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FACTORS AFFECTING REPRODUCTIVE BEHAVIOUR IN ESTONIA IN THE 21ST CENTURY

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ABSTRACT

In Estonia where the population size is quite small (less than a million ethnic Estonians) the low birth rate has been a problem throughout known history.

In Estonia as in other Eastern European countries, the so-called transition shock appeared in the 1990s after regaining independence. As a result of the shock, the birth rate fell sharply; the number of births in 1994–2000 was twice less than the number of births ten years earlier, in 1984–1990. Intensive migration also lasted for about 25 years, and, as a result, the population of Estonia decreased by more than for 250 000 people (one sixth of the population). The ethnic structure of the population of Estonia also changed. Depending on the direction and volume of foreign migration, the share of ethnic Estonians in the population, which was 61.5% in 1991, increased to 67.9% by the turn of the century.

Postponing of births has been an important trend throughout the world, including in Estonia, in recent decades. In Estonia the average age of mothers who gave birth increased from 1991 to 2021 by almost 6 years. This means that, for 30 years, nearly a fifth of children were not born each year. The total fertility rate depends on the change in the average childbearing age. When the childbearing age increases (which has been happening in Estonia during the last 30 years), the total fertility rate (TFR) underestimates the average number of children born to a woman in her lifetime. Although TFR is relatively low in Estonia now, oscillating between 1.5 and 1.7, this does not mean that the average number of children born by a woman is so low.

If a cohort of women (e.g., women born 45–49 years ago) has passed the fertile age, it is possible to determine the average number of children whom they actually gave birth during their lifetime. This indicator gives a much more optimistic picture about the fertility behaviour of Estonian women than TFR.

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Ethnic Estonian women are more active in giving birth than the women of other ethnic origins. On average, Estonian women aged 40+ have given birth to 2 children.

***Keywords**: birth rate; total fertility rate; fertile age; average childbearing age; postponing of births*

INTRODUCTION

The purpose of this paper is to explain the peculiarities of population development in Estonia after regaining independence. We regard the interaction of different fertility characteristics, their influence on population size and structure and finally – we offer our own answers to several topical questions that are exciting society.

In Estonia where the population size is quite small (less than one and a half million, including less than a million ethnic Estonians) low birth rate has been a problem throughout known history. The situation has not changed in this century either, although as an independent country, Estonia can develop a family and population policy that meets the interests of its population.

Population indicators and their meaning

For the sake of comprehensibility of the presentation, we start by introducing the population indicators. The primary and simplest indicator is the **number of births per year**. It is evident that it depends on the number of women in **fertile age (15–49)**, but even more on the number of women in **active childbearing age (20–39)** – the correlations are correspondingly 0.57 and 0.68. Another indicator closely monitored in society is **natural increase** – the difference between births and deaths during the year.

The **total fertility rate (TFR)** is the most often used characteristic to estimate fertility. Its usual interpretation is the average number of children born by a woman during her lifetime. Its value 2.1 (in recent times also 2.06) is called **the recovery level**. In the long term, such a level of TFR ensures that the generation of daughters remains as large as the generation of mothers and guarantees the stability of population.

However, the fertility behaviour of a country depends significantly on the **average childbearing age**. More exactly, the average number of children born by a woman is characterized by the **completed fertility rate**, which can be calculated for cohorts of women past childbearing age.

Fertility age and active childbearing age

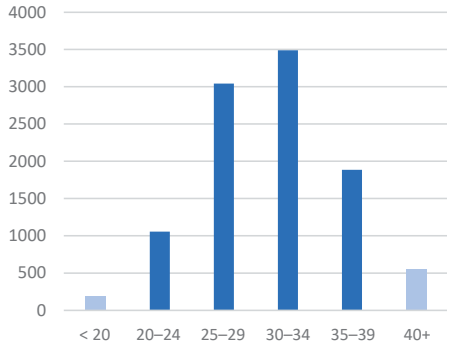

Figure 1. Number of births given in fertile age and active childbearing age (dark bars), Estonia 2017–21

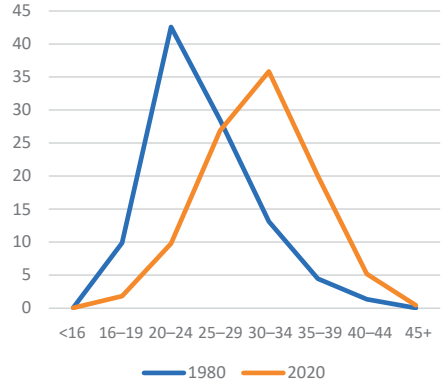

Figure 2. Distribution of births by age groups in 1980 and 2020

It is not clear how much the duration of the reproductive age and also the active childbearing age will change with the earlier onset of puberty and the increase of life expectancy in recent decades. But changes in social life – openness to the world, extended education, more diverse career opportunities and abandonment of old gender stereotypes have caused significant changes in women's birthing behaviour around the world.

