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THE IMPACT OF STUDENT EMPLOYMENT ON HIGHER EDUCATION DROPOUT. SELECTED ISSUES

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Purpose: The aim of this study is to examine the extent to which student employment during studies at the Krakow University of Economics contributes to higher education dropout.
Design/methodology/approach: The analysis covers first-cycle study programs offered at the Krakow University of Economics in 2023 (N = 33). The evaluation was conducted after the first year of study for a cohort of students (N = 3790) enrolled in 2023. The conclusions are based on data obtained from the Social Insurance Institution (ZUS) and selected statistical measures.
Findings: The analysis confirms a statistically significant relationship between student employment and the risk of higher education dropout. At the level of individual study programs, the impact of employment on dropout varies considerably. For the entire population of working students, the probability of dropout is nearly five times higher than for non-working students. Other potential causes of dropout were also identified, although they were not analyzed in this study.
Research limitations/implications: The main limitation of this study is the use of registry data covering only student employment reported to the ZUS, which does not fully capture students' work activity. Future research should incorporate additional determinants of dropout and draw on alternative data sources to enable more comprehensive conclusions about the factors influencing higher education attrition.
Practical implications: Student employment is an important but not the only factor influencing dropout, indicating the presence of additional systemic and individual determinants. The findings may support higher education institutions in designing measures to reduce student attrition and in developing targeted support mechanisms tailored to student needs.
Originality/value: The study is based on the most recent available data and covers all first-cycle study programs offered in the 2023 intake at the Krakow University of Economics. The original contribution lies in the in-depth analysis of a comprehensive dataset, enabling a holistic assessment of dropout among working students and identifying fields of study particularly vulnerable to attrition**.**
Keywords: students, student employment, dropout.
Category of the paper: researches paper.

1. Introduction

In studies on higher education and the labor market, two research areas have been particularly active in recent years. The first focuses on students' situations in the labor market, that is, combining studies with work. This research area mainly examines students' motivations for working, as well as their preferences regarding the workplace and the characteristics of the job they choose. The second research area concerns the phenomenon of dropout. Studies in this area are important for identifying and understanding the causes and consequences of dropout, especially for universities in terms of financial and reputational losses. The practical results of research in this field can help suggest ways to reduce dropout rates, which in turn may lead to more efficient management of human and financial resources at universities. This study reviews the causes of dropout at Polish universities, with a detailed focus on first-cycle students admitted in 2023 at the Krakow University of Economics. The main aim is to examine to what extent their employment contributed to dropout.

2. Literature review

2.1. University dropout as a phenomenon

The phenomenon of dropout is observed in Poland as well as in other countries around the world. It is not a new issue and is understood as a process that leads a student to formally leave university. Dropout is a complex problem and usually results from several factors, such as feeling a lack of opportunities, losing motivation to study, or wanting a major change. Dropout is often a very difficult experience for young people and is sometimes seen as a failure (Ważna, 2025). It is one of the main challenges that universities face.

Dropout can be understood in different ways. In this study, four types are used, which can be seen as different study paths, although not all involve continuing education.

a) Dropout – leaving studies. This is the most common type. It refers to a student who started a program in a certain year but left it for more than 12 months without finishing or receiving a diploma. During the study period, they were not enrolled in any other program in Poland.
b) Dropout from parallel studies. This type occurs when a student is enrolled in more than one program and decides to leave one of them for more than 12 months without completing it. At the same time, they remain a student of another program in Poland.
c) Study break. This applies to a student who started a program but paused it for more than 12 months without completing it. within 12 months after the break, they were not

enrolled in any other program in Poland. During the observation period, they were at some point enrolled in a program.

d) Study correction. This occurs when a student leaves a program for more than 12 months without finishing it but then returns to any program in Poland within 12 months after leaving (OPI-PIB, 2023a).

The causes of dropout are varied and can be organized into different categories. One common classification divides the causes into two groups: institutional and individual factors (OPI–PIB, 2021). Institutional factors include, among others, the inefficient use of public funds, their loss, the lost opportunity for another person to take the place at the university, and the loss of the university's prestige. Individual factors relate to the personal situation of the student who leaves their studies. These include issues connected to the university and the chosen field of study. For example, students may feel disappointed with the university, experiencing a large gap between their expectations and reality. Other factors include lack of interest in the program, disappointment with the course, or choosing the wrong field. Another group of factors includes personal problems, financial difficulties, the need to work to support oneself, and challenges in combining work with studies. Research shows that decisions to leave are most often made during the first semesters (Nesterak, Kowalczyk, Kasalik-Kowal, 2023).

