

**THE ASSESSMENT OF STUDENTS' FINANCIAL EXPECTATIONS
ON THE EXAMPLE OF THE STUDENTS OF THE FACULTY
OF MANAGEMENT OF THE JAN AND JĘDRZEJ ŚNIADECKI
BYDGOSZCZ UNIVERSITY OF TECHNOLOGY**

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Study objective: The aim of the study is to assess financial expectations of the students of the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology after graduation and to determine whether the field of study has an impact on salary expectations. The hypothesis was formulated that students of finance and accounting have higher salary expectations than students of other fields. Additionally, it was assumed that 2/3 of the students of this faculty work while studying. The field and level of studies were taken into account.

Methods: The study was conducted at the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology. It involved 252 students of the Faculty of Management studying in the following fields: management (hereinafter ZA), management and production engineering (hereinafter ZIP) and finance and accounting (hereinafter FIR). The study was based on the primary data, obtained using a measurement instrument prepared for the needs of the study in the form of an online questionnaire (CAWI), as well as data on the number and structure of students of the Faculty of Management obtained from the University IT Department.

Conclusions: The study results show that over 70% of the students take up work while studying. This indicates changes in the labour market, where the market demand for young people with both education and experience is clearly visible. The largest group of respondents, both employed and not working, are students of finance and accounting (first and second-cycle studies). The students of management and production engineering have the highest salary expectations after graduation, while students of finance and accounting have the lowest expectations. Students of management, however, fall between these groups. The salary expectations of finance and accounting students differ from the average salary expectations by PLN 1,334.69, by PLN 1,251.55 (for management students) and by PLN 1,194.76 (for management and production engineering students). Therefore, the largest deviation occurs for finance and accounting students who on average expect lower earnings than students of other fields. For all fields of study, the variation between salary expectations is low, which indicates homogeneity of the population. Interestingly, students of management in the highest

percentage do not work in their profession (over 60%). The smallest disproportion between students who work and do not work in their profession exists in the case of finance and accounting students. The largest group working in their profession are students of management and production engineering, followed by students of finance and accounting. Most students, regardless of their cycle, combine work with studying. Among second-cycle students, the largest number of people - over half of the students of management and production engineering, and slightly less than half in the field of finance and accounting work in their profession. Among first-cycle students, the vast majority of respondents, regardless of the field of study, do not take up professional work. There is a relationship between salary expectations and the field of study, and it is statistically significant. This hypothesis was positively verified.

Originality: The paper shows on the example of the students of the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology that the vast majority of management and finance students work while studying. The study highlights an extremely important aspect of current studying - combining studies with work, which has been noticed by researchers in Australia (Devlin, James, Grigg, 2008; Creed, French, Hood, 2015), New Zealand (Manthei, Gilmore, 2005) and the USA (Butler, 2007). The article is addressed to universities, in particular those offering courses, such as finance and accounting, management, management and production engineering.

Keywords: students, higher education, financial expectations, work during studies.

Article category: Research paper.

1. Introduction

David Card, winner of the Nobel Prize in economics in 2021, has proven that the number of years of education is a key factor for success on the labour market, especially in terms of future income. These results are considered one of the milestones in the way economic research is conducted (Jurczak, 2021). The findings, which are also confirmed by the National Salary Survey, statistical data contained in the paper by Jurczak K., show the principle of higher salaries among people with higher education.

Education is an investment connected with costs, i.e. all financial outlays related to deepening knowledge, as well as effects. Jacob A. Mincer was a pioneer of research on the correlation between education and salary. Basing on the assumption of the human capital theory, he proposed an equation for estimating the impact of years of education and professional experience on the amount of salary. Later, the Mincer earnings function was modified by Lauer and Steiner, who expanded the research by using a qualitative approach instead of a purely quantitative approach to education (years of education). Levels of education were differentiated and university, vocational college, general secondary schools and basic vocational school were distinguished. This effort was aimed at translating competences into salary, valuing intellectual goods in a reliable and unified way so that it could be used to determine remuneration (Adamczyk, Jarecki, 2008).

As mentioned on the website of the Metropolitan State University of Denver, earning a higher education opens the door to greater earning potential. People with a college degree earn, on average, more than those with a secondary school diploma. A 2021 Forbes study found that people with a bachelor's degree earned over their lifetimes more than twice as much as those without such a degree (Metropolitan State University of Denver official website, 2023).

