

ACT A: forecasting the future population of Moscow

Introduction

In the system of national goals for the period up to 2030, the Government of the Russian Federation is charged with ensuring sustainable population growth¹. With Moscow being the economic, cultural, and political center of the country, the interest in the dynamics of the capital's population significantly increases. In this regard, the forecast of the future population of Moscow may be used as a benchmark for achieving national goals as well as utilized for effective urban planning.

Mind map

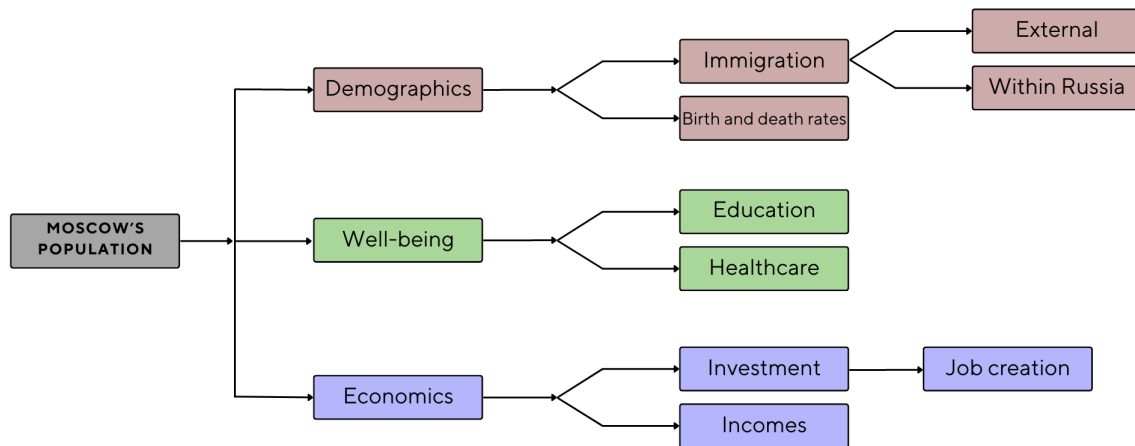


Figure 1. Mind map of the factors that affect Moscow's population.

Defining the problem statement

The goal of this project is to produce, based on population data and factors identified in the mind map, a specific mathematical function that can predict the future population of Moscow with little to no error.

¹“Указ о национальных целях развития России до 2030 года”, 2020

Making assumptions

- There are no other factors affecting Moscow's population, except for those outlined in the mind map. This assumption would allow me to sharpen the focus of the study and produce a more specific model.
- When considering external immigration, this research will focus only on immigrants from the following countries: Kyrgyzstan, Uzbekistan, and Tajikistan. The reason is that migrants from these states make up 77% of the overall migrant population in Moscow².
- The quality of education will be measured by comparing the results of USE (Unified State Examination) of Moscow students to other regions and estimating the yearly inflow of students coming to study in Moscow.

Defining variables

- Demographics. Its two key aspects in Moscow are birth/death rates and immigration. As Moscow is economically developed city, many people come from abroad to work there, bringing their families with them, which significantly impacts the population of Moscow.
- Well-being. The 'Education' variable mostly impacts youngsters as Moscow has the greatest number of universities and schools in Russia, while 'Healthcare' is more relevant for the elderly population who may choose to move to Moscow to receive better treatment.
- Economics. This variable has the most significant impact on Moscow's population as continuous job creation attracts specialists from all over the country.

Building solutions

The method used in this study will be finding the relationship between the historical data of Moscow's population and the variables defined above. Namely, the idea is to determine how suggested factors change over time to determine their impact on the population. Supposedly, this approach would require technology and will rely on solving a few equations.

Conclusion

With all the details of the research being discussed, my next step would be collecting data and building the model. My prediction is that Moscow's population follows an upward-sloping linear trend.

²Новости, Р. И. А. 2021