Another, more detailed classification looks at dropout from three perspectives: time, causes, and the nature of the phenomenon. The time perspective divides dropout into several periods: a very early period (within one month of starting studies), an early period (the following months), and a late period (toward the end of studies, before obtaining a diploma).

According to causes, dropout can be divided into three groups: systemic, institutional, and individual causes. Systemic causes are socio-economic conditions related to changes in the labor market, the decreasing value of a university diploma due to market realities that prioritize skills over diplomas, high living costs, and insufficient support such as educational counseling. Institutional causes come from the university itself, while individual causes relate to the student.

In terms of the nature of dropout, it can be: temporary - leaving studies for a period but returning later, permanent – a lack of motivation leading to a long-term or permanent exit from studies. and constructive dropout – when a student leaves one program or university to start studies at another university or in a different field (Pokorny, 2025).

In Poland, between 2012 and 2020, the dropout rate was about 39%, meaning around 1.3 million students left their studies for more than 12 months. The highest dropout rates were exact sciences (51%) and humanities (47%), while medical sciences and arts had lower rates (29%). Men and students living in cities were more likely to resign (Wiktorko et al., 2020, p. 10).

Dropout is therefore a common phenomenon, affecting young people who leave the education system and enter the labor market instead. Research shows that leaving second-cycle or long-cycle master's studies often has negative consequences for students' future labor market positions. One year after leaving studies, students who moved away from their university's

region had lower earnings and worse economic conditions than graduates. Graduates earned more than those who left. This suggests that the labor market values a university diploma.

Considering the research results, combining studies with work appears to be a better strategy for young people entering adulthood (OPI–PIB, 2025a). The impact of combining work and studies is mixed. Based on extensive literature (Triventi, 2014; Sanchez-Gelabert et al., 2017; Ostój, 2020), two main conclusions can be drawn: high-intensity work (over 16 hours per week) that is not related to the field of study negatively affects academic performance, while part-time work related to the field of study helps students gain experience and develop skills and competencies (Tur-Sinai et al., 2017, pp. 3328-3340; Crowley, 2024, pp. 3-28).

Based on research, it can be observed that almost 80% of students combine their studies with employment, and nearly 60% work during the semester. Students in Norway, the Czech Republic, Iceland, the Netherlands, Slovenia, Turkey, and Romania have the highest employment rates. In Poland, a similarly high proportion of students work, estimated at around 78% (Hauschildt et al., 2022, p. 146; Hauschildt et al., 2025, p. 146). Data for Poland, taken from report (OPI-PIB, 2025b), which included 310667 students admitted in 2023, show that 46.65% of them are registered with the ZUS, and over 33% were employed during their studies, including already in their first year. Employment during studies may represent a voluntary choice, a strategy to facilitate successful entry into the labor market after graduation, or a necessity due to insufficient financial resources to cover study and living costs.

3. Methodology

This study analyzed and assessed the impact of employment on first-cycle students at the Krakow University of Economics on dropout. The assessment was conducted after the first year of study. The research concerns only full-time programs. The study included students admitted in 2023 to first-cycle programs and long-cycle master's programs (N = 3790).

The research is based on a review of selected literature, and the data were obtained from the National System for Monitoring the Economic Outcomes of Higher Education Graduates. The reports, which were the main source of information, are generated using data from the Social Insurance Institution (ZUS) and the POL-on system. However, they do not fully reflect students' employment activity because they do not include jobs not reported to the ZUS (OPI–PIB, 2023b). This is a limitation of the study. It can be assumed that student employment is more common than indicated by the data used for analysis. The decision to use this database in the study was based on its comprehensiveness and reliability, as well as the lack of any suitable alternative.

Data from all programs (N = 33) offered at the first-cycle level in the 2023/2024 academic year at the university were analyzed. The Law program (long-cycle master's) was also included, as it started a new cycle of studies in the year under review.

To achieve the aim of the study, the following research questions were posed:

1. To what extent did the dropout phenomenon occur in the studied programs?
2. Which first-cycle programs at the Krakow University of Economics are most and least affected by dropout?
3. In which programs was the highest number of employed students leaving their studies recorded?
4. Was employment the main cause of dropout in the studied programs?

The study's hypothesis is that students who combine studies with work have a higher risk of dropping out compared to non-working students.