The research conducted by Jarecki W showed benefits from having higher education, such as higher remuneration and a decreasing unemployment rate. The analysis revealed that students of economics achieve the fastest return on education expenditure, at the same time, their salaries are at an average level (Jarecki, 2006).

With the development of information and telecommunications technologies and the emergence of new professions, the demand for new skills increases. The classic models of the labour market are no longer used in the same way as before, as their ability to adapt to changes, related both to the labour market itself and its participants, is limited by rigid regulations (Wiśniewski, 2004). Adapting the labour market to constant economic changes is possible only when both employers and employees change their approach. Employers must be flexible and respond quickly to changes, adjusting the number of employees and their remuneration. On the other hand, in order to stay on the labour market, employees must be ready for various forms of employment, use modern technologies and be ready for professional mobility, both within one workplace and between different places of employment (Kryńska, 2003).

The need to adapt to economic changes puts students and graduates in a special situation on the labour market. EU regulations also impose on educational institutions, especially universities, the obligation to improve cooperation with economic entities in order to better adapt their program offers to the needs of the labour market. The education system, and especially universities are expected to respond quickly and flexibly to changes in modern technologies and trends in the labour market (Radło, 2007).

The modern labour market is characterized by high variability. According to experts, already in 2018 the Polish labour market was in a situation it had not been in for a quarter of a century. Unemployment began to fall, which resulted in an increase in wages and GDP, and companies reported a higher demand for new employees (Baron-Polańczyk, Klementowska, 2018). An increasing number of students start working while studying (Rajeev, 2014). In Australia and other countries, there is a growing tendency for students to combine studies with work. In 1971 in Australia, 20% of higher education students worked full or part-time (Creed, French, Hood, 2015). This number increased to 54% in 2001 and to 72% in 2007 (Devlin, James, Grigg, 2008). Similar patterns are observed in other countries, such as New Zealand (Manthei, Gilmore, 2005) and the USA (Butler, 2007). Currently, it is the employer who tries to meet employees' expectations: financial, motivational or those related to physical and mental health (Pracuj.pl, 2023).

The Bydgoszcz University of Technology met market expectations by expanding its educational offer to include a study-and-work master's program. The Faculty of Management educates students in the following fields: management, production management and engineering, finance and accounting, recently also sports management. The students can choose from bachelor's, engineer's and master's degree programs, full-time and extramural studies as well as study-and-work mode. The new form of education offers classes for second-cycle students run after 4 p.m. on weekdays, including online lectures, thanks to which the academic knowledge is combined with practice (Official website of the Bydgoszcz University of Technology).

2. Methods

The study was conducted at the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology. It involved 252 students of the Faculty of Management studying in the following fields: management (hereinafter ZA), management and production engineering (hereinafter ZIP), finance and accounting (hereinafter FIR). The study group consisted of students of bachelor's, engineer's and master's degree programs, full-time and extramural studies as well as study-and-work mode. Full-time and extramural students were classified into one category as the study-and-work mode, as full-time studies, allowed students to work and study at the same time. The authors of the study used primary data obtained using a measurement instrument prepared for the needs of this study in the form of an online questionnaire (CAWI) as well as data on the number and structure of students of the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology obtained from the University IT Department. The study was conducted in the period of 25.05.2023-16.06.2023. An e-mail with a link to the questionnaire was sent to the students' e-mail addresses. The questionnaire consisted of 13 or 18 questions, depending on whether the respondent works while studying. One question was open-ended. The study was random and was conducted among the students of the Faculty of Management. Thanks to the use of a statistical framework, such as a mailing list, the survey was addressed to all students of the Faculty of Management (population). Due to the need to adhere to the principles of GDPR, it was not possible to direct questions to specifically selected group of people, which explains the voluntary nature of the answers. All students of the Faculty of Management had the same opportunity to participate in the study. The study was conducted in a representative study group of 252 respondents (both working and not working in their profession). The share of all working students was estimated using the sample size of 243 people, with an error of 5% and a confidence coefficient of 0.9, assuming that 2/3 of the students work. The data were analysed using statistical methods.

3. Results

At the time of the study, there were 856 students at the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology. The study group consisted of students of bachelor's, engineer's and master's degree programs, full-time and extramural studies as well as study-and-work mode. Table 1 shows the percentage of students of the Faculty of Management, divided by field and cycle of studies. Most of the respondents, over half - 601 people (70.21%) were first-cycle students. Both in the first (34.23%) and second cycle (11.80%) studies, most students studied finance and accounting.