Changes in Estonian population after regaining independence

Wars and crises have a significant, sometimes even unpredictable, and long-lasting impact on population development. Population statistics knows the wave nature of birth rate which is caused by the reverberation of the sharp drop in birth rate generations ago, see Figure 3, where the impact of World Wars I and II can be seen.

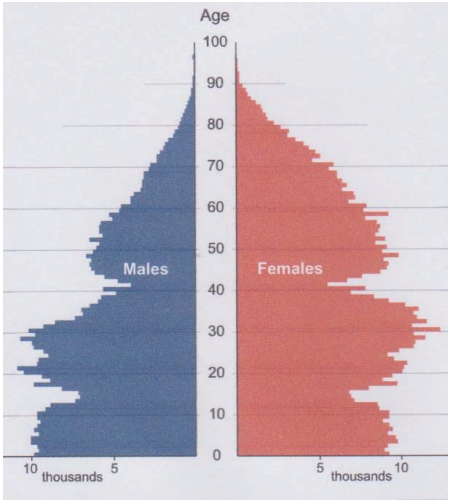

Figure 3. Estonian population pyramid in 1959. Source: Statistics Estonia

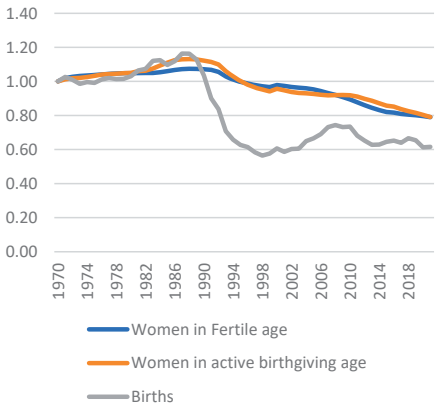

Figure 4. Number of women and births compared with the same numbers in 1970

A similar situation could be expected In Estonia as in other Eastern European countries under the influence of the so-called transition shock which appeared in the 1990s. As a result of the shock, the birth rate fell sharply, see Figure 4. In Estonia, the number of births in 1994–2000 was twice less than the number of births ten years earlier, in 1984–1990.

But the decline of birth rates was not the only phenomenon that emerged as a result of re-independence. The same Figure 4 also shows that with the regaining of independence a continuous decrease of adult female population began, which lasted for several decades. This decrease (which occurred almost similarly for men) was caused mainly by intensive emigration. At first (in the 1990s), recent immigrants left for the east, and since the 2000s, many young people have migrated to the west. Intensive migration lasted about 25 years and, as a result, the population of Estonia decreased by more than for 250 000 people (one sixth of the population) from 1570 thousand in 1990 to 1314 thousand in 2015. Of course, negative natural increase also contributed to the decrease in population.

The ethnic structure of the population of Estonia also changed. Depending on the direction and volume of foreign migration, the share of ethnic Estonians in the population, which was 61.5 % in 1991, increased to 67.9% by the turn of the century. Depending on the direction of foreign migration, the share of Estonians in the population has fluctuated between 68% and 70% in the recent decades, see Figure 5.