4. Findings and discussion

The analysis covers all programs offered in 2023 at the Krakow University of Economics, including first-cycle and long-cycle master's programs. To assess the intensity of dropout in these programs, the following scale was applied: below 10% – very low, 10-20% – moderate, 20-30% – elevated, above 30% – high, and above 40% – very high, which may indicate a systemic problem (Ważny, 2025).

Dropout at the university occurred in three forms: full dropout (complete withdrawal from studies), dropout due to transfer to another program, and study correction (changing programs at the same university). No dropout related to a study break was observed in any of the analyzed programs.

Figure 1 shows the intensity of dropout across all programs. Only two types of study changes are presented because they have the most significant consequences for the university: full dropout and study correction. In both cases, the university loses students, but the effects for the students differ. In full dropout, students leave the university entirely, while in study correction, they continue their studies in a different program or faculty.

The third type, dropout due to transfer to another university, was not included in the analysis because it does not affect the original institution. These students continue their studies, although they are now enrolled in fewer programs.

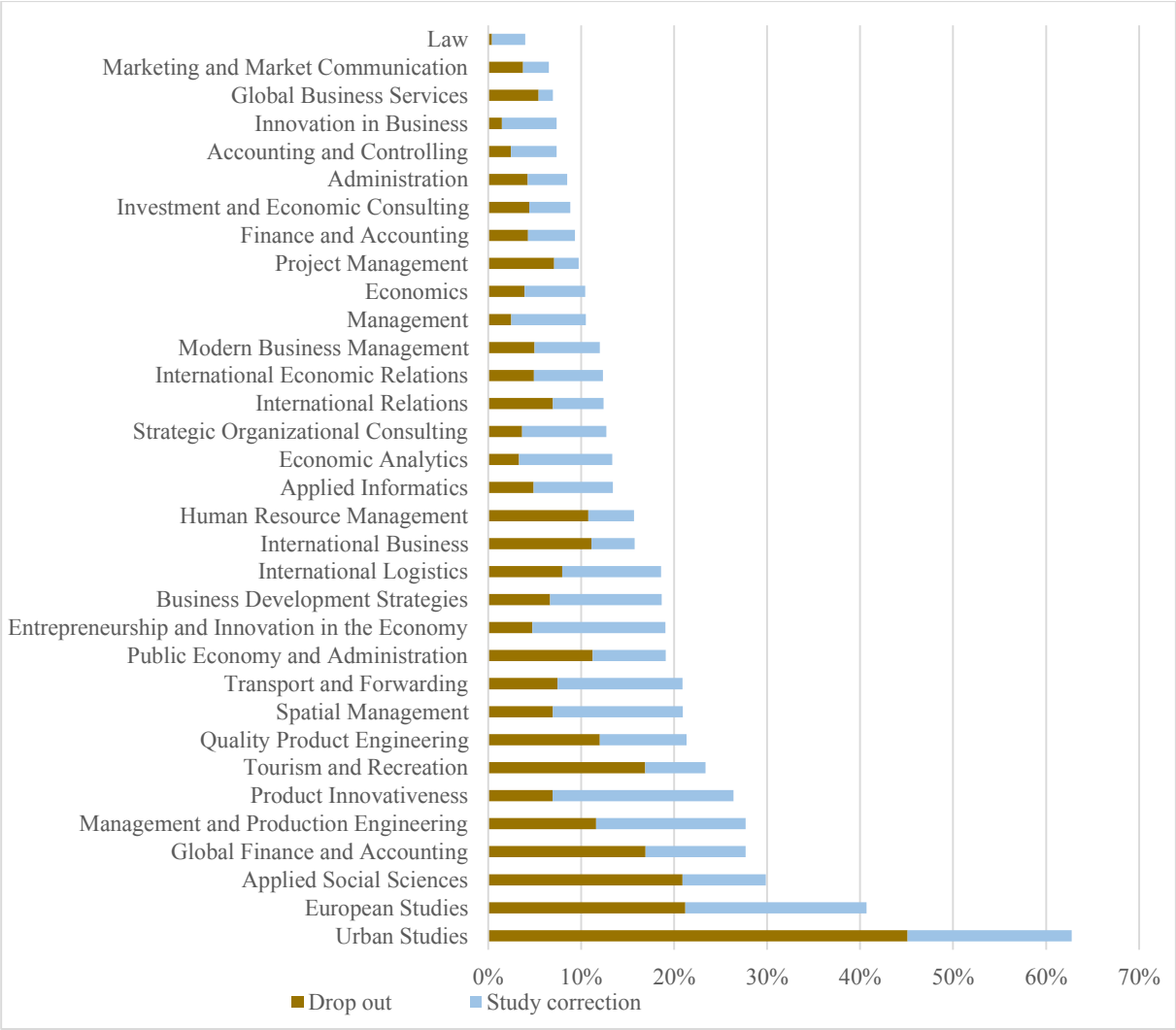


Figure 1. Intensity and types of dropout for first cycle programs at the Krakow University of Economics (2023 intake).