252 students of the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology participated in the study. Table 1 shows the percentage of surveyed students of the Faculty of Management, with division by cycle. The structure of the respondents can be considered similar to the structure of the students of the Faculty of Management. The largest deviations were observed for the field of ZIP (first-cycle studies), ZA (second-cycle studies) and FIR (second-cycle studies), however taking into account only the field of study, not the cycle, these deviations are smaller. Therefore, it can be assumed that the study sample quite well reflects the reality.

Table 1.

The structure of the students of the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology and the study sample, with division into the field and level of studies [%]

Field of study/cycle	Structure of the students of the Faculty of Management	Structure of the surveyed students of the Faculty of Management
Finance and accounting (first-cycle studies)	34.23%	32.54%
Management (first-cycle studies)	22.55%	19.44%
Management and production engineering (first-cycle studies)	13.43%	19.05%
Finance and accounting (second-cycle studies)	11.80%	9.13%
Management (second-cycle studies)	7.83%	10.32%
Management and production engineering (second-cycle studies)	10.16%	9.52%
Total	100.00%	100.00%

Source: own study.

The authors of the study verified the share of working students. 178 students take up work while studying, which is over seventy percent of the respondents (70.63%), while 74 students do not work, which is less than thirty percent of the respondents (29.37%). The largest number of the respondents in absolute terms, both employed and not working, are students of finance and accounting (first and second-cycle studies). Additionally, estimating that 2/3 of the students of the Faculty of Management combine work with studying, and assuming an error of 5% and a confidence coefficient of 0.9, the result in the study sample was 243 people. This indicates representativeness of the study population, which amounted to 252 students. Figure 1 shows

the percentage of surveyed students of the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology, with division by cycle. The figure indicates that regardless of the field and level of studies, the vast majority of the respondents work while studying.

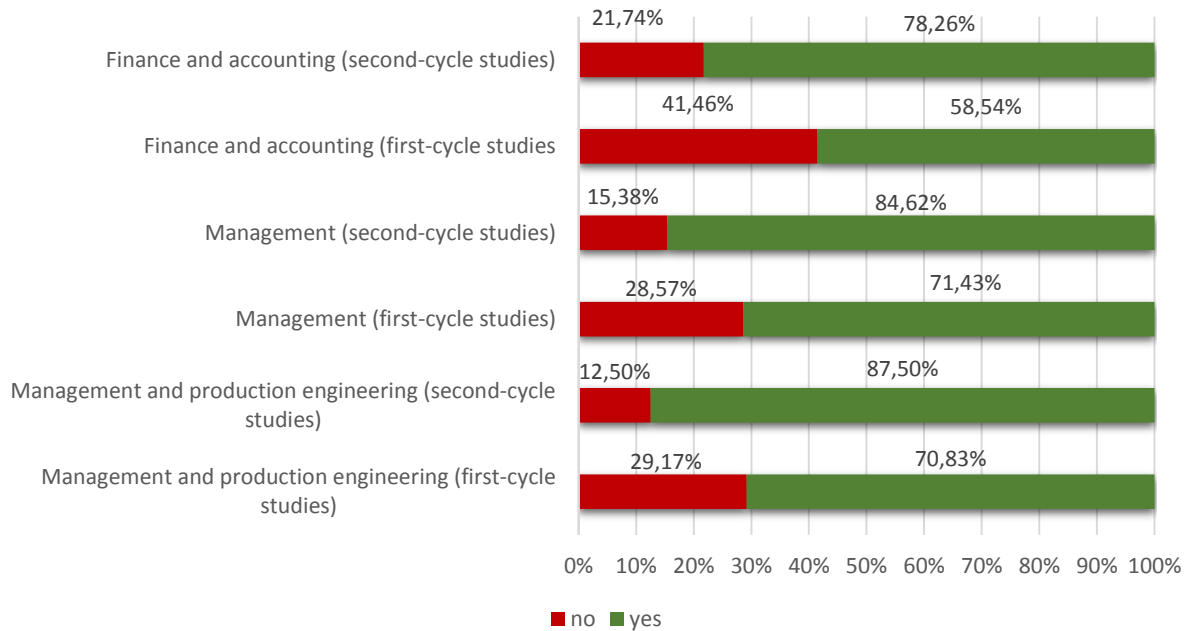


Figure 1. Share of the surveyed students of the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology, divided into students taking and not taking up work while studying [%].