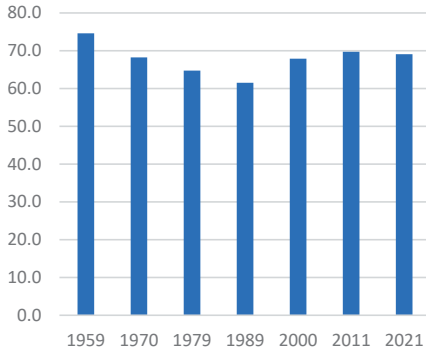

Figure 5. The share of Estonians in population

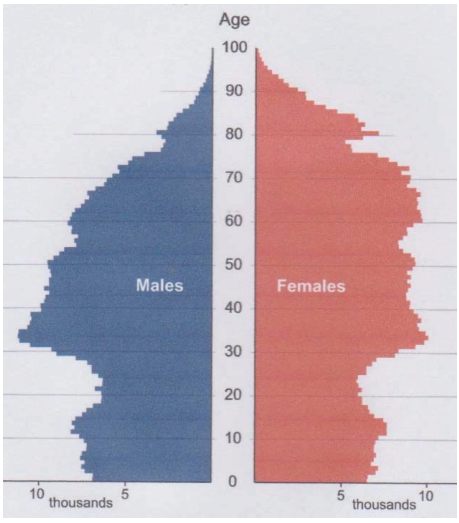

Figure 6. Population of Estonia in 2020. Statistics Estonia

The age structure of the population also changed rapidly: in 1990 the 20–39-year-old age group and the 50+-year-old age group were numerically equal, after 30 years, in 2020, the number of the younger age group was only 65% of the older one, see Figure 6. This change was caused, in addition to the emigration of young people, by the increase of life expectancy by 9 years during 30 years (1990–2020), see Figure 7.

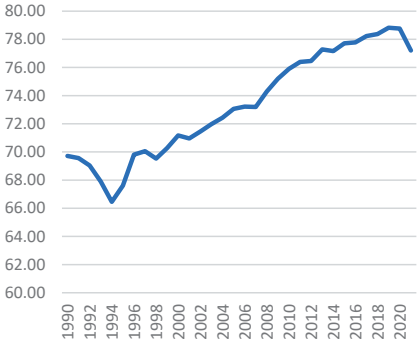

Figure 7. Life expectancy in Estonia

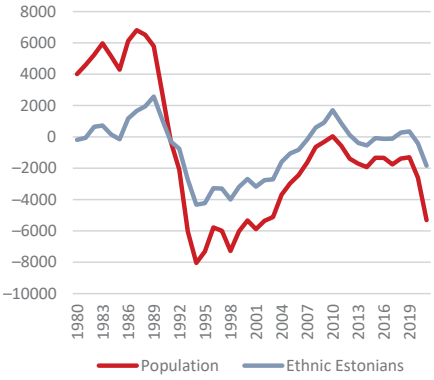

Figure 8. Natural increase in Estonia

Reproductive behaviour in Estonia and related painful issues

After regaining independence, the number of births and natural increase in Estonia (as well as in most other countries in Eastern Europe) fell sharply (Figure 8). The total fertility rate also fell to an unprecedented low, see Figure 9. In addition to emigration, negative natural increase also caused a decrease in the population.

The total fertility rate has remained significantly below the recovery level for several decades. In this regard, a number of questions need to be answered. 1. How is the current low number of births related to the decline of birth rates in the 1990s? 2. What is the reason for continued low birth rate? 3. Why do the Estonian women not want to give birth? 4. How does the birth behaviour in Estonia compare to the birth behaviour in other European countries? 5. How do the crises – corona, the war in Ukraine and the recession affect the population development in Estonia? 6. Is the current situation a population crisis that predicts the extinction of the Estonian population?

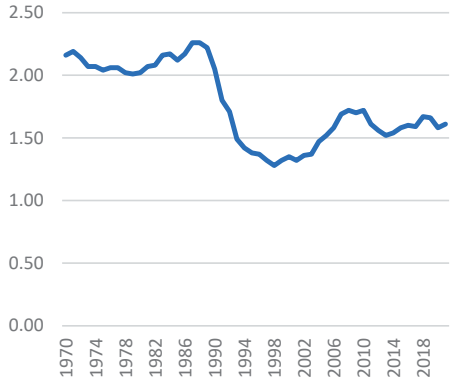

Figure 9. Dynamics of TFR in Estonia

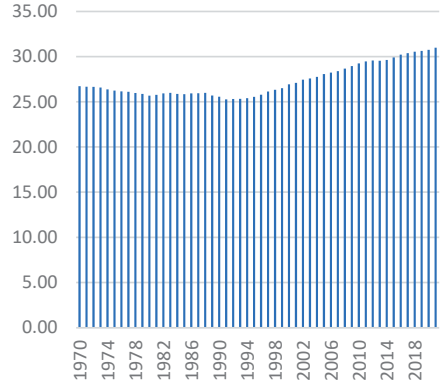

Figure 10. Average age of giving birth

To answer the questions, it is necessary to analyse the factors influencing the birth rate in Estonia nowadays and also in the past and to discover the connections and interactions between these factors.