Source: own elaboration based on OPI – PIB (2025b).

The dropout phenomenon affected all fields of study, although with varying intensity. Based on the adopted scale, the level of dropout intensity in individual programs can be identified and classified into four groups.

Group A, characterized by a very low level of dropout (below 10%), included nine programs: Project Management, Finance and Accounting, Investment and Economic Consulting Administration, Accounting and Controlling, Innovation in Business, Global Business Services, Marketing and Market Communication, and Law.

Group B, the largest group, with a moderate level of dropout (10-20%), consisted of fourteen programs: Public Economy and Administration, Entrepreneurship and Innovation in the Economy, Business Development Strategies, International Logistics, International Business, Human Resource Management, Applied Informatics, Economic Analytics, Strategic Organizational Consulting, International Relations, International Economic Relations, Modern Business Management, Management, and Economics.

Group C, with an increased level of dropout (20–30%), included eight programs: Applied Social Sciences, Global Finance and Accounting, Management and Production Engineering, Product Innovativeness, Tourism and Recreation, Quality Product Engineering, Spatial Management, and Transport and Forwarding.

Group D included European Studies (40.7%) and Urban Studies (62.7%), characterized by high and very high levels of dropout. The intensity of the phenomenon in this group is alarming and indicates systemic problems. Programs in Group D are the most vulnerable to student attrition. Nearly three-quarters of the analyzed programs are affected by dropout at levels ranging from moderate to very high intensity.

Among the analyzed programs, three are taught in English: Global Finance and Accounting, Modern Business Management, and International Business (Groups B and C). Unlike the other programs, these are fee-based. Despite this, the level of dropout in these programs is moderate or elevated.

According to a report (Ćwiklicki et al., 2025) prepared for the internal purposes of the Krakow University of Economics, there are many reasons for student dropout, including a high level of difficulty, disappointment with studies, lack of motivation to learn, and difficulties in adapting to a new environment. However, the most frequently indicated reasons were financial difficulties and the high costs of living and studying. Students who financed their education independently had to take up employment, which, with a heavy weekly workload, often made it impossible to balance studies with professional responsibilities. It turns out that employment is one of the most frequently indicated causes of dropping out of studies.

The following part of the paper will examine the extent to which students in the analyzed programs combined work with their studies (Figure 2) and what their workload was during the analyzed period.

