0.00	0.00
2	0.74		0.52	0.96	0.00	0.00	1.17		0.00	0.63	0.77	1.56
3	0.77		0.49	1.90	1.22	0.63	0.56		1.44	1.35	0.00	0.74
4	0.75		2.59	1.46	1.12	2.45	1.20		0.95	0.44	1.25	0.61
5	0.72		1.55	0.00	0.65	0.00	0.75		1.46	0.93	2.45	2.05
6	0.42		0.50	0.00	0.71	0.76	0.63		0.00	0.00	0.00	0.70
7	0.50		2.59	0.59	0.65	0.69	0.51		0.53	1.13	0.76	1.36
8	0.18		0.90	1.42	0.00	0.00	0.57		1.18	0.00	0.69	0.00
9	0.34		0.57	0.58	0.68	0.75	0.34		0.94	0.00	0.00	0.00
10	0.10		0.52	0.00	0.00	0.00	0.43		1.16	0.00	1.50	0.84
11	0.12		0.51	0.51	0.00	0.00	0.19		0.49	0.00	0.00	0.00
12	0.16		0.00	0.00	0.00	0.00	0.37		1.01	0.95	0.00	0.00
13	0.10		0.58	0.00	0.00	0.00	0.19		0.56	0.00	0.00	0.00
14	0.18	0.00	0.00	0.49	0.67	0.00	0.17		0.00	0.58	0.00	0.00
15	0.03	0.00	0.00	0.00	0.00	0.00	0.29	0.86	0.49	0.00	0.00	0.00
16	0.30	0.54	0.00	0.00	0.63	0.00	0.31	0.65	0.00	0.52	0.00	0.74
17	0.32	0.00	0.79	0.43	0.56	0.54	0.37	0.54	0.46	0.00	0.00	0.00
18	0.57	0.84	0.72	0.39	1.56	1.18	0.53	0.41	1.74	0.93	0.54	1.25
19	1.50	0.66	1.06	0.38	1.67	2.03	0.67	1.26	0.79	0.87	1.78	1.37
20	2.98	0.29	2.06	2.00	4.47	2.80	1.71	1.32	3.09	3.67	1.52	0.56
21	2.85	0.83	3.69	2.75	3.27	3.55	2.84	0.87	2.40	4.76	4.21	3.68
22	3.73	1.16	3.28	2.45	0.97	1.76	2.86	0.83	3.53	4.13	4.57	4.52
23	3.42	0.56	3.96	3.38	3.43	3.35	3.56	2.33	2.45	6.88	2.35	3.80
24	3.54	0.00	3.97	2.29	4.21	3.01	3.36	1.69	4.22	2.82	3.91	4.52
25	2.79	0.00	4.67	3.92	2.59	1.78	3.23	2.78	3.21	2.75	3.03	3.03
26	3.69	0.00	2.44	2.94	3.43	2.94	2.93	0.00	2.94	2.40	2.96	3.87
27	2.64	0.00	5.47	4.23	3.09	4.61	3.02	0.00	3.43	2.96	2.94	2.50
28	2.74	0.00	2.51	2.88	3.93	2.60	2.07	0.00	4.23	4.64	3.95	5.22
29	2.50	0.00	0.51	2.37	2.89	2.65	2.11	3.28	3.37	1.07	1.31	1.88
30	2.69	3.77	2.42	2.37	1.34	0.78	2.21	1.89	2.96	3.50	2.65	2.07
31	1.52	1.79	3.38	2.69	1.90	1.90	1.88	3.77	2.84	3.11	0.78	0.71
32	2.03	0.00	1.28	2.35	0.00	0.73	1.89	3.57	3.23	2.73	3.82	2.27
33	1.59	2.13	0.98	0.99	4.44	2.96	2.33	0.00	2.36	3.92	0.73	1.61
34	1.20	2.13	0.89	2.20	2.75	1.20	1.37	6.38	1.98	1.62	3.55	4.23
35	1.59	0.00	2.53	0.87	0.00	2.26	1.15	2.13	2.21	2.99	2.41	3.39
36	1.13	3.28	0.00	0.00	1.49	1.03	1.44	3.57	1.73	2.67	2.26	2.89

Age	Population on 01.01.2012						Population on 01.01.2013					
	SSAIS	EHSIS	DA (2011)	SSAIS	EHSIS	SILC (2012)	SSAIS	EHSIS	DA (2012)	SSAIS	EHSIS	SILC (2013)
37	1.45	3.85	1.91	1.15	1.80	2.45	0.76	4.92	0.75	2.12	1.03	1.11
38	1.40	0.00	2.90	1.69	1.81	1.14	1.12	2.56	1.15	2.49	1.84	2.86
39	1.65	0.00	0.38	1.19	1.65	1.05	1.17	0.00	2.95	1.66	1.70	1.18
40	1.31	0.00	1.83	1.14	1.27	0.92	1.29	2.60	3.56	1.64	2.11	2.62
41	1.26	1.10	2.02	0.82	2.40	0.96	1.04	0.00	1.15	2.09	0.92	0.93
42	1.77	0.00	2.71	1.63	0.93	0.49	0.64	1.10	0.82	1.14	2.88	3.00
43	1.61	0.00	1.93	2.16	0.54	0.00	1.17	1.09	2.04	1.27	1.48	1.41
44	1.78	1.02	1.92	0.80	1.38	1.79	1.29	0.00	2.16	1.23	0.55	1.08
45	1.43	0.00	1.10	1.08	0.51	0.56	1.28	1.03	1.20	2.34	2.70	2.24
46	1.09	0.00	1.45	1.63	0.46	0.00	0.95	0.82	0.72	1.39	0.56	0.54
47	1.74	0.96	0.60	0.96	0.00	0.43	0.61	0.00	1.65	1.55	0.00	0.47
48	1.81	1.71	0.95	0.96	1.37	0.49	0.97	0.96	0.64	2.11	0.44	0.83
49	1.67	0.00	0.91	0.66	1.21	1.29	1.13	1.71	1.61	1.00	0.98	0.51
50	1.52	0.00	1.22	1.90	1.23	1.72	1.34	0.00	1.33	1.68	1.29	0.45
51	1.65	0.83	1.16	1.55	2.99	2.46	0.68	0.75	1.93	1.66	2.16	4.35
52	2.01	0.64	1.18	1.16	1.98	1.33	1.26	0.83	2.17	1.92	2.07	1.37
53	1.75	0.00	1.57	0.63	2.58	1.69	1.28	0.64	1.73	0.91	1.34	1.87
54	1.31	0.78	1.70	1.31	1.52	2.07	1.20	0.00	1.27	1.28	2.12	1.28
55	1.98	1.54	2.01	2.08	1.72	1.36	0.94	0.00	2.30	0.63	2.50	2.04
56	0.99	0.00	0.32	0.67	0.87	0.00	1.09	1.54	3.14	2.74	1.37	1.46
57	1.69	0.70	1.44	1.46	0.93	0.53	0.75	0.00	1.01	1.69	0.44	1.34
58	1.79	0.00	1.13	1.15	1.53	1.49	1.04	0.70	1.47	1.06	1.08	1.55
59	1.47	0.65	1.16	0.40	0.49	0.90	0.95	0.00	1.53	1.61	2.02	3.08
60	1.91	0.00	0.35	0.36	1.01	1.01	1.37	0.65	0.79	0.79	0.90	1.52
61	1.40	0.00	0.73	0.72	1.38	1.49	1.62	0.00	0.72	1.81	1.02	1.01
62	1.75	0.00	0.00	0.73	1.73	1.83	0.79	0.00	0.36	1.61	1.50	1.07
63	0.68	0.00	0.36	0.39	0.00	0.00	1.50	0.00	0.74	0.75	1.41	0.50
64	0.59	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.00
65	0.37	0.00	0.00	0.00	0.62	0.00	0.92	0.00	0.00	0.49	0.00	0.00
66	0.34	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.44	0.00	0.00
67	0.18	0.00	0.00	0.00	0.57	0.60	0.36	0.00	0.00	0.50	0.60	0.65
68	0.06	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.61	0.00
69	0.20	0.00	0.00	0.00	0.00	0.00	0.24	2.44	0.00	0.00	0.00	0.00
70	0.29	0.00	0.00	0.00	1.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.53	0.51	0.25	0.00	0.00	0.00	0.00	0.00
72	0.05	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.36	0.52	0.53
73	0.10	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.37	0.79	0.00	0.00
74	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	1.00	0.96

Age	Population on 01.01.2012						Population on 01.01.2013					
	SSAIS	EHSIS	DA (2011)	SSAIS	EHSIS	SILC (2012)	SSAIS	EHSIS	DA (2012)	SSAIS	EHSIS	SILC (2013)
75	0.06	0.00	0.00	0.48	0.00	0.00	0.21	0.00	0.00	0.38	0.00	0.00
76	0.14	0.00	0.00	1.13	0.00	0.00	0.13	0.00	0.50	0.54	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	1.17	0.57	0.00	0.00
78	0.00	0.00	0.00	0.00	0.71	0.72	0.32	0.00	0.00	0.00	0.00	1.35
79	0.05	0.00	0.63	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.75	0.75
80	0.00	0.00	1.38	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00
81	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00
83	0.00	0.00	0.00	0.00	0.83	0.83	0.00	0.00	0.00	0.00	0.00	1.04
84	0.18	0.00	0.00	0.00	0.00	1.22	0.00	0.00	0.78	0.88	0.87	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00
86	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.00	1.89	1.79
88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	0.20	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.00	0.00
90+	0.35	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00

