

Population Potential and Recruitment Outcomes: A Regional Analysis of Military Study Programs

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Abstract

This article examines the impact of demographic trends and the regional distribution of high school graduates on student recruitment at the University of Defence. Based on data on the number of high school graduates in individual regions and information on applicants and enrolled students in full-time military study programs for the years 2021–2025, the article analyzes the relationship between the population potential of regions and actual interest in studying. The results reveal significant regional differences. The analysis confirms the existence of a relationship between the number of high school graduates and the number of admitted students, but also highlights the importance of other factors related to the specific nature of military studies. These findings provide a basis for targeted planning of the University of Defence's recruitment and marketing activities.

KEY WORDS: *demographic trends, high school graduate, military study, recruitment, regional differences.*

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1. Introduction

Demographic trends represent one of the key factors that have a long-term impact on the operations and strategic planning of higher education institutions. The number of potential applicants for higher education is directly linked to the size of the population cohorts, particularly in the age group of approximately 18–22 years. In Central European countries, including the Czech Republic, significant demographic fluctuations and a declining birth rate have been evident in recent decades [1]. These fluctuations will gradually be reflected in the number of high school graduates and the corresponding number of applicants to higher education institutions.

A decline in the size of age cohorts generally leads to increased competition among universities in recruiting applicants. Institutions are forced to engage more actively in marketing, adjust their range of study programs, strengthen cooperation with secondary schools, or focus their recruitment efforts more on international students. On the other hand, during periods of large birth cohorts, there may be pressure on the capacity of study programs and university infrastructure. Demographic trends therefore represent a significant factor in planning the capacity of study programs, personnel policies, and investments in infrastructure.

For effective strategic management of student recruitment, it is important to know the potential number of applicants from each region. Universities do not attract applicants evenly from across the country, but rather based on differences in the number of high school graduates, their academic preferences, and their willingness to study outside their home region. Determining the number of high school graduates and actual prospective students from each region therefore makes it possible to identify areas with higher recruitment potential and to target marketing and recruitment activities specifically at them.

Above all, an important basis for this is tracking the number of high school graduates in individual regions and their proportion among applicants to a specific university. Combined with data on the number of applications or enrolled students by region, this allows for the identification of regions from which a greater or lesser number of applicants apply for study than would correspond to their demographic potential. This information can help universities better plan their recruitment activities, develop cooperation with high schools in promising regions, and target promotional campaigns more

effectively. Systematic monitoring of the number of high school graduates and applicants by region contributes to rational recruitment planning and long-term stability in student enrollment.

For an effective and sustainable student recruitment strategy, it is essential to have a detailed understanding of where individual applicants are coming from. This figure is based on the number of students in a given region who successfully pass their high school graduation exams each year.

This article aims to map the number of high school graduates in each region and compare them with the number of students enrolled at the University of Defence from each region. This analysis will help identify potential for student recruitment. Due to its specific characteristics (physical fitness requirements, etc.), student recruitment for a military higher education institution differs from student recruitment at civilian higher education institutions.

2. Methodology

This article was compiled using publicly available data on high school graduates from CERMAT (Centre for the Evaluation of Educational Achievement) [2] and data from the University of Defence's information system concerning the admissions process over the past five years. The data for the University of Defence included only the numbers of applicants and enrolled students in full-time military-related master's and bachelor's degree programs. Data on applicants and students with permanent residence outside the Czech Republic (these are only a few individuals) were omitted because it would not be possible to relate this data to individual regions. Data relating to civilian students were excluded due to the different approach to their recruitment.

Descriptive statistical methods and graphical comparisons of the relative frequencies of admitted students from individual regions in 2021 and 2025 were used to analyze the data. Furthermore, a graphical comparison was used to illustrate the relationship between the number of high school graduates in each region and the number of enrolled students from those regions. For greater clarity, a regression line was calculated and plotted on the graph to illustrate the relationship between the number of high school graduates in a region and the number of admitted students from that region.