Source: own study.

Students of management and production engineering have the highest salary expectations after graduation, while students of finance and accounting have the lowest expectations. Students of management fall between these groups (Figure 2). The salary expectations of finance and accounting students differ from the average salary expectations by PLN 1,334.69, by PLN 1,251.55 (for management students) and by PLN 1,194.76 (for management and production engineering students). Therefore, the largest deviation occurs for finance and accounting students who on average expect lower earnings than students of other fields. Additionally, the coefficient of variation was calculated, which was for students of FIR - 23.26%, ZA - 21.07% and ZIP - 17.56%. The differences between salary expectations for all fields of study are therefore low and indicate homogeneity of the population.

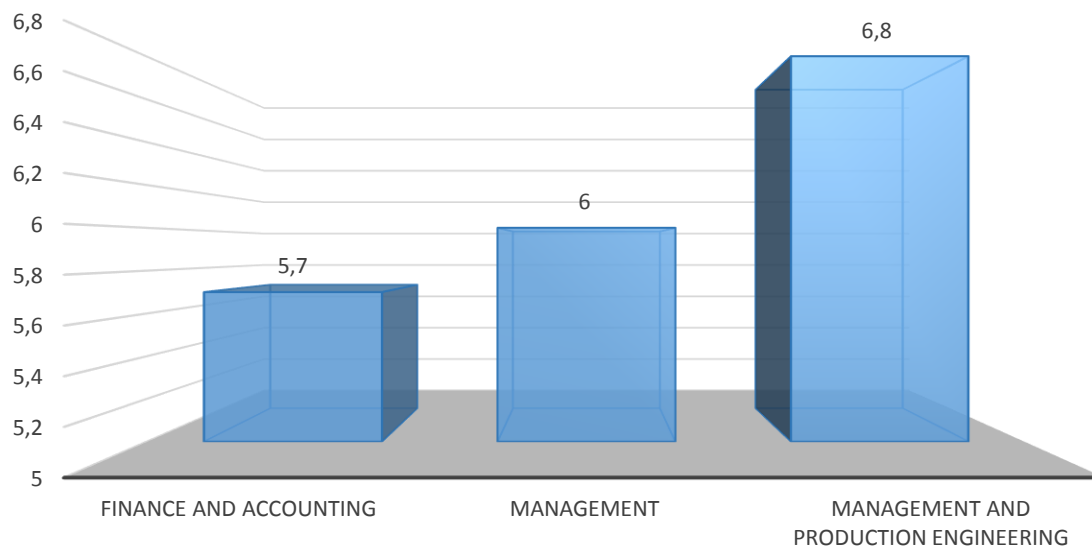


Figure 2. The average salary expectations of the students of the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology [in thousands].

Source: own study.

Figure 3 shows the percentage of working students divided by the field of study, including the information on how many of the students work in their profession. The results indicate that students of management in the highest percentage do not work in their profession (over 60%). The smallest disproportion between students who work and do not work in their profession is observed in finance and accounting. The largest group of people working in their profession are students of management and production engineering - 63.64%, followed by students of finance and accounting - 57.58%.