Age	Population on 01.01.2014							Population on 01.01.2015						
	LFS (2013)	LFS (2014)	SSAIS (2013)	LFS (2013)	LFS (2014)	SILC (2014)	LFS (2013)	LFS (2014)	LFS (2015)	LFS (2013)	LFS (2014)	SILC (2014)	LFS (2013)	LFS (2014)
0	0.00	0.95	0.24	0.84	0.24	0.84		0.00	0.00	0.14	0.53	0.00	0.00	
1	0.00	0.87	0.73	0.48	0.73	0.48		0.95	1.12	1.01	0.72	0.00	0.00	
2	0.58	0.43	0.55	0.44	0.55	0.44		0.87	1.16	0.52	0.90	0.00	0.00	
3	0.63	1.90	0.71	0.81	0.71	0.81		0.43	0.43	0.48	0.59	0.00	0.00	
4	1.35	1.16	0.55	0.61	0.55	0.61		1.90	1.40	0.81	1.15	1.68	0.00	
5	0.44	0.75	0.98	0.95	0.98	0.95		1.16	1.60	0.65	0.79	0.00	0.00	
6	0.93	1.44	0.70	0.99	0.70	0.99		0.75	1.17	0.95	0.84	0.60	0.00	
7	0.00	0.00	0.62	0.62	0.62	0.62		1.81	2.41	0.99	1.15	1.54	0.72	
8	1.14	1.12	0.48	0.59	0.48	0.59		0.00	1.15	0.62	0.73	0.00	0.00	
9	0.00	1.18	0.23	0.36	0.23	0.36		1.12	0.70	0.62	0.65	0.65	0.00	
10	0.00	0.00	0.24	0.28	0.24	0.28		1.18	2.37	0.37	0.35	0.00	0.00	
11	0.00	0.00	0.25	0.23	0.25	0.23		0.00	0.00	0.28	0.25	0.00	0.00	
12	0.00	0.43	0.22	0.30	0.22	0.30		0.37	1.11	0.23	0.37	0.88	0.83	
13	0.48	0.36	0.11	0.20	0.11	0.20		0.85	0.42	0.30	0.33	0.00	0.00	
14	0.00	0.00	0.11	0.22	0.11	0.22	0.00	0.00	0.00	0.23	0.29	0.00	0.00	
15	0.58	0.44	0.22	0.27	0.22	0.27	0.00	0.00	0.00	0.25	0.22	0.75	0.00	0.00
16	0.00	0.39	0.20	0.15	0.20	0.15	0.00	0.44	0.00	0.27	0.17	0.00	0.00	0.00
17	0.52	1.19	0.17	0.56	0.17	0.56	0.00	0.39	0.77	0.15	0.80	0.00	1.48	1.61
18	0.00	0.80	0.34	0.35	0.34	0.35	0.00	1.19	0.83	0.56	0.20	0.00	0.00	0.00
19	0.47	1.53	0.22	0.29	0.22	0.29	0.00	0.80	1.32	0.31	0.70	0.00	3.25	0.00
20	0.87	1.80	0.44	1.08	0.44	1.08	0.00	2.31	2.30	0.29	1.15	2.26	2.96	0.00
21	4.15	3.99	1.99	2.86	1.99	2.86	4.44	2.87	1.55	1.09	1.53	1.49	6.16	0.00
22	5.63	5.32	2.44	2.98	2.44	2.98	2.00	4.33	2.98	2.80	3.13	3.07	7.24	5.56
23	4.62	4.15	2.53	3.52	2.53	3.52	5.06	5.32	3.45	2.58	4.18	2.42	3.60	1.96
24	5.96	8.75	2.23	3.03	2.23	3.03	4.62	4.14	4.94	3.00	5.80	4.05	3.03	5.00
25	4.52	5.06	2.79	4.63	2.79	4.63	4.69	8.75	5.62	2.17	3.64	7.86	6.92	6.06
26	2.76	4.27	2.87	3.28	2.87	3.28	1.49	6.25	7.01	3.96	4.51	4.27	5.30	1.56
27	3.38	4.80	1.70	2.90	1.70	2.90	3.03	4.29	3.99	2.92	4.57	5.59	6.54	1.49
28	3.45	4.78	1.97	2.64	1.97	2.64	4.76	4.44	5.69	2.11	3.49	5.97	5.00	5.97
29	4.66	6.23	2.54	2.97	2.54	2.97	1.52	5.15	5.99	1.92	2.80	4.43	4.85	5.95
30	1.06	2.72	1.83	2.60	1.83	2.60	3.45	6.23	5.62	2.25	3.78	2.86	4.72	1.52
31	3.54	3.99	2.48	2.86	2.48	2.86	0.00	2.71	3.57	2.21	3.27	2.10	2.53	3.45
32	3.11	5.24	2.40	2.32	2.40	2.32	2.53	4.69	6.28	2.65	3.03	1.94	4.60	1.56
33	2.20	3.21	2.13	2.19	2.13	2.19	3.23	4.86	6.27	1.91	2.29	1.52	2.72	3.80
34	3.43	4.76	1.74	1.99	1.74	1.99	2.94	3.61	3.70	2.07	2.30	2.29	1.36	3.23
35	1.63	3.40	1.64	2.82	1.64	2.82	4.41	5.15	5.32	2.00	2.74	1.63	3.88	2.94

Age	Population on 01.01.2014							Population on 01.01.2015						
	LFS (2013)	LFS (2014)	SSAIS (2013)	LFS (2013)	LFS (2014)	SILC (2014)	LFS (2013)	LFS (2014)	LFS (2015)	LFS (2013)	LFS (2014)	SILC (2014)	LFS (2013)	LFS (2014)
36	3.42	1.79	1.89	2.28	1.89	2.28	3.08	2.56	4.74	2.45	2.65	3.01	3.60	4.41
37	1.79	3.86	1.83	2.48	1.83	2.48	2.94	2.51	2.93	2.18	2.91	1.88	4.65	3.08
38	1.70	2.08	1.51	2.40	1.51	2.40	4.17	4.18	4.26	2.28	2.61	5.49	4.29	1.47
39	2.50	1.79	1.44	2.14	1.44	2.14	1.43	2.10	2.07	2.30	2.38	2.81	0.61	4.11
40	1.66	2.44	1.63	2.34	1.63	2.34	4.49	2.15	2.86	1.82	2.44	2.19	3.41	1.43
41	2.06	1.52	1.51	2.10	1.51	2.10	1.27	2.14	2.79	2.10	3.51	1.23	3.23	4.49
42	2.10	1.41	1.48	1.94	1.48	1.94	3.03	2.13	1.90	2.00	2.79	3.14	2.65	1.27
43	1.14	2.87	1.68	2.26	1.68	2.26	1.23	2.25	2.97	1.73	2.87	1.44	2.76	3.03
44	1.69	1.55	1.72	2.39	1.72	2.39	0.00	3.92	2.11	2.21	2.69	2.15	2.21	1.23
45	1.64	1.45	1.89	3.38	1.89	3.38	0.00	2.17	2.74	2.09	3.10	1.02	1.52	0.00
46	3.13	1.90	1.96	2.34	1.96	2.34	1.19	1.45	1.68	2.76	3.18	1.78	3.13	0.00
47	2.08	3.11	2.02	2.75	2.02	2.75	1.10	2.23	2.13	2.03	2.38	2.14	4.47	1.19
48	1.56	0.94	1.45	2.31	1.45	2.31	1.10	3.39	3.98	2.52	3.49	1.09	4.28	1.10
49	1.79	2.20	1.56	2.59	1.56	2.59	1.85	0.94	2.68	2.18	3.90	0.99	2.53	2.17
50	1.00	2.90	1.47	2.56	1.47	2.56	1.94	2.21	2.89	2.37	3.36	2.65	2.55	1.85
51	2.01	2.36	1.52	1.78	1.52	1.78	2.00	2.65	2.54	2.24	2.95	3.66	2.86	1.92
52	1.33	0.77	1.68	2.27	1.68	2.27	0.00	2.36	1.95	1.50	2.26	1.94	0.47	2.00
53	1.92	1.03	1.81	2.77	1.81	2.77	0.83	1.29	1.64	1.83	2.45	3.51	4.80	0.00
54	0.92	1.47	1.80	2.68	1.80	2.68	1.90	1.28	2.33	2.48	2.66	2.62	1.76	1.67
55	1.29	0.72	1.84	2.79	1.84	2.79	4.50	1.73	3.18	2.46	2.79	1.68	1.70	1.90
56	0.95	0.56	1.49	2.11	1.49	2.11	0.87	0.96	1.91	2.04	2.83	0.98	1.35	4.50
57	2.41	1.29	1.36	2.24	1.36	2.24	2.80	0.56	1.39	1.69	2.57	2.27	2.49	0.87
58	1.71	1.89	1.25	1.97	1.25	1.97	0.00	1.30	1.04	1.85	2.21	0.51	2.34	2.83
59	1.43	2.92	1.48	1.95	1.48	1.95	2.11	1.63	1.61	1.72	2.20	0.98	1.05	0.00
60	1.64	1.57	1.22	2.17	1.22	2.17	0.00	2.96	2.80	1.64	2.25	0.97	0.94	2.11
61	1.21	0.93	1.76	1.94	1.76	1.94	0.98	1.59	2.03	1.92	2.69	1.57	2.49	0.00
62	2.18	1.60	2.28	3.01	2.28	3.01	1.10	1.25	1.81	1.87	3.14	2.09	2.03	0.98
63	2.04	1.32	1.79	2.18	1.79	2.18	0.83	1.60	1.46	2.69	3.93	0.47	0.95	1.10
64	0.38	1.12	2.11	1.81	2.11	1.81	0.00	1.00	0.90	2.05	2.75	1.17	0.56	0.83
65	0.00	0.60	1.35	1.35	1.35	1.35	0.00	1.15	1.35	1.55	1.80	0.00	0.00	0.00
66	0.51	0.35	0.84	0.82	0.84	0.82	0.00	0.30	0.57	1.16	1.37	1.09	0.00	0.00
67	0.44	0.79	0.35	0.20	0.35	0.20	4.55	0.35	0.64	0.65	0.71	0.00	0.00	0.00
68	0.51	1.14	0.22	0.27	0.22	0.27	0.00	0.81	0.83	0.21	0.38	0.00	0.00	4.60
69	0.00	0.00	0.15	0.09	0.15	0.09	0.00	1.15	0.38	0.20	0.35	0.00	0.00	0.00
70	0.00	0.67	0.16	0.12	0.16	0.12	0.00	0.00	0.00	0.13	0.31	0.00	0.00	0.00
71	0.00	0.00	0.13	0.08	0.13	0.08	0.00	0.68	0.00	0.16	0.19	0.00	0.00	0.00