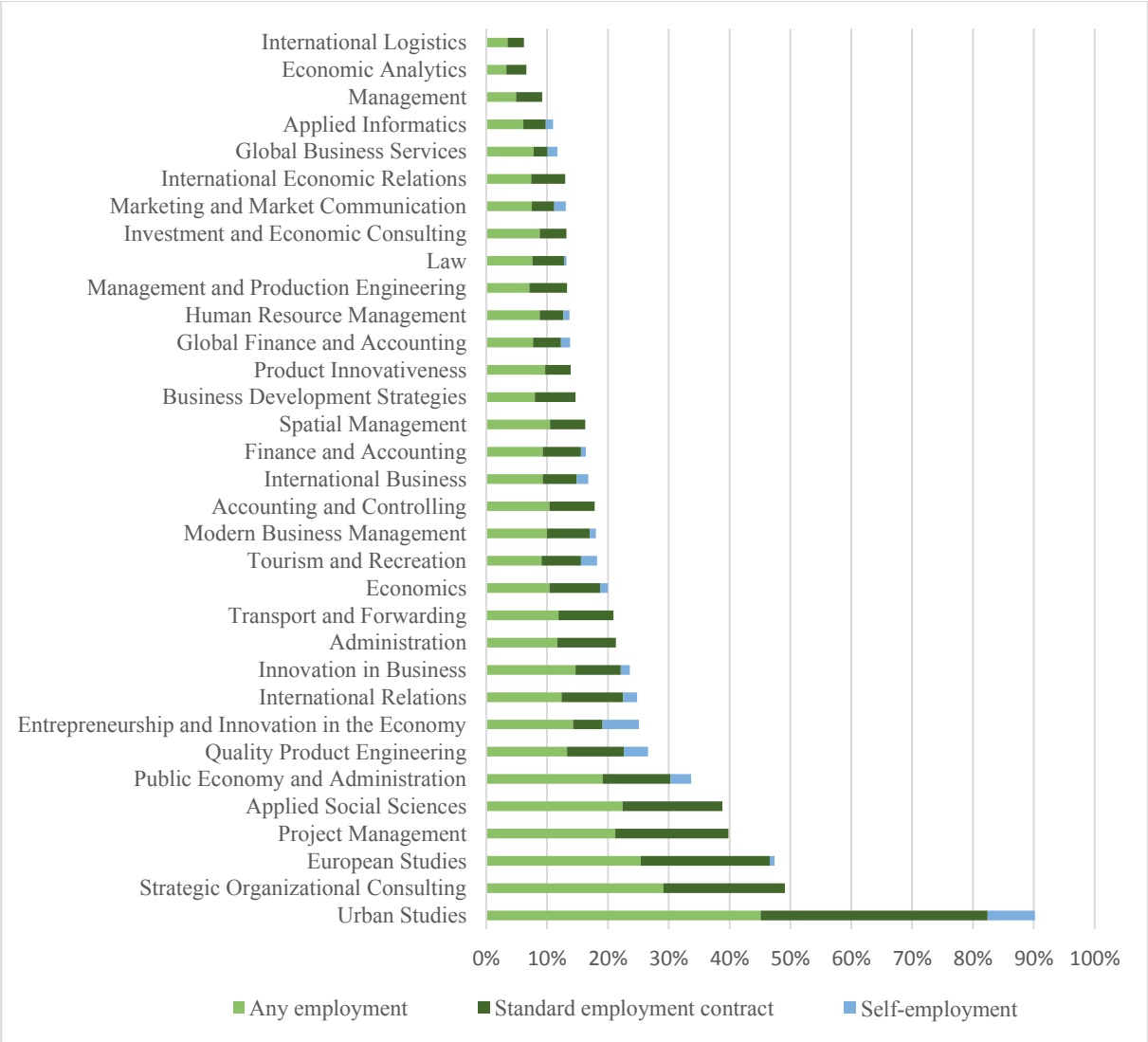


Figure 2. Percentage of first-cycle students at the Krakow University of Economics with work experience after the first year (2023 intake).

Source: own elaboration based on OPI – PIB (2025b).

Students across all programs combined their studies with employment. The most common form of work experience was holding any type of job, followed by employment under a standard contract, while self-employment played only a marginal role. In the vast majority of programs, approximately 20% of students were employed after the first year.

Exceptionally high levels of employment were observed in Urban Studies (90%), Strategic Organizational Consulting (49.1%), and European Studies (47.4%). In most programs, however, the intensity of employment was relatively low. For three-quarters of the programs, the proportion of months worked during the observation period did not exceed 10%. Exceptions were programs in which the vast majority of students were employed. Notably, in Urban Studies, students, on average, devoted over 70% of the months in the studied period to work, substantially more than to their studies.

Programs in Group D, which are the most vulnerable to student dropout, simultaneously exhibited the highest proportion of employed students and the highest average share of months dedicated to work. In this group, dropout attributable to employment was most likely.

Subsequently, the extent to which dropout was caused by students' employment was analyzed. Basic descriptive statistics were employed for the calculations, and the data used in the analysis are presented in Table 1.

Table 1.
Number of first-cycle students by employment status and dropout (2023 intake)