3. The University of Defence and the Specifics of Military Studies

The University of Defence is a state-run military higher education institution that primarily provides education for the Ministry of Defence. It trains students in accordance with the requirements of the Czech Armed Forces. The structure of its study programs is focused primarily on training young officers and other specialists to meet the needs of the Czech Armed Forces and the Ministry of Defence. The number of students admitted depends on the Ministry of Defence's requirements. These requirements increase slightly each year in line with the Czech Armed Forces' overall recruitment goals, given the steadily deteriorating security situation in Europe.

Unlike public higher education institutions, the University of Defence cannot compensate for a potential shortage of applicants from the Czech Republic by increasing recruitment from abroad, as it educates military students, who are citizens of the Czech Republic. This makes it all the more important to choose appropriate marketing methods and reach out to potential applicants. For the University of Defence, it is therefore essential to determine how closely the number of admitted applicants is linked to the size of the population base. This makes it easier to assess whether a lower number of admitted students in a given region is due to a small number of high school graduates or whether it represents untapped potential.

Every year, the University of Defence admits several hundred new students into its full-time military degree programs. These are young people, typically immediately after or a few years following high school graduation. According to demographic projections, the number of young people aged 18–22, the age group from which most applicants to the University of Defence come, is expected to grow only until 2029, after which it will decline [3]. This will result in a gradual decrease in the number of people who will be able to study at the University of Defence.

Studying in military programs is unique. Applicants must not only meet the academic requirements but also satisfy criteria for health and physical fitness [4]. Another significant factor is the applicant's own interest in serving in the Czech Armed Forces, as students are bound by a commitment lasting twice the duration of their studies. According to surveys, 74% of the public currently trusts the Czech Armed Forces, ranking it fifth among domestic institutions which makes it a very favorable factor for student recruitment [5].

4. Number of High School Graduates in Each Region

The Czech Republic consists of 13 separate regions and the capital city of Prague, which is a separate region. Each region is characterized by a specific demographic structure, varying numbers of high school graduates, and differing trends in interest in higher education.

In 2025, the number of students taking the graduation exam in the Czech Republic was the highest in the last ten years [6]. Another important perspective is the trend in the number of graduates in individual regions. Long-term data show that above-average numbers are reported primarily in Prague, Moravskoslezský, Jihomoravský, and Středočeský regions. These are the regions with the largest population base and stable interest in university studies. Conversely, regions such as Liberecký and Karlovarský regions show below-average numbers of high school graduates, which requires specific and long-term marketing approaches. These differences are evident in Figure 1, where the average number of high school graduates in individual years is marked in black. In blue are the above-average regions in order Prague, Moravskoslezský, Jihomoravský, and Středočeský regions, and in red are the below-average regions Liberecký and Karlovarský.

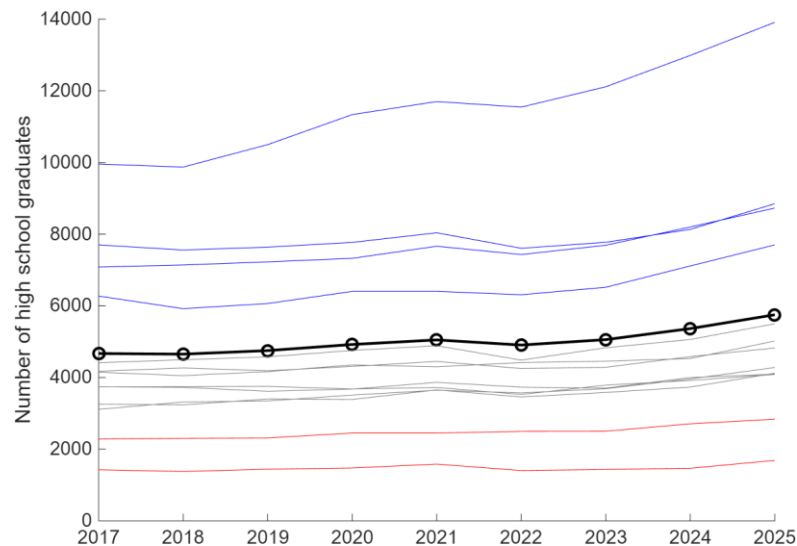


Fig. 1. Trends in the number of high school graduates in individual regions of the Czech Republic from 2017 to 2025.