Age	Population on 01.01.2014							Population on 01.01.2015						
	LFS (2013)	LFS (2014)	SSAIS (2013)	LFS (2013)	LFS (2014)	SILC (2014)	LFS (2013)	LFS (2014)	LFS (2015)	LFS (2013)	LFS (2014)	SILC (2014)	LFS (2013)	LFS (2014)
72	0.00	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.09	0.14	0.58	0.55	0.00
73	0.37	0.00	0.09	0.03	0.09	0.03	0.00	0.00	0.00	0.00	0.05	0.64	0.00	1.01
74	0.00	0.00	0.06	0.04	0.06	0.04	0.00	0.00	0.61	0.03	0.09	0.00	1.31	0.00
75	0.48	0.67	0.08	0.05	0.08	0.05	0.00	0.32	0.59	0.04	0.03	0.57	1.13	0.00
76	0.39	0.93	0.00	0.03	0.00	0.03	1.39	0.69	0.63	0.03	0.03	0.99	0.51	0.00
77	0.55	0.41	0.07	0.09	0.07	0.09	0.00	0.96	0.63	0.03	0.03	0.00	0.00	1.41
78	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.41	0.06	0.06	0.64	0.00	0.00
79	0.00	0.49	0.14	0.11	0.14	0.11	0.00	0.00	0.47	0.00	0.11	0.00	0.00	0.00
80	0.00	0.48	0.07	0.11	0.07	0.11	0.00	0.52	0.57	0.11	0.13	1.46	0.81	0.00
81	0.00	0.00	0.04	0.04	0.04	0.04	0.00	0.51	0.00	0.12	0.13	0.00	0.00	0.00
82	0.00	0.56	0.05	0.09	0.05	0.09	0.00	0.00	0.00	0.04	0.09	0.00	0.00	0.00
83	0.00	0.00	0.09	0.04	0.09	0.04	0.00	0.61	0.65	0.05	0.00	0.00	0.00	0.00
84	0.00	0.00	0.00	0.18	0.00	0.18	0.00	0.00	0.00	0.05	0.13	0.00	1.23	0.00
85	0.93	0.70	0.09	0.10	0.09	0.10	0.00	0.00	0.00	0.04	0.00	0.00	1.20	0.00
86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.12	1.19	0.00	0.00
87	0.00	0.00	0.08	0.23	0.08	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.56
88	0.00	0.00	0.10	0.09	0.10	0.09	0.00	0.00	0.00	0.17	0.18	0.00	0.00	0.00
89	0.00	0.00	0.00	0.08	0.00	0.08	0.00	0.00	0.00	0.10	0.21	0.00	0.00	0.00
90+	0.81	0.76	0.20	0.23	0.20	0.23	0.00	0.68	0.00	0.19	0.27	0.00	1.27	0.00

Age	Population on 01.01.2016						Population on 01.01.2017								
	LFS (2015)	LFS (2016)	SSAIS (2015)	LFS (2015)	LFS (2016)	SILC (2016)	LFS (2015)	LFS (2016)	SSAIS (2016)	LFS (2015)	LFS (2016)	SILC (2017)	LFS (2015)	LFS (2016)	MOBA (2017)
0	0.78	0.37	0.24	1.17	0.00	0.00	0.00	0.43	0.28	1.21	0.00	0.00			
1	0.00	0.00	0.73	0.51	0.00	0.00	1.10	2.26	1.21	0.83	0.00	0.00			
2	1.11	0.72	0.58	0.66	0.00	0.70	0.00	0.77	0.51	0.76	0.72	0.71			
3	1.16	1.19	0.81	0.83	0.00	0.00	0.72	1.05	0.70	0.61	0.70	0.00			
4	0.43	0.82	0.68	1.08	0.00	0.00	1.58	1.89	0.87	1.1	0.76	0.73			
5	1.39	0.81	1.11	1.35	2.34	1.61	1.22	1.23	1.07	0.87	0.00	0.00			
6	1.60	1.93	0.79	0.98	0.00	0.00	0.81	0.38	1.35	1.56	1.60	0.78			
7	1.18	0.69	0.82	0.87	0.62	1.25	1.93	1.61	1.02	1.21	0.00	1.55			
8	2.06	2.09	1.08	1.13	1.45	0.00	0.69	0.34	0.90	0.96	1.25	0.68			
9	0.76	1.12	0.70	0.96	0.69	0.00	2.09	1.05	1.16	0.93	0.00	0.00			
10	0.70	0.00	0.65	0.58	1.29	0.64	1.49	1.56	1.04	1.05	0.00	0.74			
11	1.98	0.85	0.32	0.46	0.00	0.00	0.00	0.78	0.58	0.82	0.64	0.76			
12	0.00	0.00	0.25	0.41	0.00	0.00	1.27	0.44	0.45	0.41	0.00	0.00			
13	1.11	0.42	0.37	0.56	0.83	0.00	0.00	0.45	0.44	0.47	0.00	0.00			
14	0.00	0.00	0.36	0.49	0.00	0.00	0.43	0.43	0.55	0.51	0.00	0.00			1.85
15	0.00	0.39	0.29	0.31	0.00	0.00	0.00	0.86	0.52	0.42	0.00	0.00			0.00
16	0.00	0.00	0.22	0.27	0.74	0.75	0.00	0.44	0.34	0.45	0.00	0.00		0.00	0.00
17	0.00	0.46	0.17	0.42	0.00	0.00	0.00	0.00	0.31	0.65	0.75	0.74		0.00	0.00
18	1.93	0.90	0.76	0.30	0.74	0.76	0.93	0.51	0.32	0.19	0.00	0.00		0.00	0.00
19	1.24	0.00	0.15	0.41	1.65	0.88	0.91	0.53	0.36	0.75	0.77	0.00		0.00	0.00
20	2.22	1.16	0.64	1.41	0.00	0.00	0.47	0.48	0.32	1.03	1.74	1.04		0.00	1.59
21	2.30	1.99	1.06	2.35	0.74	0.00	2.34	3.03	1.52	1.72	0.88	0.00		0.00	2.08
22	1.55	0.94	1.08	2.62	2.05	5.22	3.45	2.59	1.90	2.29	0.00	0.88		0.00	0.00
23	2.99	3.35	2.53	3.10	4.61	2.21	1.42	1.75	2.19	3.63	6.72	5.00		6.06	1.45
24	4.15	5.58	3.52	4.45	4.32	5.15	4.85	4.42	2.91	5.36	1.48	5.00		1.56	0.00
25	5.39	4.72	4.93	5.20	1.52	7.25	7.23	6.56	3.13	5.52	6.62	8.66	1.75	3.13	1.04
26	6.07	2.21	3.21	4.93	6.15	7.63	3.95	3.36	4.27	4.74	7.30	6.67	2.01	0.94	1.01
27	7.78	4.76	3.64	5.28	7.28	5.76	1.77	4.92	3.78	4.13	7.63	5.34	2.44	1.12	3.19
28	5.09	7.19	3.66	4.08	6.54	3.14	5.11	4.76	4.45	4.01	8.63	5.56	2.76	1.87	0.00
29	6.02	6.51	2.63	4.16	5.76	6.16	8.25	9.06	3.71	4.62	3.13	4.43	0.77	3.19	0.96
30	6.04	4.81	2.31	3.74	5.45	4.32	6.85	8.16	3.42	4.59	6.85	6.79	3.03	0.00	1.05
31	4.87	6.32	3.65	3.42	2.36	1.41	5.19	7.67	3.83	3.84	5.66	3.85	3.09	0.79	1.96
32	3.59	3.40	3.36	3.99	3.16	3.03	6.75	5.22	3.64	4.71	1.43	2.07	0.71	3.45	1.74
33	6.69	5.84	2.79	4.15	2.89	2.30	3.40	6.00	3.97	4.59	2.42	2.80	1.23	0.89	0.00
34	5.86	4.68	2.31	3.11	2.04	5.66	6.98	8.50	4.21	4.66	2.87	5.16	0.81	1.94	1.85

Age	Population on 01.01.2016						Population on 01.01.2017								
	LFS (2015)	LFS (2016)	SSAIS (2015)	LFS (2015)	LFS (2016)	SILC (2016)	LFS (2015)	LFS (2016)	SSAIS (2016)	LFS (2015)	LFS (2016)	SILC (2017)	LFS (2015)	LFS (2016)	MOBA (2017)
35	3.70	5.11	2.06	2.86	3.40	5.33	5.02	5.28	3.23	2.89	5.10	5.06	3.79	4.49	0.00
36	5.32	4.13	2.89	3.06	2.33	4.05	5.09	4.68	2.67	3.9	5.30	6.90	1.52	0.92	0.00
37	5.56	5.49	2.35	3.48	2.88	4.35	5.35	4.45	3.03	3.87	4.08	3.85	1.48	2.53	0.00
38	2.93	5.65	2.78	3.56	2.33	3.37	5.51	3.20	3.29	3.99	4.35	4.62	0.00	0.00	1.14
39	3.96	2.80	2.54	3.14	4.91	3.53	6.41	5.10	3.40	4.23	5.03	3.21	0.66	0.97	2.04
40	2.08	1.65	2.07	3.55	1.88	1.72	2.80	1.92	3.32	4.03	2.96	2.45	3.25	0.81	0.00
41	3.17	4.42	2.20	2.99	2.86	2.12	1.66	3.23	3.46	3.98	2.30	2.94	0.84	1.00	1.71
42	3.35	3.40	3.45	3.84	1.94	1.85	4.11	1.82	2.98	4.07	2.63	3.98	0.79	1.05	0.00
43	2.17	1.53	2.62	3.42	3.17	3.59	3.70	3.38	3.33	4.23	1.88	3.01	2.04	2.02	0.93
44	3.01	3.06	2.61	2.44	2.76	2.75	1.78	3.43	3.24	4.18	3.59	2.76	0.66	1.79	0.00
45	2.11	1.20	2.74	4.03	2.21	2.87	3.06	1.62	2.19	3.29	2.76	2.30	1.41	1.61	2.88
46	3.06	0.93	2.99	3.95	1.52	0.54	1.50	1.70	3.71	4.2	2.91	4.60	0.68	0.00	1.63
47	1.96	1.92	2.80	3.24	1.25	2.86	0.93	1.81	3.94	4.98	1.65	2.15	0.72	0.89	2.63
48	2.74	2.57	2.15	3.15	1.12	2.87	2.19	2.12	2.97	4.26	2.84	2.52	0.00	0.00	0.00
49	4.26	2.47	3.13	3.61	2.16	1.58	2.58	1.06	3.45	4.79	2.89	4.68	1.29	0.00	1.80
50	2.99	1.90	3.86	4.59	3.03	3.24	2.21	2.44	3.42	4.37	2.09	3.09	3.13	2.50	0.95
51	2.94	1.85	3.32	4.09	3.09	3.28	1.92	1.93	4.59	5.14	3.80	2.92	2.63	0.00	0.00
52	2.31	2.31	2.72	3.56	3.37	1.90	2.14	2.22	3.89	4.65	4.89	4.24	0.00	0.88	2.78
53	2.21	1.76	2.30	3.00	1.40	2.29	2.58	2.23	3.21	4.92	2.42	2.62	1.94	0.00	0.00
54	1.65	2.12	2.41	3.39	3.07	3.95	2.02	2.39	3.10	3.89	2.29	3.62	1.94	1.74	0.76
55	2.56	3.06	2.50	3.43	2.22	2.20	1.91	1.84	3.26	3.89	3.52	3.57	1.13	0.78	0.00
56	3.46	3.26	2.63	3.34	2.84	2.05	3.29	2.57	3.20	4.15	2.65	4.26	2.21	0.00	0.00
57	2.16	2.86	2.68	3.11	1.82	1.87	3.27	3.14	3.27	4.11	2.07	2.08	1.15	0.00	0.00
58	1.67	2.63	2.41	3.16	0.50	2.31	3.08	1.52	3.08	4.26	1.90	3.47	1.79	0.93	0.80
59	1.04	1.42	1.81	2.69	0.95	1.02	2.65	3.41	2.89	3.54	2.30	3.47	0.66	0.86	0.79
60	1.89	1.48	1.82	2.68	0.53	2.62	1.44	2.68	2.58	3.6	1.03	1.43	1.42	0.87	0.00
61	2.84	1.32	2.00	2.47	2.38	2.38	1.49	0.59	2.44	2.94	2.65	2.53	0.00	0.88	0.00
62	1.75	1.16	2.50	2.85	1.51	2.19	1.06	1.04	2.28	2.76	2.40	0.99	0.61	0.00	0.93
63	1.53	2.42	3.03	4.11	1.04	0.60	1.16	1.39	2.92	3.55	2.21	1.59	1.49	0.00	0.00
64	1.72	1.63	3.72	4.05	1.44	0.95	2.13	2.75	4.21	3.92	0.61	1.72	1.32	0.00	0.92
65	0.90	1.12	2.56	3.04	0.56	1.08	1.65	2.16	3.80	3.49	0.97	1.03	0.00	0.00	0.00
66	1.36	1.13	1.77	1.72	0.56	0.46	1.13	0.29	3.02	2.64	1.09	0.96		1.11	0.00
67	0.29	0.57	1.21	1.35	0.64	0.61	1.15	0.58	1.48	1.68	0.48	0.00		0.00	0.00
68	0.33	0.00	0.65	0.67	0.00	0.00	0.58	0.56	1.19	1.05	0.62	1.21		0.00	0.00
69	0.86	0.40	0.36	0.66	0.00	0.00	0.35	0.34	0.66	0.81	0.00	0.00		0.00	0.00

