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A Tale of Two Cities: Patterns of Aging in Moscow and Saint Petersburg in 1990 – 2016.

Abstract

The population of Russia has been undergoing rapid aging in the last two decades, but regional differences make this process heterogeneous. Aging is the most noticeable in large metropolitan areas, the largest of which are Moscow and Saint Petersburg. Despite similar socioeconomic conditions the proportion of older individuals (60+) grows very unevenly in the two cities: It grew by 59.5% in Moscow between 1990 and 2014, but only by 29.2% in Saint Petersburg. Given low fertility the main sources of such differences lie in differential changes in life expectancy in older ages and migration rates.

We use Rosstat data to shed light into such striking differences in aging between the two cities. We theorize that slower mortality declines in Saint Petersburg as well as higher migration in Moscow can explain these patterns. We also decompose changes in life expectancy by age, sex, and cause to show what factors of mortality decline are the most important in this process.

Extended Abstract

Introduction

The population of Russia has been undergoing rapid aging in the last two decades, but regional differences make this process heterogeneous. Aging is the most noticeable in large metropolitan areas, the largest of which are Moscow and Saint Petersburg. Despite similar socioeconomic conditions the proportion of older individuals (60+) grows very unevenly in the two cities: It grew by 59.5% in Moscow between 1990 and 2014, but only by 29.2% in Saint Petersburg. Given low fertility the main sources of such differences lie in differential changes in life expectancy in older ages and migration rates.

The literature on aging and mortality in Russian cities in scant. Most of them do not focus on mortality in older ages (Andreev et al. 2016, Kvasha and Kharkova 2008). A recent study analyzed mortality and life expectancy of older Russians in Saint Petersburg (Safarova and Kozlov 2014).

This is the first study to compare the patterns of aging in the two largest cities in Russia.

Data and Methods

We use data of the Russian Federal State Statistics Service (Rosstat) to explain the differences in the patterns of aging in Moscow and Saint Petersburg. We hypothesize that a slower growth in life expectancy in Saint Petersburg as well as higher migration in Moscow are the major forces at play in this phenomenon.

We also decompose the changes in life expectancy by age, sex, and cause of death to show the role of endogenous and external causes of death in this phenomenon.

The differences in changes in mortality from external causes of death can be explained mostly be behavioral factors while endogenous mortality is to a greater extent correlated with the development of the healthcare systems of the cities. This analysis can thus have important policy implications.

Preliminary Results

The life expectancy at birth in Moscow increased by 2.56 years for women and 4.34 years for men between 1996 and 2005. Mortality declines in older ages (60+) are responsible for 53% of this increase for women and 27% for men. Between 2005 and 2014, life expectancy increased by an additional 4.07 years for women and 6.05 years for men (with 2/3 of both of these increases attributable to ages 60+).

Fig. 1 and 2 show that while for women, most of the increase for both periods was concentrated in the older age groups, life expectancy for men was growing faster for prime ages (30 – 49) before 2005.