5. Number of Applications

Although Prague has the highest number of high school graduates, the highest number of applications to the University of Defence are submitted by applicants from Jihomoravský, Středočeský and Moravskoslezský regions (see Figure 2). The interest of applicants from Jihomoravský region can be easily explained by the fact that the University of Defence (the rector's office and two faculties) is located in Brno, that is in Jihomoravský region. Conversely, the relatively low number of applicants from Prague can be explained by the fact that Prague has the highest concentration of higher education institutions in the Czech Republic. Although the Military Faculty of Medicine of the University of Defence is located in Hradec Králové, in Královéhradecký region, the number of applicants from this region is among the lowest.

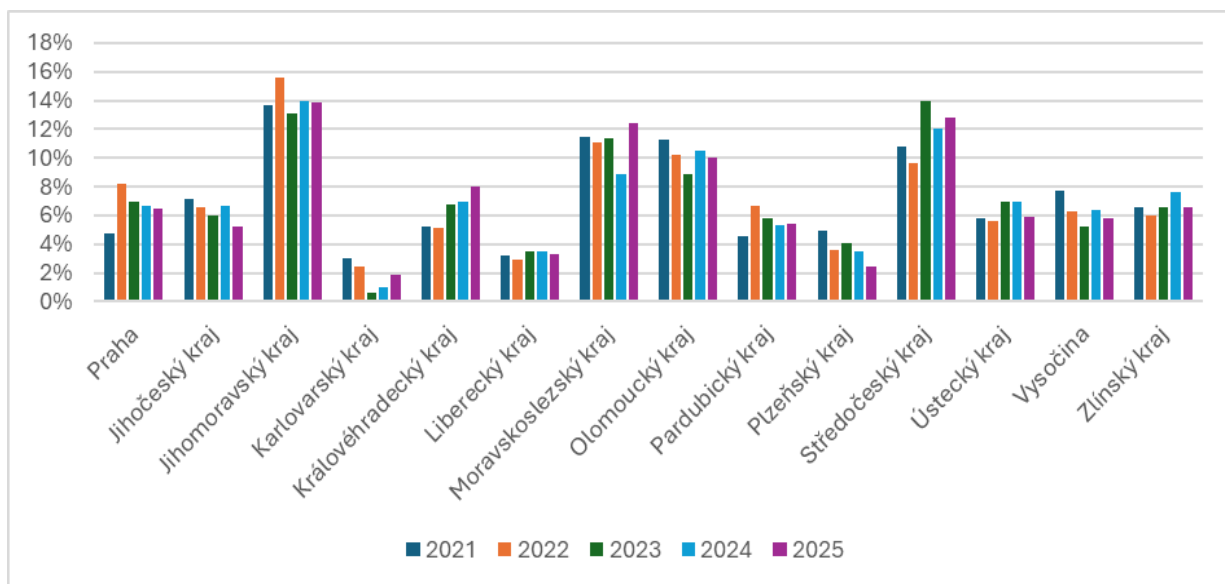


Fig. 2. Percentage of applications submitted to the University of Defence by region ("kraj" in Czech) in 2021–2025

An analysis of the proportion of admitted students from individual regions over the past five years, specifically 2021 and 2025 (Figure 3), shows that there are long-term differences among regions in the level of interest in studying at the University of Defence. These differences may be due to both the population size of the region and its socioeconomic or cultural characteristics. Furthermore, a comparison across years allows us to identify trends (that is, regions where interest is growing, stagnating, or declining).

