

## **STATISTICAL ANALYSIS AS A METHOD OF STUDY OF SOME ASPECTS OF HIGHER EDUCATION**

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The results of the analysis of official statistics and statistical processing of data on students of Gubkin Russian State Oil and Gas University have been used for considering processes in higher education from a gender perspective. Changes of the share (in %) of women studying at different levels of higher education and among undergraduates of various specialties have been explored using the data of the Statistical Handbook “Women and men in Russia” from 2000 to 2015. A more detailed study of gender asymmetry in higher education was carried out by an example of training engineers of oil and gas industry. Data Base containing information: Gender; Faculty; Type of Admission (Budget, Target, Contract); Region of School and Academic Achievements - for first undergraduates of engineering faculties had been created. The data were processed so that relative and cumulative frequencies of all variables in female and male undergraduates were obtained and graphic presentations (bivariate charts and histograms) were created. Analysis of data of the Statistical Handbook reveals the gender asymmetry both vertical (by level of education) and horizontal (by specialty). The share of females from the total number of university students has decreased from 57% in 1999 to 54% in 2014. For the same time the share of women in postgraduate has increased from 43% to 47% for all specialties and from 21% to 26% for engineering education. The increase is particularly high for women studying in doctorate: from 35% to 48% on the whole and from 17% to 28% for technical specialties. With regard to the horizontal gender asymmetry then the share of female undergraduates on most technical specialties has decreased significantly greater than in the whole. Statistical processing of data on students of Gubkin University reveals a traditional gender inequality: girls in average have better Unified State Exam scores and mostly are admitted on budget (68% of all girls and 50% of all boys) but petroleum companies preferred to sponsor boys as target students (21% of all girls and 27% of all boys). Traditional type of gender asymmetry (share of women less 30%) has been obtained in admission of students from all regions of Russia except Siberia from where the share of admitted students is 58% for girls and 42% for boys. Highlighting gender discrimination result has been obtained for North Caucasus: share of female students is only 7%. Analysis of share of female and male undergraduates by faculties reveals a considerable gender asymmetry on all engineering faculties except Chemical & Environmental Engineering where the female and male share is equal. The female share is from 14% to 39% on other engineering faculties. Statistical analysis of undergraduates on two semesters of studying physics reveals a stable gender asymmetry in academic achievement: in average 68% of all female students and 42% of all male students in Fall semester and 55% of all female students and 38% of all male students in Spring semester on four engineering faculties got scores on the physics A&B. On other two faculties academic achievements on physics were in average equal for female and male students.