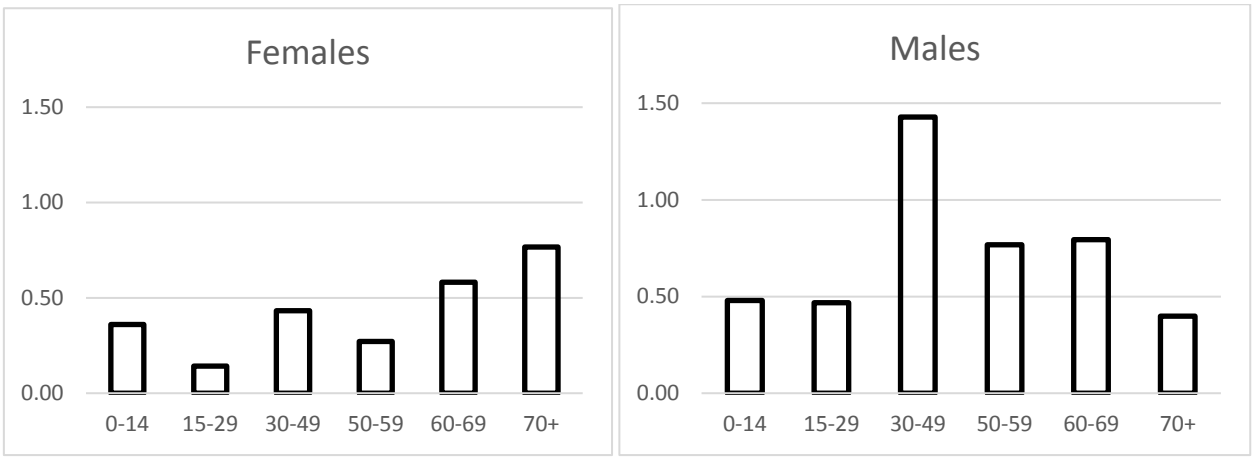

Fig 1. Decomposition of changes in life expectancy at birth in Moscow in 1996 – 2005, by age group.

Source: Rosstat.

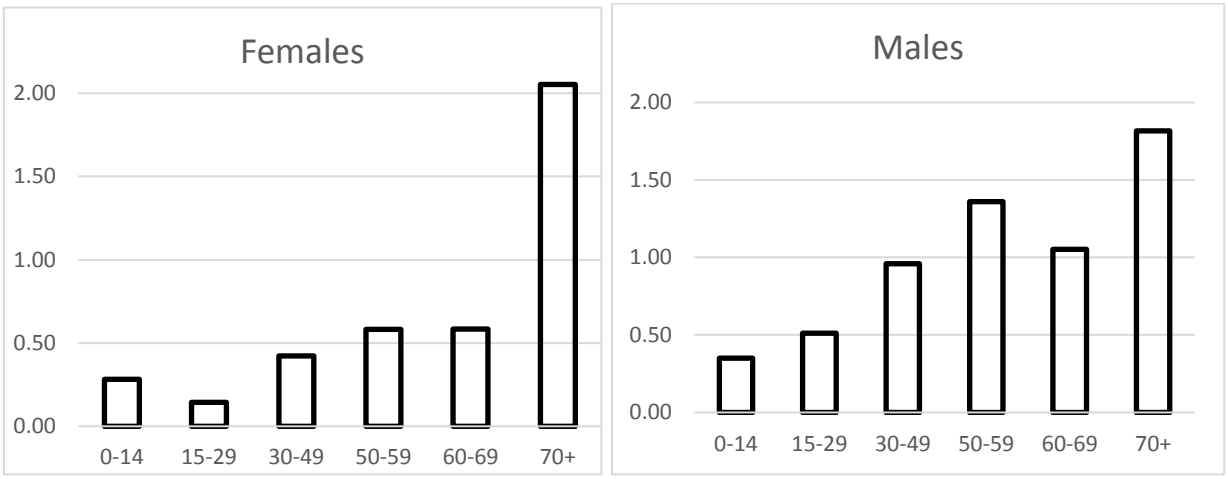

Fig 2. Decomposition of changes in life expectancy at birth in Moscow in 2005 – 2014, by age group.

Source: Rosstat.

The decomposition of changes in life expectancy for Saint Petersburg is drastically different (Fig. 3 and 4). Between 1996 and 2005, life expectancy declined by over a year for men and only increased by 1/3 of a year for women. Both of these processes are attributable to prime ages (in fact, starting from the age group of 15 – 19). A small growth was only noticeable for children and older individuals.