	Programs	Admissions in 2023	Employed	Non-employed	Dropouts	Employed dropouts	Non-employed dropouts	Employed dropouts (%)
1	Urban Studies	51	23	28	23	16	7	70%
2	Strategic Organizational Consulting	55	16	39	2	0	2	0%
3	Global Finance and Accounting	65	5	60	11	0	11	0%
4	Applied Social Sciences	67	15	52	14	6	8	40%
5	Transport and Forwarding	67	8	59	5	0	5	0%
6	Investment and Economic Consulting	68	6	62	3	0	3	0%
7	Innovation in Business	68	10	58	1	0	1	0%
8	Product Innovativeness	72	7	65	5	3	2	43%
9	Quality Product Engineering	75	10	65	9	6	3	60%
10	Business Development Strategies	75	6	69	5	1	4	17%
11	Tourism and Recreation	77	7	70	13	2	11	29%
12	Applied Informatics	82	5	77	4	0	4	0%
13	Entrepreneurship and Innovation in the Economy	84	12	72	4	1	3	8%
14	Spatial Management	86	9	77	6	1	5	11%
15	Public Economy and Administration	89	17	72	10	6	4	35%
16	Administration	94	11	83	4	0	4	0%
17	Modern Business Management	100	10	90	5	1	4	10%
18	Human Resource Management	102	9	93	11	2	9	22%
19	Marketing and Market Communication	107	8	99	4	0	4	0%
20	International Business	108	10	98	12	1	11	10%
21	Management and Production Engineering	112	8	104	13	2	11	25%
22	International Logistics	113	4	109	9	0	9	0%
23	Project Management	113	24	89	8	7	1	29%
24	European Studies	118	30	88	25	15	10	50%
25	Economic Analytics	120	4	116	4	1	3	25%
26	International Relations	129	16	113	9	1	8	6%
27	Global Business Services	129	10	119	7	1	6	10%
28	International Economic Relations	162	12	150	8	2	6	17%
29	Management	162	8	154	4	0	4	0%
30	Accounting and Controlling	163	17	146	4	1	3	6%
31	Economics	230	24	206	9	1	8	4%
32	Law	251	19	232	1	0	1	0%
33	Finance and Accounting	396	37	359	17	3	14	8%
	Total	3790	417	3373	269	80	189	

Source: own elaboration based on OPI–PIB (2025b).

Out of 3790 students admitted to the analyzed study programs in 2023, 269 dropped out. Among them, 80 were working students, representing almost 30% of all dropouts. Working students made up 11% of the total student population, yet they accounted for nearly 30% of all

dropouts. The dropout rate among working students reached 19%, meaning that working students left their studies more than three times as often as non-working students.

There was considerable variation between individual study programs. In one third of the analyzed programs, working students represented between 22% and 70% of all students who withdrew. In another third of the programs, working students accounted for only 4% to 17% of all dropouts. This shows that the variation between programs was very high.

The average dropout rate among working students was 16%, with a standard deviation of 19%. The coefficient of variation reached 117%, which indicates very high differences in dropout rates across the analyzed programs. The data show a large spread around the average, which may not represent all students. This suggests that the effect of being a working student on dropout risk is not the same for all programs.

In the remaining third of the programs, dropouts were recorded only among students who were not working. In these cases, leaving the program was not related to employment. It can be concluded that in two thirds of the programs, dropout was linked to being a working student, as shown in Figure 3.