Age	Population on 01.01.2016						Population on 01.01.2017								
	LFS (2015)	LFS (2016)	SSAIS (2015)	LFS (2015)	LFS (2016)	SILC (2016)	LFS (2015)	LFS (2016)	SSAIS (2016)	LFS (2015)	LFS (2016)	SILC (2017)	LFS (2015)	LFS (2016)	MOBA (2017)
70	0.39	0.43	0.26	0.16	0.00	0.00	0.40	0.39	0.60	0.47	0.00	0.00		0.00	0.00
71	0.00	0.41	0.26	0.18	0.00	0.00	0.44	0.00	0.16	0.20	0.00	0.00		0.00	1.27
72	0.00	0.31	0.20	0.20	0.00	0.00	0.41	0.40	0.15	0.16	0.00	0.00		0.00	0.00
73	0.00	0.00	0.18	0.15	0.56	1.16	0.31	0.33	0.17	0.11	0.00	0.00		0.00	0.00
74	0.00	0.31	0.06	0.13	0.59	1.12	0.00	0.31	0.15	0.22	1.18	1.10		0.00	0.00
75	0.63	0.63	0.10	0.06	0.68	0.00	0.31	0.32	0.16	0.10	1.14	1.22			0.90
76	0.61	0.30	0.03	0.06	1.16	1.08	0.33	0.33	0.03	0.09	0.00	0.00			0.00
77	0.65	0.32	0.03	0.06	0.52	0.00	0.31	0.00	0.06	0.03	1.09	1.09			1.10
78	0.98	0.37	0.06	0.20	0.00	0.00	0.32	0.32	0.06	0.24	0.00	0.00			0.00
79	0.42	0.45	0.03	0.08	0.67	0.78	0.38	0.43	0.17	0.27	0.00	0.00			0.00
80	0.48	0.47	0.12	0.16	0.00	0.00	0.00	0.00	0.08	0.07	0.81	0.00			0.00
81	0.59	0.00	0.14	0.28	0.83	0.95	0.48	0.00	0.12	0.17	0.00	0.00			0.00
82	0.00	0.00	0.14	0.14	0.00	0.00	0.00	0.00	0.20	0.36	0.96	0.00			0.00
83	0.00	0.00	0.09	0.24	0.00	0.00	0.00	0.00	0.15	0.16	0.00	0.00			0.00
84	0.69	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.10	0.26	0.00	0.00			0.00
85	0.00	0.00	0.15	0.05	1.32	1.18	0.00	0.00	0.18	0.07	0.00	0.00			
86	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.91	0.06	0.07	1.28	2.74			
87	0.00	1.03	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
88	0.00	0.00	0.00	0.00	0.00	0.00	1.09	3.75	0.00	0.29	0.00	0.00			
89	0.00	0.00	0.21	0.36	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.00			
90+	0.00	0.00	0.28	0.32	0.00	0.00	0.00	0.55	0.34	0.53	0.00	1.10			

Age	Population on 01.01.2018									
	LFS (2017)	LFS (2018)	LFS (2017)	SSAIS (2018)	LFS (2017)	SILC (2018)	LFS (2017)	MOBA (2017)	LFS (2017)	ICT (2018)
0	0.85	0.45	0.29	1.99	0.00	1.00			0.42	
1	0.43	0.00	1.64	0.46	0.00	0.00			1.84	
2	1.89	2.03	0.65	0.76	0.00	0.00			2.13	
3	0.77	0.38	0.76	0.99	0.71	0.76			0.66	
4	0.70	0.39	0.53	0.54	0.00	0.00			3.86	
5	1.89	0.41	1.02	1.07	0.00	0.80			3.07	
6	1.23	1.73	0.87	1.00	0.00	0.00			2.87	
7	0.38	1.96	1.42	1.28	0.78	0.00			2.77	
8	1.61	2.46	1.17	1.27	1.55	0.86			1.69	
9	0.34	0.69	0.96	0.90	0.68	0.62			1.47	
10	1.05	1.80	0.86	0.98	0.00	0.73			1.61	
11	1.17	1.50	1.02	0.91	0.74	0.72			1.67	
12	0.78	0.74	0.82	0.95	0.76	1.54			1.44	
13	0.44	0.00	0.41	0.47	0.00	0.00			1.44	
14	0.45	0.93	0.44	0.42	0.00	0.00			1.12	
15	0.43	0.00	0.47	0.58	0.00	0.00		1.85	1.86	
16	0.86	0.00	0.42	0.59	0.00	0.00		0.00	1.24	0.00
17	0.44	0.80	0.45	0.46	0.00	0.00	0.00	0.00	1.49	1.23
18	0.00	0.00	0.60	0.43	0.74	0.00	0.00	0.00	0.46	2.67
19	0.51	0.00	0.19	0.53	0.89	1.09	0.00	0.00	2.22	0.00
20	0.53	0.00	0.76	1.03	0.00	0.89	0.00	1.59	2.42	1.72
21	0.97	2.04	0.91	0.52	1.04	3.70	0.00	1.59	5.24	1.96
22	3.05	2.26	1.44	2.00	2.13	1.11	0.00	4.17	2.67	0.00
23	2.59	2.01	1.73	2.93	1.75	0.00	0.00	0.00	3.25	2.99
24	2.18	0.54	3.22	3.85	4.96	3.00	6.06	1.45	6.95	0.00
25	5.28	3.81	4.44	4.75	5.83	9.01	1.56	0.00	5.95	3.57
26	6.90	2.82	4.48	6.08	8.87	7.27	3.13	1.04	6.78	1.09
27	4.87	4.31	3.20	3.72	6.67	7.50	0.95	1.01	5.74	1.00
28	4.51	5.86	2.19	3.70	6.11	8.33	1.12	2.13	9.49	3.37
29	4.79	8.90	2.58	4.20	4.90	3.17	1.87	1.09	8.87	2.17
30	8.42	5.54	2.85	3.99	4.49	4.73	3.23	0.96	8.82	2.04
31	8.84	9.06	4.54	4.37	6.79	8.05	1.92	1.06	8.69	1.79
32	8.04	7.85	3.70	4.06	3.80	4.61	2.42	1.94	10.65	0.00
33	5.60	4.91	4.37	5.12	2.07	4.32	3.45	0.88	10.07	2.56
34	5.96	7.66	4.10	3.63	2.11	3.52	2.68	0.00	9.19	1.79

Age	Population on 01.01.2018									
	LFS (2017)	LFS (2018)	LFS (2017)	SSAIS (2018)	LFS (2017)	SILC (2018)	LFS (2017)	MOBA (2017)	LFS (2017)	ICT (2018)
35	8.56	8.49	4.26	4.68	5.19	4.96	1.94	1.83	9.21	0.99
36	6.06	6.56	2.85	3.13	4.46	4.61	4.49	0.00	10.98	0.00
37	5.04	5.24	3.66	3.32	6.90	6.15	1.83	0.00	4.42	1.90
38	4.81	4.86	3.40	4.08	3.85	3.88	2.56	0.00	7.23	2.22
39	3.57	5.09	3.29	3.40	4.62	4.62	0.00	1.14	5.47	1.14
40	5.10	4.55	3.68	4.22	3.85	2.82	0.98	3.06	5.93	2.00
41	1.92	2.46	3.14	3.98	3.07	2.37	0.81	0.00	8.54	2.86
42	3.55	4.62	3.09	3.41	2.96	1.99	1.00	1.71	3.56	0.00
43	2.43	4.14	3.32	4.06	3.98	4.79	1.05	0.00	5.38	0.00
44	3.40	2.81	3.75	4.38	3.01	3.14	2.02	0.93	5.57	2.80
45	3.70	3.63	3.02	4.44	2.78	2.99	0.90	0.00	3.80	0.85
46	1.91	4.39	2.52	3.52	2.33	3.18	1.61	2.88	5.04	1.68
47	1.98	3.73	3.54	4.40	4.62	2.44	0.99	2.44	4.18	0.00
48	1.81	1.31	3.93	5.19	2.69	2.78	0.90	2.65	7.50	0.91
49	2.13	2.91	3.52	4.19	2.53	1.76	0.00	0.00	3.22	0.89
50	0.80	1.84	4.07	4.85	4.71	4.76	0.00	2.70	6.63	0.94
51	2.44	3.91	3.11	4.33	3.09	1.59	2.50	0.96	4.66	0.00
52	2.23	2.62	3.68	4.30	3.51	3.43	0.85	0.00	5.37	1.75
53	2.79	3.21	3.69	4.28	4.27	4.12	0.88	2.80	4.59	1.68
54	2.01	2.54	3.44	4.23	2.63	3.30	0.00	0.85	4.88	1.57
55	2.39	3.67	3.12	3.99	3.64	0.93	1.74	0.76	5.04	1.71
56	2.10	1.21	2.95	3.93	4.04	3.29	0.78	0.00	4.85	0.00
57	2.59	2.45	3.37	3.62	3.90	3.21	0.00	0.71	3.24	0.77
58	3.16	2.81	3.37	3.74	2.60	3.47	0.00	0.00	3.04	0.00
59	1.53	1.59	3.15	3.43	3.03	3.20	0.93	0.81	3.38	0.00
60	3.44	3.56	3.08	4.17	3.47	3.16	0.86	0.80	3.03	0.89
61	3.30	2.51	2.97	3.68	1.44	1.91	0.88	0.00	3.23	0.00
62	0.59	1.69	2.36	3.11	2.55	2.46	1.77	0.00	3.16	0.77
63	1.05	2.06	2.51	3.80	1.00	1.47	0.00	0.93	4.16	0.79
64	1.40	0.83	3.23	3.79	1.59	1.13	0.00	0.00	4.36	1.11
65	2.81	2.87	3.56	4.09	1.75	1.72	0.00	0.92	1.27	0.00
66	2.22	1.77	3.11	3.61	1.04	0.59	0.00	0.00	2.52	0.00
67	0.30	0.58	2.40	2.33	0.97	0.55	1.11	0.00	1.76	0.00
68	0.59	0.87	1.34	1.28	0.00	0.47	0.00	0.85	2.52	0.00
69	0.57	0.54	0.85	0.82	1.24	0.00	0.00	0.00	0.66	0.00