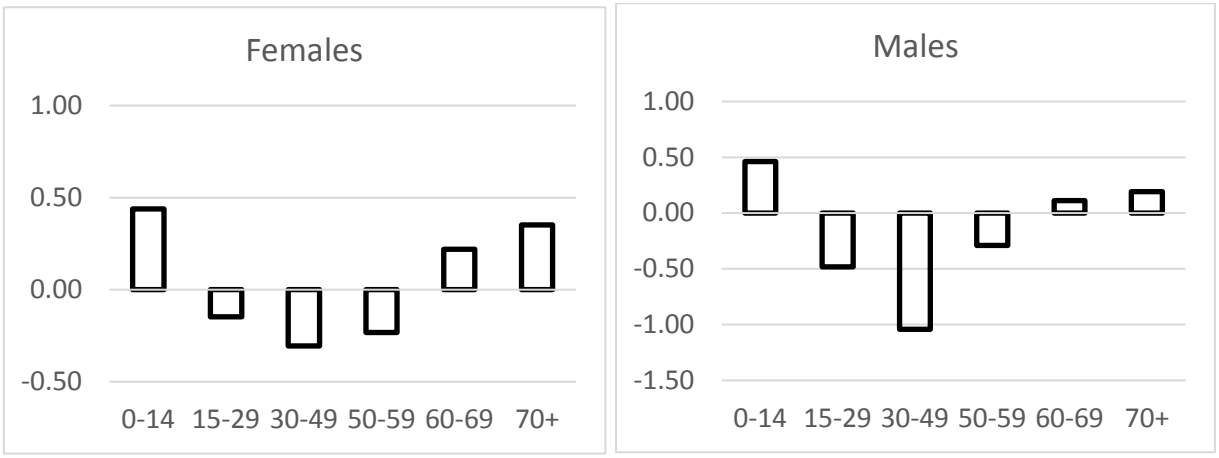

Fig 3. Decomposition of changes in life expectancy at birth in Saint Petersburg in 1996 – 2005, by age group.

Source: Rosstat.

The situation changed dramatically between 2005 and 2014. Declines in life expectancy were followed by its rapid growth: 4.7 years for women and 8.5 years for men. Such a growth is unprecedented in any of the economically developed countries, which might raise concerns of data quality. However, assuming there are no data quality issues, the growth is still very different from the one observed in Moscow: the majority of it for men and a large share of it for women is happening for prime ages rather than ages 60+.

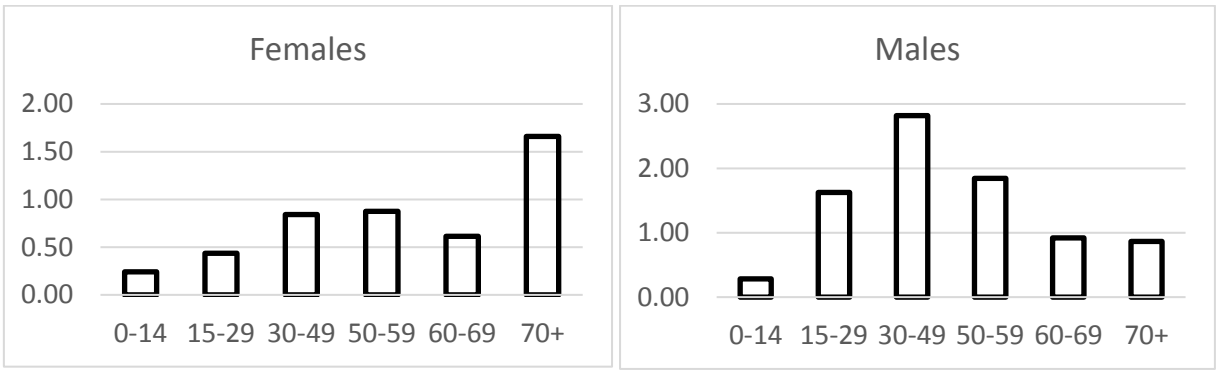

Fig 4. Decomposition of changes in life expectancy at birth in Saint Petersburg in 2005 – 2014, by age group.

Source: Rosstat.

Anticipated Results

The differences in life expectancy increases between Moscow and Saint Petersburg can be explained by differences in cause specific mortality. We will thus decompose changes in life expectancy by cause of death. We will also show how migration can affect the process of aging differentially in the two cities. We will then link these processes to the economic development of Moscow and Saint Petersburg.

Preliminary Conclusions

Increases in life expectancy are becoming the leading cause of aging in Russia. The results of this study can have two possible implications. Firstly, we can show what age group lag behind in mortality improvement. Second of all, we can help determine the future composition of the elderly population of Moscow and Saint Petersburg as shaped by mortality and migration to better shape healthcare and social policy to cater to the needs of these groups.

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