Regarding the first question, it turned out that the foreign migration (mainly emigration to the east and the west) that started in the 1990s after re-independence has levelled the large gap in the population age distribution (see Figure 9). According to the census of 2021, the difference in the total number of women living in Estonia born in 1984–1990 and in 1994–2000 was now less than 1.2 times. Consequently, the large population loss in the 1990s does not significantly affect the current birth rate today.

To find the answer to the second question let us take a closer look at fertility behaviour.

Postponement of births and TFR

The changes in societies have also caused changes in reproductive behaviour of families. Postponing of births has been an important trend throughout the world, including in Estonia, in recent decades, see Figure 10. Here, the average age of mothers who gave birth increased almost by 6 years from 1991 to 2021. This means that, for 30 years, nearly a fifth of children were not born each year. The gap between parents' and children's generations increased by 6 years and the young parents in their late 20s were now replaced by young parents in their 30s.

The total fertility rate depends on the change in the average childbearing age. When the childbearing age increases (this has been happening in Estonia during the last 30 years), the TFR underestimates the average number of children born to a woman in her lifetime. On the contrary, if the childbearing age decreases and the birth mother gets younger (this was the case in Estonia in 1970–1990), the TFR overestimates the average number of children a woman gives birth to during her lifetime.

Although TFR is relatively low in Estonia now, oscillating between 1.5 and 1.7, this does not mean that the average number of children born by a woman is so low, as we can see using other characteristics.

Completed fertility rate. National (ethnic) differences and the impact of living place

If a cohort of women (e.g., women born 45–49 years ago) has passed the fertile age, it is possible to determine the average number of children whom they actually gave birth during their lifetime. True, this calculation only takes into account women who are still alive, but the death rate of women in reproductive age is so low today that the error caused by this is negligible. The completed fertility rate is calculated as the cohort fertility rate for cohorts aged 45–49 (sometimes also 40–44). It is interesting that this indicator gives a much more optimistic picture about the fertility behaviour of Estonian women than TFR, see Figure 11.

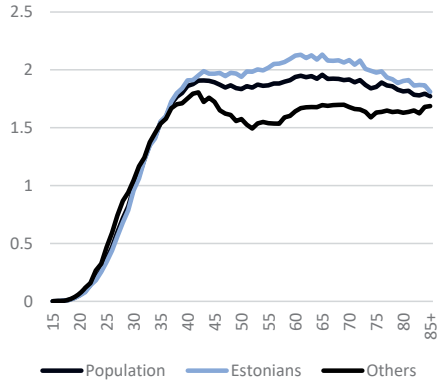

Figure 11. Cohort fertility rate by census 2021 data

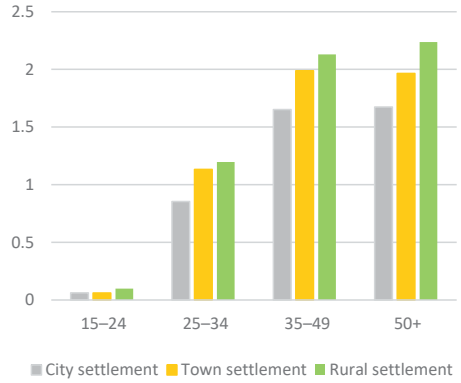

Figure 12. Average number of children by women's age groups and living regions

From Figure 11, we can see that the reproach that Estonian women do not want to give birth is not true. Another conclusion follows from Figure 11: Ethnic Estonian women are more active in giving birth than the women of other ethnic origins. The situation is opposite in the case of young women in their twenties, Estonians start their family life somewhat later, but usually they reach two children by their 40s, but other women (mainly Russians), on average, are satisfied with 1.5–1.7 children. With this, we explained one important factor that affects the birth rate in Estonia – that is ethnic origin. But this is not the only such factor. From the Figure we can see that the living area also has a remarkable impact on the number of children born by a woman during her life span.

Birth behaviour in Estonia and elsewhere in Europe

It is always interesting for Estonians to compare themselves with their neighbours, more generally – with other Europeans. Are we different from them and if, in what way and how much?

Figure 13 shows that the TFR in Estonia has fluctuated around the European average throughout the last half century and is currently slightly above it. The situation is similar with the number of births per 1000 inhabitants per year (the so-called crude birth rate). In 2000, the European average was 10, while in Estonia it was 9. Currently (in 2021), the numbers are reversed – in Estonia, 10 children are born per 1000 inhabitants yearly while the European average is 9. The average age at childbirth in Estonia is also almost equal to the European average – a little over 30 years in 2021.