Age	Population on 01.01.2018									
	LFS (2017)	LFS (2018)	LFS (2017)	SSAIS (2018)	LFS (2017)	SILC (2018)	LFS (2017)	MOBA (2017)	LFS (2017)	ICT (2018)
70	0.35	0.34	0.75	0.61	0.00	0.00	0.00	0.00	1.27	0.00
71	0.00	0.00	0.37	0.38	0.00	0.00	0.00	0.00	0.43	0.00
72	0.00	0.00	0.11	0.21	0.00	0.00	0.00	1.28	0.98	0.00
73	0.40	0.43	0.13	0.18	0.00	0.00	0.00	0.00	1.44	0.00
74	0.67	0.35	0.12	0.16	0.00	0.81	0.00	0.00	2.22	0.00
75	0.00	0.00	0.23	0.19	1.11	0.58	0.00	0.00	0.38	
76	0.34	0.64	0.08	0.08	1.24	0.61		0.90	1.22	
77	0.35	0.00	0.09	0.06	0.00	0.00		0.00	0.40	
78	0.00	0.69	0.03	0.03	1.12	0.00		1.10	0.00	
79	0.34	0.32	0.22	0.26	0.00	0.00		0.00	0.45	
80	0.00	0.00	0.28	0.23	0.00	0.00		0.00	0.45	
81	0.00	0.00	0.07	0.07	0.00	0.00		0.00	1.14	
82	0.00	0.99	0.09	0.16	0.00	1.06		0.00	0.00	
83	0.00	0.00	0.38	0.34	0.00	0.00		0.00	0.80	
84	0.00	0.00	0.11	0.25	0.00	0.00		0.00	0.00	
85	0.00	0.00	0.28	0.11	0.00	0.00		0.00	1.54	
86	0.00	0.00	0.00	0.07	0.00	0.00			0.91	
87	1.00	1.14	0.00	0.00	1.56	1.56			1.23	
88	0.00	0.00	0.00	0.09	0.00	0.00			0.00	
89	2.74	0.00	0.00	0.21	0.00	0.00			0.00	
90+	0.44	0.00	0.35	0.33	0.94	1.08			1.31	

Age	Population on 01.01.2019											
	LFS 2018)	LFS (2019)	LFS (2018)	SSAIS (2019)	LFS (2018)	SILC (2019)	LFS (2018)	ĀMA (2018)	LFS (2018)	ICT (2018)	LFS (2018)	DH (2019)
0	0.00	0.00	0.37	2.29	0.00	0.00	0.00	0.48				
1	0.45	0.00	2.30	0.50	1.01	1.68	0.47	1.37				
2	0.00	0.00	0.42	0.65	0.00	0.00	1.62	1.66				
3	2.05	0.39	0.76	0.74	0.00	1.80	2.22	2.55				
4	0.37	0.80	1.03	0.81	0.00	0.95	0.69	0.71				
5	0.39	0.39	0.51	0.70	0.75	0.00	3.44	3.75				
6	0.41	1.17	1.15	1.33	1.59	1.03	1.50	2.92				
7	1.73	1.67	0.93	0.97	0.00	0.00	2.20	2.07				
8	1.96	1.99	1.28	1.36	0.00	0.00	2.18	3.30				
9	2.05	1.22	1.19	1.27	0.00	0.00	1.09	1.44				
10	0.69	1.09	0.90	1.19	0.62	1.47	0.31	1.17				
11	1.81	1.79	0.99	1.03	0.73	0.81	1.35	2.03				
12	1.50	1.89	0.91	1.09	0.72	0.00	1.72	1.85				
13	0.74	0.41	0.95	0.85	1.54	0.86	0.75	1.45				
14	0.00	0.42	0.47	0.43	0.00	0.00	1.10	0.00	0.00			
15	0.93	0.47	0.42	0.47	0.00	0.00	1.11	1.81	0.00		0.00	
16	0.00	0.47	0.63	0.68	0.00	1.87	1.89	1.55	0.00		0.00	
17	0.00	0.87	0.74	0.57	0.00	0.00	0.84	0.40	0.00	0.00	0.00	
18	0.80	0.45	0.46	0.39	0.00	0.00	1.66	0.88	0.00	1.25	0.00	
19	0.00	0.00	0.44	0.54	0.00	0.99	0.49	0.49	0.00	2.70	1.69	
20	0.00	0.00	0.32	0.34	1.10	0.00	2.43	2.06	0.00	0.00	0.00	
21	0.00	0.72	1.05	1.02	0.89	1.20	3.45	4.07	0.00	1.75	5.88	
22	2.04	1.71	0.53	1.34	3.70	1.67	3.80	4.60	1.69	3.92	4.26	
23	1.71	0.74	2.02	1.82	2.25	4.55	2.06	2.16	4.11	0.00	3.17	
24	3.33	4.86	2.77	3.13	1.16	1.27	4.85	4.04	1.45	3.03	0.00	
25	1.64	0.65	3.70	4.09	4.04	3.45	5.60	5.88	0.00	0.00	2.99	
26	3.81	2.01	4.66	5.70	9.09	14.12	5.65	6.60	3.03	2.41	1.20	
27	3.61	5.21	5.05	4.09	7.27	4.35	7.28	6.55	0.00	1.11	2.60	
28	5.58	5.24	3.51	5.97	7.63	7.14	5.11	6.46	0.00	1.01	1.01	
29	5.86	7.44	3.21	4.68	8.33	8.40	9.52	7.95	4.08	3.37	1.12	0.00
30	8.90	8.91	2.99	4.41	3.94	3.67	7.69	7.45	0.95	2.20	1.22	0.00
31	5.58	3.04	3.87	5.01	4.70	5.07	10.37	9.56	0.87	2.06	0.86	6.67
32	10.11	7.14	4.24	4.68	8.16	8.63	8.51	8.76	0.00	0.90	0.00	0.00
33	7.82	10.17	3.71	3.85	4.64	3.94	9.43	7.83	3.26	0.00	1.25	0.00
34	4.91	6.96	4.66	5.49	5.07	6.50	8.00	9.69	2.00	3.85	1.20	0.00
35	7.72	6.21	3.49	4.01	3.52	6.09	7.21	7.23	2.04	1.79	1.96	0.00

Age	Population on 01.01.2019											
	LFS 2018)	LFS (2019)	LFS (2018)	SSAIS (2019)	LFS (2018)	SILC (2019)	LFS (2018)	ĀMA (2018)	LFS (2018)	ICT (2018)	LFS (2018)	DH (2019)
36	8.52	7.19	4.53	4.65	4.96	6.36	7.74	5.82	1.22	0.99	1.23	0.00
37	6.53	3.32	3.06	4.30	4.64	4.90	10.82	9.60	2.53	0.00	1.19	4.76
38	5.24	4.84	3.02	3.52	6.15	5.61	3.88	4.42	1.00	1.92	0.00	0.00
39	4.86	3.98	3.77	3.60	3.88	5.56	6.69	6.45	1.15	1.12	1.14	0.00
40	4.40	5.00	3.21	3.71	4.69	9.32	4.79	4.35	2.53	1.14	0.00	0.00
41	4.55	3.60	3.89	4.21	2.82	4.10	5.60	6.32	2.44	2.00	0.00	0.00
42	2.46	2.88	3.82	3.59	2.38	2.08	8.26	4.82	1.08	3.77	0.00	0.00
43	4.62	4.39	3.27	4.71	1.99	1.29	4.08	5.52	0.88	0.00	0.97	0.00
44	4.50	3.65	3.66	4.00	4.79	5.22	5.54	4.80	0.00	1.02	0.00	0.00
45	2.82	3.09	4.00	4.61	3.14	4.17	5.16	6.06	1.15	3.74	1.06	0.00
46	3.94	2.96	4.02	4.89	2.99	2.82	4.43	6.21	0.00	0.85	0.00	0.00
47	4.39	6.25	3.27	3.93	3.21	2.76	4.34	3.53	1.05	1.68	0.00	0.00
48	3.73	5.06	4.05	4.99	3.05	2.03	4.68	4.91	1.15	0.00	0.00	0.00
49	1.97	3.32	4.47	4.78	3.89	4.97	6.35	5.90	1.14	0.91	0.00	5.26
50	2.92	3.67	3.83	5.22	1.76	3.50	3.23	4.79	2.20	0.89	4.49	0.00
51	2.36	2.50	4.58	5.07	4.79	4.35	6.08	5.16	2.27	1.89	0.00	0.00
52	4.20	2.85	3.75	4.15	2.14	2.15	5.56	4.30	1.25	0.00	1.02	0.00
53	2.65	2.58	4.02	4.25	3.45	3.21	4.69	3.52	0.00	1.75	0.97	0.00
54	3.24	3.39	3.62	4.80	4.12	2.81	3.74	4.04	1.98	2.52	0.00	0.00
55	2.54	3.19	3.83	5.30	3.33	2.63	3.93	4.44	1.18	1.57	0.00	0.00
56	3.68	3.47	3.44	4.70	0.94	1.12	4.47	3.76	0.94	1.74	0.88	0.00
57	1.46	1.50	3.24	4.63	3.33	3.72	3.68	2.55	0.84	0.00	0.92	0.00
58	2.46	2.78	3.47	3.93	3.26	1.46	2.38	3.28	0.00	0.78	0.00	0.00
59	3.08	1.83	3.50	3.89	3.48	3.21	3.12	3.20	0.00	0.86	2.78	0.00
60	1.88	1.08	3.09	3.38	2.75	3.08	3.05	3.50	0.00	0.00	0.78	0.00
61	3.61	2.89	3.89	4.18	3.19	2.63	2.93	4.30	0.99	1.80	0.83	0.00
62	2.53	1.09	3.25	3.38	1.92	2.79	3.27	3.59	0.94	0.00	0.00	0.00
63	1.72	2.81	2.82	3.88	2.48	2.14	2.15	2.39	1.09	0.77	0.00	0.00
64	2.09	2.03	3.51	4.15	1.48	1.70	3.72	3.44	0.00	0.80	0.00	0.00
65	0.84	1.74	3.48	3.83	1.14	1.78	3.93	3.72	0.00	1.12	0.00	0.00
66	2.92	3.53	3.69	4.28	1.72	1.20	1.21	1.15	1.39	0.00	0.00	0.00
67	1.79	1.89	3.33	3.58	0.60	3.68	2.76	2.48	0.00	0.00	0.00	0.00
68	0.29	1.12	2.29	2.27	0.55	1.18	2.01	1.87	1.16	0.00	0.00	0.00
69	0.88	0.88	1.21	1.18	0.48	1.02	1.81	2.02	0.00	0.00	0.00	0.00
70	0.56	0.00	0.83	0.90	0.00	0.00	0.32	0.60	0.00	0.00	0.00	
71	0.34	0.00	0.64	0.83	0.00	0.74	1.20	0.79	0.00	0.00	0.00	