Figure 3 shows that Jihomoravský region continues to have the highest proportion of students, followed by Moravskoslezský, Středočeský, and Olomoucký regions. The decline in the proportion of students from Plzeňský region is highlighted in red, falling from 6.3% of the total number of admitted students in 2021 to 1.3% in 2025. Conversely, the increase in the proportion of students from Královéhradecký region (from 4.3% to 7%) and from Prague (from 2.8% to 6.2%) is highlighted in blue. Although the proportion of admitted students from Prague increased in 2025, the University of

Defence still attracts a significantly lower proportion of high school graduates from that region compared to other regions. Other regions from which the University of Defence attracts a lower proportion of high school graduates include Plzeňský and Ústecký regions.

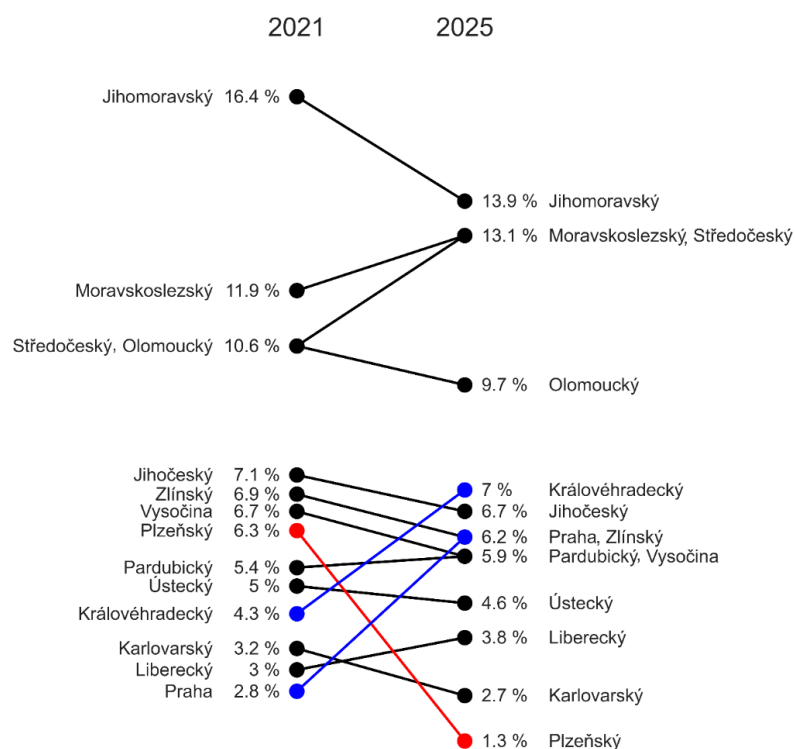


Fig. 3. Comparison of the proportion of enrolled students from individual regions for 2021 (left) and 2025 (right)

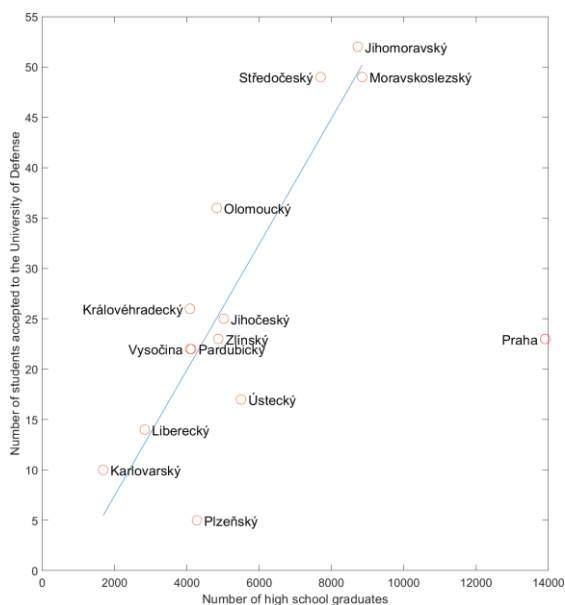


Fig. 4. Relationship between the number of high school graduates in 2025 and the number of students admitted to the University of Defence. An estimated regression line is shown in blue for illustrative purposes (the estimate was calculated for regions excluding Prague).