However, fertility behaviour is not the same across Europe. During the last 20 years, the average TFR in Northern Europe (where Estonia also belongs) has been 1.75.

Impact of crises on fertility behaviour

All kind of crises generally have a negative effect on fertility behaviour. People want to raise their children in a normal, peaceful atmosphere, and therefore the birth rate decreases in a crisis situation – whether it is an economic regression or a war. The effect of the crisis caused by a pandemic is different – when people's communication is inhibited, the opportunities to find partners and communicate decrease, which also tends to decrease the birth rate.

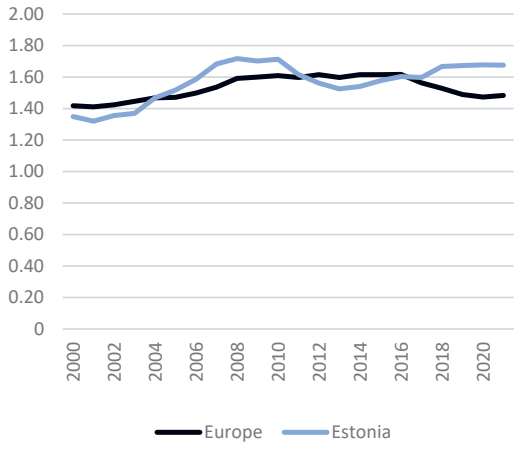

Figure 13. TRF in Estonia and in Europe

Crises often also cause additional movement of people between countries, thus population changes both in terms of numbers and composition. Wars are associated with population loss, a change in the numerical ratio of men and women, and possible war and political refugees. Crises are often followed by an increase in the birth rate, the baby boom after World War II is particularly well known.

Conclusions

We will now try to answer the questions presented.

1. The low birth rates in the 1990s and youth emigration in the 2000s have already affected the population structure and also birth rates, but the age distribution has levelled off over time, so there is no reason to expect a large decline in birth rates in the future.

2. The main reason TFR remains low is the continued postponement of births. This does not mean that women on average give birth to so few children in their lifetime. If births are postponed, the TFR underestimates the number of children a woman will give birth to. Yet this causes the population to decrease at the expense of increasing the generation gap. Sooner or later this process will slow down because the biological age limit does not allow to postpone births indefinitely.
3. The assumption that Estonian women do not want to give birth is not true. The completed birth rate shows that all generations of Estonian women who have passed fertility age have given birth to almost two children on average. But the number of children actually born in a lifetime depends on several factors. Ethnicity is very important – the average number of children of Estonian women is significantly higher than that of other ethnicities. The area of residency is also important: more children are born in rural areas and the generation gap is also smaller there. Finally, birth cohorts also differ somewhat in terms of fertility.
4. Estonia is an ordinary European country in terms of all population indicators, including birth rates, which have generally developed in a positive direction surpassing average European birth rates, but still falling short of Northern European averages, even though Estonia geographically belongs to this group.
5. Due to the excess mortality caused by the corona crisis, the estimated life expectancy fell in 2021. The impact of crises on the birth rate was evident in 2022, when the birth rate fell to an unprecedented low. These phenomena are likely to be short-lived and their effects are not permanent. However, the situation may have a more lasting impact on the development of population in Estonia if a considerable part of the war refugees who arrived here from Ukraine stay in Estonia for a longer period or even permanently. This will depend on future course of the war and political solutions and is not predictable from population figures.
6. Several politicians are in the habit of constantly talking about Estonia's population crisis, some even more so – about the imminent extinction of the Estonian nation. The fact that Estonia's population is around 1.3 million and the number of ethnic Estonians living in Estonia is slightly over 900,000 is not a population crisis. Estonia is simply a small nation and will remain so; dreaming of a noticeable increase in the number of Estonians is unrealistic and also unreasonable. Estonians are a happy nation because of being an

independent country, although this is a great luxury on the world scale and is expensive and costly to maintain for the population. But it ensures the permanence of the nation. Today, peoples acting as independent states do not disappear for demographic reasons. If they do, it is because of the loss of identity.

DATA SOURCES:

1. Statistics Estonia, Statistical Database.
2. United Nations, World Population Prospects 2022. https://population.un.org/wpp/

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