Age	Population on 01.01.2019											
	LFS 2018)	LFS (2019)	LFS (2018)	SSAIS (2019)	LFS (2018)	SILC (2019)	LFS (2018)	ĀMA (2018)	LFS (2018)	ICT (2018)	LFS (2018)	DH (2019)
72	0.00	0.00	0.36	0.51	0.00	0.00	0.40	2.01	0.00	0.00	0.00	
73	0.00	0.40	0.11	0.14	0.00	0.00	0.95	0.99	0.00	0.00	0.00	
74	0.43	0.44	0.19	0.26	0.00	0.00	1.39	0.97	0.00	1.28	0.00	
75	0.36	0.35	0.17	0.18	0.81	0.00	1.79	1.80	0.00	0.00		
76	0.00	0.00	0.20	0.20	0.59	0.61	0.37	0.38	0.00			
77	0.65	0.33	0.06	0.06	0.62	0.64	1.18	0.73	0.00			
78	0.00	0.36	0.06	0.13	0.00	0.00	0.00	0.00	0.00			
79	0.72	0.39	0.03	0.21	0.00	0.00	0.41	0.40	0.00			
80	0.33	0.39	0.25	0.32	0.00	0.88	0.44	0.43	0.00			
81	0.00	0.47	0.21	0.23	0.00	0.00	0.00	1.34	0.00			
82	0.00	0.00	0.07	0.11	0.00	0.00	2.22	1.69	0.00			
83	1.05	1.18	0.17	0.09	0.00	0.00	0.00	0.00	0.00			
84	0.00	0.00	0.37	0.30	0.00	0.00	0.78	0.00	0.00			
85	0.00	0.00	0.26	0.12	0.00	0.00	0.00	0.00	0.00			
86	0.00	0.00	0.12	0.19	0.00	0.00	0.80	2.65	0.00			
87	0.00	0.00	0.00	0.00	0.00	0.00	0.98	2.00	0.00			
88	1.20	0.00	0.00	0.00	1.67	0.00	1.37	1.41	0.00			
89	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00			
90+	0.00	0.00	0.32	0.42	1.47	1.14	1.08	1.03	0.00			

Age	Population on 01.01.2020										
	LFS (2019)	LFS (2020)	SSAIS (2019)	SSAIS (2020)	SILC (2019)	SILC (2020)	EHIS (2019)	ĀMA (2018)	LFS (2019)	LFS (2020)	SSAIS (2019)
0	0.00	0.00	0.25	1.61	0.00	0.00		0.00			
1	0.00	0.48	2.67	0.62	0.00	0.76		0.48			
2	0.00	0.38	0.51	0.58	2.48	2.22		1.38			
3	0.00	0.69	0.61	0.73	0.00	0.00		1.67			
4	0.39	0.78	0.74	0.51	1.80	1.53		2.55			
5	0.40	0.00	0.81	0.96	0.95	0.69		1.07			
6	0.39	0.77	0.73	1.01	0.00	0.00		3.40			
7	0.78	1.19	1.33	1.19	1.03	0.91		2.92			
8	1.66	1.31	0.96	0.90	0.00	0.88		2.06			
9	1.99	1.42	1.36	1.26	0.00	0.00		3.30			
10	1.22	1.21	1.26	1.03	0.00	0.83		1.44			
11	0.73	0.68	1.12	0.98	1.47	0.68		1.17			
12	1.79	1.06	1.03	1.20	0.81	0.00		2.03			
13	1.89	1.17	1.16	1.09	0.00	0.00		1.84			
14	0.41	0.85	0.93	0.98	0.86	1.36		1.45			
15	0.42	0.00	0.39	0.37	0.00	0.00	0.00	0.36			
16	0.47	0.00	0.56	0.68	0.00	0.00	0.00	2.17	0.00	0.00	
17	0.94	1.40	0.63	0.75	1.89	0.00	0.00	1.55	0.00	0.00	
18	0.87	0.43	0.51	0.49	0.00	0.00	0.00	0.40	0.00	0.00	
19	0.45	1.12	0.39	0.54	0.00	0.86	0.00	0.88	0.00	0.00	
20	0.00	0.00	0.55	0.70	0.99	1.83	3.08	0.00	1.69	0.00	
21	0.00	1.41	0.17	1.56	0.00	0.00	1.85	1.56	0.00	0.00	
22	0.73	0.88	1.03	2.65	1.20	1.20	0.00	4.71	4.00	1.85	
23	1.71	3.28	1.33	2.79	1.67	2.74	1.69	5.20	6.38	0.00	
24	0.74	1.43	1.83	5.09	6.25	5.13	5.41	3.80	3.13	3.92	
25	4.86	5.81	2.89	4.36	2.53	4.35	1.43	4.57	0.00	0.00	
26	0.65	3.98	3.47	3.73	3.45	2.53	0.00	5.86	2.99	0.00	
27	2.00	6.28	4.71	4.97	14.12	10.58	4.00	6.60	1.22	0.00	
28	5.66	6.70	3.28	4.27	4.35	3.54	0.00	6.99	3.90	2.08	
29	5.28	6.71	4.46	5.25	7.14	5.34	0.00	6.48	1.01	0.00	
30	7.41	8.81	2.82	3.99	7.63	5.26	4.00	8.08	1.12	0.00	0.00
31	8.91	9.12	4.19	4.65	3.67	6.29	1.90	7.18	1.22	0.00	0.00
32	3.42	5.21	4.62	4.90	5.07	3.57	0.88	9.37	1.72	0.00	6.67
33	6.76	3.32	4.70	4.32	9.29	8.05	0.80	8.79	0.00	0.00	0.00
34	9.86	8.15	3.89	4.57	3.97	4.83	3.30	7.85	1.25	0.00	0.00
35	7.25	4.78	5.06	4.62	6.56	7.69	2.00	9.49	1.20	0.85	0.00

Age	Population on 01.01.2020										
	LFS (2019)	LFS (2020)	SSAIS (2019)	SSAIS (2020)	SILC (2019)	SILC (2020)	EHIS (2019)	ĀMA (2018)	LFS (2019)	LFS (2020)	SSAIS (2019)
36	6.21	4.33	3.98	4.75	6.09	5.07	2.04	7.04	1.96	1.10	0.00
37	7.47	7.14	4.79	4.73	6.36	5.19	1.22	6.09	1.25	3.03	0.00
38	3.32	4.28	3.92	4.16	4.93	3.11	2.50	9.32	1.19	1.03	4.76
39	4.78	3.68	3.28	3.66	5.61	5.67	1.00	4.46	0.00	1.30	0.00
40	3.57	3.70	3.22	4.53	5.60	5.03	1.15	6.47	1.14	0.00	0.00
41	4.96	3.70	3.68	3.10	9.32	7.64	2.53	4.60	0.00	0.00	0.00
42	3.58	2.85	3.97	4.67	4.07	3.85	2.44	6.87	0.00	1.15	0.00
43	2.89	3.67	3.70	3.89	2.08	2.87	1.08	4.82	1.09	0.00	0.00
44	4.39	3.80	4.78	4.01	1.30	1.73	0.87	5.80	0.97	0.00	0.00
45	3.67	2.58	3.76	4.91	5.26	5.17	0.00	5.10	0.00	0.00	0.00
46	3.43	1.44	4.17	4.22	4.17	2.16	1.15	5.56	1.09	0.00	0.00
47	2.96	2.69	4.71	4.96	2.82	3.47	0.00	6.85	0.00	1.03	0.00
48	6.27	3.80	3.67	4.09	2.76	3.43	2.11	3.54	0.00	0.00	0.00
49	5.09	4.09	4.95	5.64	2.04	3.87	1.15	4.66	0.00	0.00	0.00
50	3.34	3.89	4.57	4.74	4.97	4.17	2.27	5.66	0.00	0.93	5.26
51	3.69	4.02	5.08	5.08	3.50	3.17	2.20	4.83	4.49	0.00	0.00
52	3.07	2.62	4.74	6.31	4.35	2.94	2.27	5.25	0.00	0.00	0.00
53	3.14	3.65	4.11	4.48	2.16	2.44	1.25	4.32	0.00	0.00	0.00
54	2.57	2.49	3.93	4.51	3.21	1.02	0.00	3.53	0.97	0.00	0.00
55	3.42	2.41	4.16	5.38	2.84	3.24	1.98	3.83	0.00	0.00	0.00
56	3.21	3.07	5.17	5.03	2.63	2.94	1.18	4.00	0.00	0.00	0.00
57	3.48	3.54	4.43	4.73	1.14	1.76	0.94	3.83	0.89	0.00	0.00
58	1.51	2.22	4.41	4.82	3.74	4.35	0.85	2.80	0.93	0.00	0.00
59	3.03	4.40	3.79	4.31	1.46	1.33	0.00	3.36	0.00	0.92	0.00
60	1.85	1.30	3.90	4.42	3.23	2.74	0.00	3.23	2.80	0.86	0.00
61	1.36	1.59	3.22	4.41	3.14	2.21	0.00	3.81	0.78	0.78	0.00
62	2.48	2.80	4.12	4.46	2.12	1.74	0.99	4.36	0.84	0.00	0.00
63	1.10	1.60	3.21	4.08	2.82	2.55	0.93	3.62	0.00	0.99	0.00
64	2.84	2.08	3.75	4.38	2.17	1.38	1.09	2.71	0.00	2.35	0.00
65	2.06	2.14	4.00	4.12	1.70	0.49	1.08	3.76	0.00	0.00	0.00
66	1.74	1.54	3.56	3.79	1.80	1.58	0.00	3.75	0.00	0.00	0.00
67	3.33	2.22	4.31	4.37	1.82	1.55	1.39	0.88	0.00	0.00	0.00
68	1.90	1.02	3.57	4.13	3.75	2.20	0.00	2.21	0.00	0.00	0.00
69	1.14	1.71	2.17	2.18	1.19	0.54	1.16	1.59	0.00	0.00	0.00
70	0.90	1.28	1.16	1.37	0.52	0.44	0.00	2.08	0.00	0.00	0.00
71	0.00	0.39	0.90	0.76	0.00	0.00	0.00	0.63	0.00	0.00	