An important indicator for planning student recruitment activities is the relationship between the number of high school graduates in 2025 and the number of enrolled students. Regression analysis (Figure 4), conducted on data excluding Prague to account for its significant population differences, shows how closely the number of admitted students is linked to the size of the population base. This makes it easier to assess whether a lower number of admitted students in a given region is due to a small number of high school graduates or represents untapped potential. However, it is important to note that not all applicants who apply for admission in a given year and are subsequently enrolled are necessarily high school graduates from that same year; some are individuals who had already taken their high school graduation exams in previous years.

6. Discussion

The analysis conducted makes it possible to identify regional differences in recruitment potential and to distinguish regions with an effectively utilized population base from those where there is room for improvement. Based on this analysis, individual regions can be divided into the following categories: regions with high potential and a high proportion of job seekers and students (Jihomoravský, Moravskoslezský, Středočeský), regions with high potential but a low proportion of job seekers and students (e.g. Plzeňský, Ústecký), and regions with low population potential (Liberecký, Karlovarský). Based on these results, recruitment activities and the allocation of recruitment resources can be targeted more precisely. The University of Defence is already strengthening its student recruitment efforts by innovating its recruitment tools and modernizing its academic offerings. The new study programs being developed reflect both technological trends and the current needs of the Czech Armed Forces in the areas of technical, command, and medical specializations. In the future, it will be necessary to track the number of high school graduates in each region, as well as the number of applicants and enrolled students, which will help measure the success of the measures taken to increase enrollment.

If there is a significant decrease or, conversely, an increase in the number of students admitted from a particular region (as was the case in 2025 for Plzeňský region or, conversely, for Prague compared to 2021), it would be advisable to conduct a more thorough analysis of the other factors that may have caused this change.

7. Conclusions

The analysis shows that demographic trends and the regional distribution of high school graduates are key determinants of the University of Defence's recruitment potential. The number of applicants is not evenly distributed across the individual regions, but reflects both the size of the population base and specific regional characteristics.

The data show that there are significant differences between regions not only in the absolute number of high school graduates but also in the proportion of applicants and enrolled students at the University of Defence. While some regions have long maintained a stable and high proportion of enrolled students, others remain below their potential in terms of recruitment. This discrepancy confirms that the size of the population base alone is not the only factor influencing interest in studying, and that there are varying degrees of utilization of recruitment potential across regions. The analysis also confirms the existence of a correlation between the number of high school graduates and the number of admitted students, although this relationship is not absolute and shows variations in some regions. These variations make it possible to identify regions where the number of admitted students is lower than would correspond to their demographic potential, and, conversely, regions where this potential is being utilized more effectively. Furthermore, regional differences evolve over time, as evidenced by a comparison of student shares between 2021 and 2025. This situation needs to be continuously monitored and evaluated.

At the same time, the specific nature of military studies significantly influences the composition of applicants, naturally narrowing the pool of potential candidates and increasing the importance of targeted and effective recruitment. A positive factor is the high level of public trust in the Czech Armed Forces, which creates a favorable environment for recruiting new students.

In the context of expected demographic trends, where a slight increase in the number of people of college-entry age can be anticipated in the short term, followed by a decline, the systematic monitoring of regional data is becoming increasingly important. An analysis of the number of high school graduates and applicants by region thus provides an important basis for strategic enrollment management, enables a better understanding of the spatial distribution of demand for higher education, and contributes to the long-term stability of the student body at the University of Defence.

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