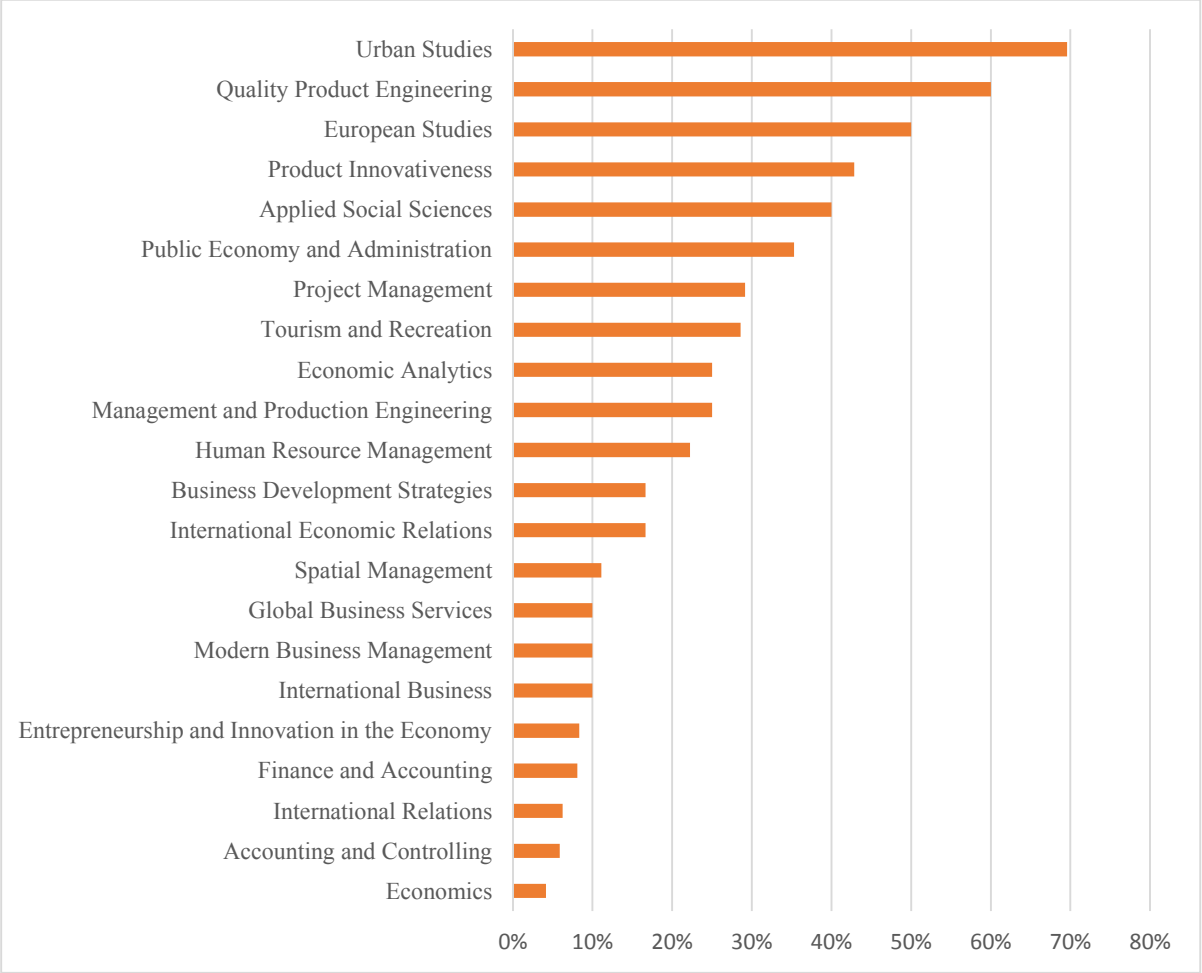


Figure 3. Percentage of employed first-cycle students in each program at the Krakow University of Economics who dropped out (2023 intake).

Source: own elaboration based on OPI–PIB (2025b).

The average odds ratio was 4.962, which indicates that the likelihood of dropping out among working students was approximately five times higher than among non-working students.

The correlation coefficient between working students and working students who dropped out was 0.56. This suggests that these phenomena occur together, although it does not confirm a causal relationship. Working students tend to drop out more often, but this does not necessarily mean that employment directly caused their withdrawal.

The correlation coefficient between the share of working students in a given programe and the overall dropout rate was 0.53, indicating a moderate relationship. In other words, programs with a higher proportion of working students also tend to show higher dropout rates.

The coefficient of determination was $R^2 = 0.28$, meaning that approximately 28% of the variation in dropout rates can be explained by the share of working students. The remaining variation is influenced by other factors. This relationship is statistically significant ($p < 0.01$).

Overall, the findings suggest that employment substantially increases the individual risk of dropping out. However, differences between programs are more complex. Employment is only one of several factors influencing students' decisions to leave their studies, and dropout may result from multiple reasons or a combination of factors.

5. Conclusion, limitations and future research

Based on the analysis, it can be concluded that all examined study programs were affected by dropout, although the intensity of this phenomenon varied significantly across programs. The analysis confirms a significant relationship between taking up employment and the risk of dropping out. The main findings are as follows:

Student employment is an important risk factor for dropping out at the individual level, which confirms the research hypothesis formulated in the study.

1. At the programme level, the impact of employment is not uniform. Some programs show a much higher dropout rate among working students, while others show only a minimal effect.
2. The average dropout rate and the odds ratio indicate that the overall risk for the entire population of working students is around 16%, and the likelihood of dropping out is almost five times higher than for non-working students.
3. The correlation coefficient between working students and working students who dropped out was 0.56. This indicates that these phenomena occur together, but it does not prove a causal relationship.
4. There are other factors, apart from employment, that influence students' decisions to leave their studies. The decision to withdraw may result from several causes or from the combined effect of multiple factors.

The main limitation of this study is the use of registry data covering only student employment reported to the ZUS, which does not fully reflect students' employment activity. Future research should include additional determinants of dropout and use alternative data sources to allow for more comprehensive conclusions about the factors influencing higher education attrition.

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