Age	Population on 01.01.2020										
	LFS (2019)	LFS (2020)	SSAIS (2019)	SSAIS (2020)	SILC (2019)	SILC (2020)	EHIS (2019)	ĀMA (2018)	LFS (2019)	LFS (2020)	SSAIS (2019)
72	0.00	0.39	0.68	0.79	0.75	1.35	0.00	0.82	0.00	0.00	
73	0.00	0.00	0.50	0.58	0.00	0.00	0.00	1.66	0.00	0.00	
74	0.41	0.49	0.15	0.25	0.00	1.65	0.00	1.54	0.00	0.00	
75	0.44	0.52	0.19	0.14	0.00	0.00	0.00	1.01	0.00		
76	0.36	0.00	0.15	0.23	0.00	1.06	0.00	1.87			
77	0.00	0.00	0.21	0.21	0.63	0.00	0.00	0.00			
78	0.34	0.00	0.03	0.10	0.68	0.73	1.54	0.75			
79	0.37	0.48	0.14	0.26	0.00	0.00	0.00	0.00			
80	0.40	0.51	0.22	0.09	0.00	0.00	0.00	0.00			
81	0.41	0.62	0.31	0.27	0.93	0.00	0.00	0.45			
82	0.50	2.60	0.28	0.34	0.00	0.00	0.00	1.42			
83	0.00	0.00	0.04	0.09	0.00	0.00	0.00	1.80			
84	1.21	0.93	0.15	0.44	0.00	0.00	0.00	0.00			
85	0.00	0.00	0.25	0.34	0.00	0.00	0.00	0.00			
86	0.00	0.00	0.20	0.29	0.00	0.00	0.00	0.00			
87	0.00	0.00	0.07	0.24	0.00	0.00	0.00	3.06			
88	0.00	0.00	0.00	0.10	0.00	0.00	0.00	2.22			
89	0.00	0.00	0.00	0.06	0.00	0.00	0.00	1.82			
90+	0.00	0.00	0.38	0.49	0.93	1.11	0.00	0.97			

Age	Population on 01.01.2021								
	LFS (2020)	LFS (2021)	SSAIS (2020)	SSAIS (2021)	SILC (2020)	SILC (2021)	ICT (2020)	ICT (2021)	EU-GBV (2021)
0	0.00	0.52	0.21	2.28	0.00	0.00			
1	0.00	0.43	1.88	0.53	0.00	0.00			
2	0.48	1.80	0.58	0.62	0.76	0.71			
3	0.38	0.78	0.59	0.75	2.22	2.04			
4	0.68	1.01	0.76	0.69	0.00	1.73			
5	0.78	0.68	0.51	0.86	1.53	1.37			
6	0.37	0.72	0.99	0.72	0.69	1.86			
7	0.77	0.72	0.99	1.04	0.00	0.72			
8	1.19	1.56	1.19	1.74	0.91	0.00			
9	1.31	2.67	0.90	1.07	0.88	0.85			
10	1.42	1.53	1.23	1.32	0.00	0.00			
11	1.21	0.76	1.03	1.06	0.83	0.00			
12	0.68	0.91	0.93	1.25	0.68	2.01			
13	1.06	2.75	1.18	1.24	0.00	1.84			
14	1.17	0.80	1.09	1.29	0.00	0.00			
15	0.85	1.49	0.98	0.81	1.36	1.27			
16	0.00	0.39	0.34	0.73	0.00	0.00		0.00	
17	0.00	0.00	0.72	0.69	0.00	0.00	0.00	0.00	1.59
18	1.40	0.00	0.75	0.79	0.00	0.92	0.00	0.00	0.88
19	0.43	0.00	0.43	0.81	0.00	0.00	0.00	0.00	1.69
20	1.14	0.00	0.45	0.80	0.86	0.00	0.00	0.00	1.77
21	0.00	0.00	0.70	1.14	1.82	1.06	0.00	0.00	1.75
22	1.43	0.00	1.22	1.74	0.00	0.00	0.00	0.00	3.92
23	0.88	2.27	2.67	3.16	2.38	1.28	1.85	1.85	6.20
24	4.07	6.25	2.39	3.63	4.05	3.80	1.69	0.00	2.91
25	0.73	1.92	4.72	3.25	5.13	3.30	3.92	4.23	4.42
26	5.81	6.43	4.17	4.19	5.43	6.67	0.00	1.32	3.70
27	4.57	6.81	3.76	3.69	2.50	1.00	0.00	1.39	1.57
28	6.31	6.99	4.71	5.23	11.54	8.93	0.00	0.99	3.45
29	6.67	5.99	3.72	4.42	3.54	3.10	2.08	0.00	3.09
30	7.34	7.53	4.95	6.13	5.34	4.38	0.00	2.02	3.77
31	8.81	9.16	4.02	5.62	6.02	4.43	0.00	0.00	1.71
32	9.15	9.87	4.79	4.99	6.29	4.35	0.00	0.00	3.19
33	5.21	5.86	4.87	4.43	4.14	5.52	1.02	0.00	3.82
34	3.92	7.89	4.34	4.82	7.51	5.77	0.00	0.00	3.33

Age	Population on 01.01.2021								
	LFS (2020)	LFS (2021)	SSAIS (2020)	SSAIS (2021)	SILC (2020)	SILC (2021)	ICT (2020)	ICT (2021)	EU-GBV (2021)
35	8.15	6.71	4.61	4.88	4.86	6.32	0.00	0.00	2.16
36	4.78	7.45	4.42	5.65	7.69	7.23	1.71	0.94	2.11
37	4.36	6.47	4.32	5.32	5.04	5.59	2.20	0.00	1.18
38	7.12	4.84	4.48	4.68	5.22	5.19	3.09	0.00	0.00
39	4.67	6.44	4.11	4.57	3.11	2.17	1.04	0.00	2.88
40	3.32	4.98	3.38	4.36	5.67	5.76	1.32	0.00	2.92
41	3.70	4.44	4.12	4.36	5.03	6.17	1.10	0.00	2.82
42	4.07	3.90	3.23	4.58	7.64	6.04	0.97	1.04	0.00
43	2.85	2.78	4.34	4.84	3.85	5.43	1.15	0.80	0.71
44	3.67	6.62	3.92	5.24	3.47	2.61	0.00	0.99	1.14
45	3.82	4.40	4.02	4.39	1.75	2.67	0.00	0.00	1.30
46	2.58	2.79	4.93	5.43	5.17	5.42	0.00	0.00	1.63
47	1.45	3.61	3.96	5.49	2.16	2.49	0.00	1.01	1.68
48	2.68	3.07	4.57	4.97	3.47	1.05	1.03	0.00	3.01
49	3.52	2.64	4.00	4.23	3.45	4.04	0.00	0.90	1.89
50	4.11	2.41	5.34	6.79	3.35	3.40	0.00	0.00	0.53
51	3.89	3.88	4.40	5.86	4.19	4.81	0.93	1.14	1.03
52	4.06	3.49	4.84	6.34	3.19	2.02	0.00	2.40	3.01
53	2.63	2.87	6.23	6.25	2.94	4.85	0.00	0.00	0.65
54	3.66	4.37	4.19	5.50	2.44	3.50	0.00	0.90	0.54
55	2.49	3.24	4.27	5.05	1.02	1.84	0.00	0.00	1.31
56	2.69	2.70	4.82	5.32	3.26	3.19	0.00	0.00	0.00
57	2.84	2.17	4.92	6.18	2.96	1.97	0.00	0.00	0.00
58	3.81	4.31	4.63	4.93	1.34	2.59	0.00	0.00	1.13
59	2.48	3.19	4.64	5.70	4.35	3.27	0.00	0.00	0.47
60	3.94	5.17	3.94	4.98	1.35	0.48	0.93	0.00	0.00
61	1.83	3.18	4.13	4.97	2.76	4.03	0.88	0.94	0.47
62	1.60	3.29	4.33	5.03	2.24	3.35	0.78	0.00	0.00
63	2.83	4.62	4.20	4.57	1.76	0.86	0.00	0.00	2.22
64	1.61	2.94	3.96	4.32	2.58	2.70	1.00	0.00	1.22
65	2.09	2.72	4.28	4.49	1.39	1.26	2.38	0.00	0.00
66	2.16	3.38	3.96	4.31	0.49	1.87	0.00	0.00	0.32
67	1.56	2.53	3.54	3.66	1.06	1.91	0.00	0.00	0.36
68	2.23	1.52	4.15	4.08	1.57	2.03	0.00	0.00	0.71
69	1.03	0.34	3.93	3.65	2.27	2.26	0.00	0.00	0.35

Age	Population on 01.01.2021								
	LFS (2020)	LFS (2021)	SSAIS (2020)	SSAIS (2021)	SILC (2020)	SILC (2021)	ICT (2020)	ICT (2021)	EU-GBV (2021)
70	1.74	1.75	2.11	2.28	0.54	0.50	0.00	0.00	0.35
71	1.31	0.32	1.40	1.57	0.44	0.95	0.00	0.00	0.00
72	0.39	1.15	0.66	0.96	0.00	0.00	0.00	0.00	0.42
73	0.40	0.45	0.72	0.65	1.37	1.26	0.00	0.00	0.00
74	0.00	0.00	0.57	0.68	0.00	0.00	0.00	0.00	0.00
75	0.51	1.73	0.29	0.31	1.71	2.50	0.00		
76	0.53	0.57	0.14	0.17	0.00	0.00			
77	0.00	0.99	0.20	0.20	1.08	0.00			
78	0.00	0.56	0.16	0.19	0.00	0.65			
79	0.00	1.04	0.07	0.24	0.75	0.85			
80	0.50	0.56	0.25	0.24	0.00	0.00			
81	0.54	1.29	0.10	0.07	0.00	0.00			
82	0.63	0.00	0.28	0.35	0.00	1.14			
83	2.67	3.10	0.32	0.38	0.00	0.00			
84	0.00	0.00	0.05	0.28	0.00	0.00			
85	0.97	0.00	0.48	0.25	0.00	0.00			
86	0.00	0.00	0.37	0.38	0.00	0.00			
87	0.00	0.00	0.24	0.25	0.00	0.00			
88	0.00	0.00	0.18	0.09	0.00	0.00			
89	0.00	0.00	0.12	0.41	0.00	0.00			
90+	0.00	0.00	0.35	0.40	0.00	0.00			

Age	Population on 01.01.2022									
	LFS (2021)	LFS (2022)	SSAIS (2021)	SOPA (2022)	SILC (2021)	SILC (2022)	ICT (2021)	ICT (2022)	EU-GBV (2021)	AES (2022)
0	0.00	0.00	0.23	1.41	0.00	0.00				
1	0.51	0.00	2.38	0.73	0.00	0.00				
2	0.43	0.80	0.53	0.78	0.00	0.00				
3	1.80	0.40	0.66	0.91	0.71	0.81				
4	0.78	2.37	0.79	0.94	2.04	1.40				
5	1.01	1.02	0.76	0.70	1.73	0.74				
6	0.69	0.98	0.82	0.79	1.37	0.70				
7	0.72	1.44	0.60	0.83	1.86	1.27				
8	0.72	0.73	0.98	1.24	0.72	1.57				
9	1.17	0.42	1.65	1.39	0.00	0.00				
10	2.23	1.38	1.06	1.33	0.85	1.80				
11	1.53	1.53	1.26	1.60	0.00	0.00				
12	0.76	1.17	0.95	1.08	0.00	0.00				
13	0.91	1.32	1.28	1.45	2.01	1.45				
14	2.75	1.95	1.21	1.40	1.84	2.04				
15	0.80	0.00	1.24	1.12	0.00	0.00				
16	1.12	1.49	0.78	1.09	1.27	0.00		0.00		
17	0.39	0.00	0.73	0.70	0.00	0.00	0.00	1.49		0.00
18	0.00	0.00	0.65	1.07	0.00	0.00	0.00	0.00	1.59	0.00
19	0.00	0.49	0.69	1.04	0.92	0.00	0.00	0.00	1.77	0.78
20	0.00	0.55	0.81	1.11	0.00	0.00	0.00	1.56	1.71	0.00
21	0.00	0.00	0.54	0.68	0.93	1.15	0.00	2.74	0.89	0.00
22	0.00	0.00	0.82	1.57	2.13	2.99	0.00	1.64	2.65	0.95
23	0.00	0.00	1.76	1.96	0.00	1.35	0.00	0.00	4.00	0.99
24	3.03	4.14	2.42	2.20	1.28	2.86	1.89	0.00	6.25	2.47
25	5.51	5.13	3.42	4.02	3.80	4.41	0.00	1.96	2.94	2.25
26	2.56	3.60	3.02	2.43	3.30	4.65	4.23	2.86	5.26	2.06
27	5.85	4.27	2.23	3.61	4.81	4.60	1.32	5.41	4.48	1.02
28	6.77	5.03	2.23	3.91	1.01	4.60	1.39	0.00	2.36	1.10
29	5.65	7.18	1.39	6.09	9.73	8.70	0.99	1.16	4.65	2.19
30	5.53	6.61	0.94	6.04	3.10	6.25	0.00	1.03	3.11	2.88
31	7.86	7.98	6.31	5.98	3.13	4.88	3.03	0.00	4.46	0.00
32	8.37	8.87	5.31	5.70	4.43	5.41	0.00	0.89	1.71	1.37
33	9.55	7.69	4.93	5.56	4.38	6.49	0.83	0.86	2.67	0.65
34	5.57	8.66	4.09	6.60	5.52	5.11	0.00	0.00	3.85	1.69

Age	Population on 01.01.2022									
	LFS (2021)	LFS (2022)	SSAIS (2021)	SOPA (2022)	SILC (2021)	SILC (2022)	ICT (2021)	ICT (2022)	EU-GBV (2021)	AES (2022)
35	7.67	8.70	4.57	6.40	4.81	5.26	0.00	0.83	2.39	0.90
36	6.69	3.87	4.58	5.65	5.17	9.33	0.88	0.81	2.72	0.98
37	7.18	6.12	5.14	5.54	6.59	5.39	0.94	0.00	2.13	2.13
38	6.18	6.21	4.74	5.47	5.59	5.41	0.00	0.00	1.18	2.65
39	4.85	7.84	4.16	4.88	5.23	4.03	0.00	0.00	0.00	1.20
40	6.46	5.52	4.19	4.98	2.19	1.32	0.00	3.33	3.60	0.85
41	4.36	5.57	4.27	4.61	5.76	6.25	0.00	0.00	2.94	0.95
42	4.07	4.41	3.73	3.57	6.21	5.13	0.00	0.00	2.84	1.18
43	3.90	3.23	4.04	3.90	6.08	4.52	1.04	0.00	0.00	0.00
44	2.44	4.08	3.76	4.14	4.92	5.23	0.80	0.00	0.71	0.96
45	5.99	5.98	4.77	4.16	3.27	4.20	0.99	1.05	1.14	0.00
46	4.40	3.26	3.62	3.27	2.16	3.05	0.00	0.00	1.96	0.00
47	2.48	2.70	4.96	3.30	4.85	4.58	0.00	0.00	1.64	0.97
48	2.79	4.63	5.04	3.75	2.49	2.76	1.01	1.04	1.69	0.00
49	3.08	2.38	4.59	3.19	1.05	2.35	0.00	0.87	3.03	0.00
50	2.65	3.76	3.87	3.03	4.04	4.55	0.90	0.00	1.91	0.00
51	2.14	2.54	5.71	3.14	4.39	5.23	0.00	1.89	0.54	1.02
52	3.63	3.23	5.48	3.01	4.85	3.30	1.14	0.00	2.06	1.02
53	3.53	3.00	5.81	3.48	1.53	2.34	1.60	1.63	3.03	2.33
54	2.89	2.79	5.92	3.29	4.41	2.13	0.00	0.91	1.96	0.00
55	3.56	4.90	4.92	3.67	3.54	4.47	1.80	0.00	0.54	0.00
56	3.28	3.02	4.84	3.81	1.88	3.23	0.00	1.96	1.32	0.00
57	2.98	3.55	4.84	3.23	3.19	4.46	0.00	2.34	0.00	1.11
58	1.94	2.49	5.34	3.47	1.99	1.40	0.00	0.88	0.00	0.00
59	3.26	3.43	4.58	2.98	2.60	2.94	0.00	0.73	1.14	0.00
60	2.96	2.91	5.42	3.44	2.89	2.78	0.00	0.00	0.48	0.00
61	5.18	2.09	4.19	3.03	0.48	2.12	0.00	0.00	0.48	0.90
62	3.24	2.57	4.26	3.04	3.25	2.83	0.96	0.00	0.95	0.00
63	2.75	2.47	4.49	3.24	3.40	3.81	0.00	3.03	0.52	0.87
64	4.21	3.79	4.41	3.02	0.87	0.45	0.00	0.00	2.22	0.00
65	2.70	2.67	4.04	3.17	2.73	2.54	0.00	0.00	1.22	0.96
66	2.22	3.59	4.31	3.14	1.28	2.48	0.00	0.76	0.00	1.01
67	3.43	3.41	3.97	3.07	1.90	3.95	0.00	1.03	0.33	0.00
68	2.25	2.29	3.31	2.54	1.95	1.17	0.00	0.00	0.00	0.00
69	1.22	2.37	3.81	2.67	2.05	2.40	0.00	0.00	0.72	

Age	Population on 01.01.2022									
	LFS (2021)	LFS (2022)	SSAIS (2021)	SOPA (2022)	SILC (2021)	SILC (2022)	ICT (2021)	ICT (2022)	EU-GBV (2021)	AES (2022)
70	0.35	2.03	3.28	2.19	2.31	3.11	0.00	0.00	0.36	
71	1.81	1.84	2.10	1.28	0.51	0.65	0.00	0.00	0.36	
72	0.33	1.02	1.46	0.90	0.97	1.14	0.00	0.00	0.00	
73	1.17	0.37	0.68	0.46	0.00	0.00	0.00	0.00	0.43	
74	0.00	0.89	0.57	0.45	1.32	1.43	0.00	0.00	0.00	
75	0.00	0.00	0.54	0.39	0.00	0.00	0.00		0.00	
76	1.22	0.94	0.20	0.14	2.59	3.30				
77	0.58	0.00	0.18	0.22	0.00	0.00				
78	0.51	0.00	0.17	0.19	0.00	0.00				
79	0.57	0.49	0.13	0.30	0.67	0.00				
80	1.07	0.88	0.24	0.11	0.89	1.14				
81	1.17	1.01	0.22	0.14	0.00	0.00				
82	1.33	0.00	0.08	0.11	0.00	0.00				
83	0.00	0.65	0.34	0.32	1.19	1.23				
84	3.31	2.10	0.38	0.36	0.00	0.00				
85	0.00	0.00	0.28	0.16	0.00	0.00				
86	0.00	0.00	0.14	0.15	0.00	0.00				
87	0.00	0.00	0.27	0.26	0.00	3.33				
88	0.00	0.00	0.30	0.31	0.00	0.00				
89	0.00	0.00	0.00	0.38	0.00	0.00				
90+	0.00	0.72	0.31	0.30	0.00	0.00				