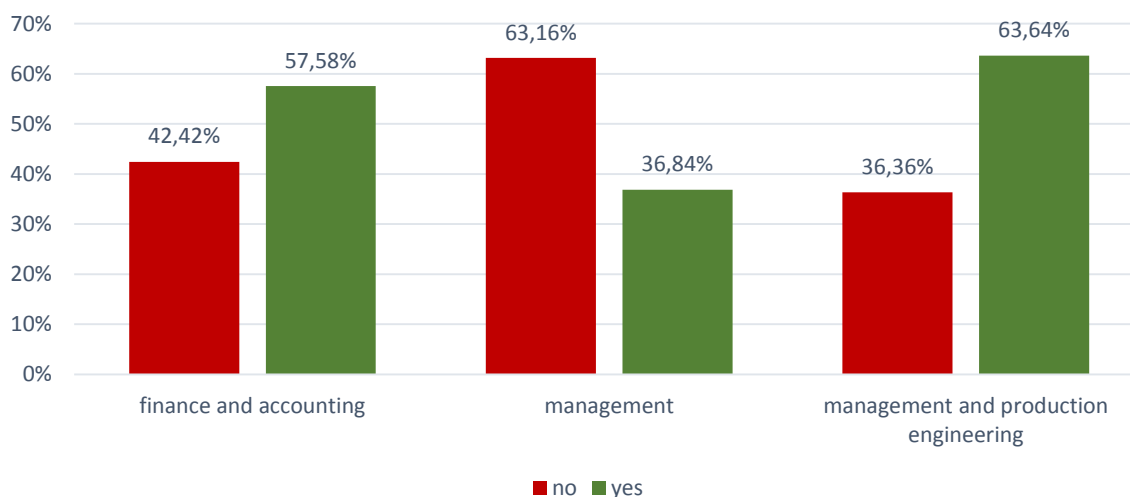


Figure 3. Share of the surveyed students of the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology working and not working in their profession while studying [%].

Source: own study.

The study results show that most people work already during their first-cycle studies (Figure 1). However, first-cycle students are a larger group than second-cycle students. Among second-cycle students, most management and production engineering students (as many as -

90.48%) work in their profession; this number is slightly smaller for finance and accounting students - 72.22%. Among first-cycle students, about half of the respondents, regardless of the field of study, do not work in their profession. Students of management present the highest values in this respect - 68.57% (Figure 4-6).

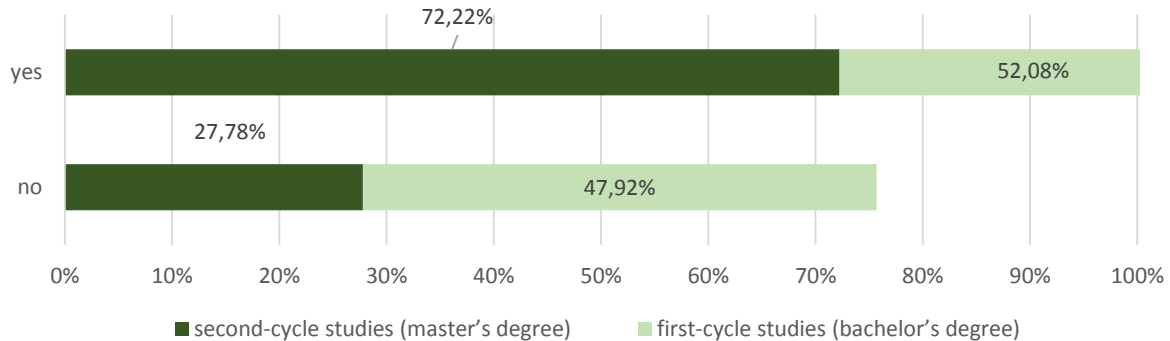


Figure 4. Share of the surveyed students of finance and accounting of the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology working while studying, taking into account whether they work in the profession and cycle of studies [%].

Source: own study.

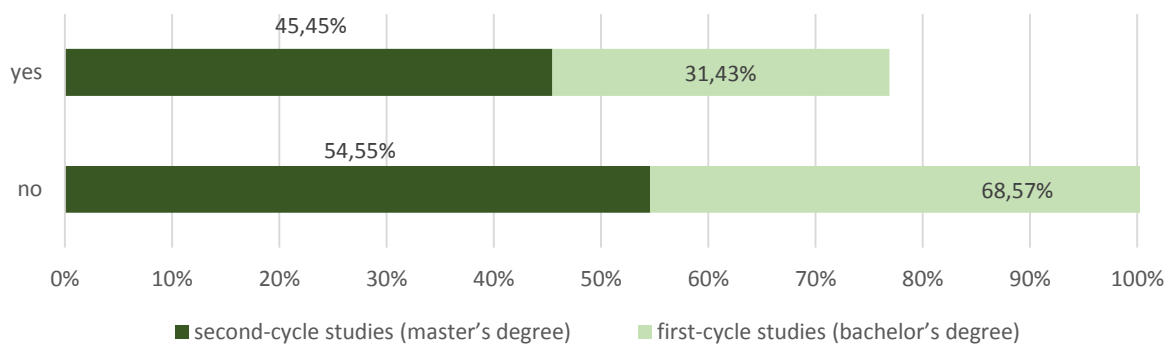


Figure 5. Share of the surveyed students of management of the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology working while studying, taking into account whether they work in the profession and cycle of studies [%].

Source: own study.

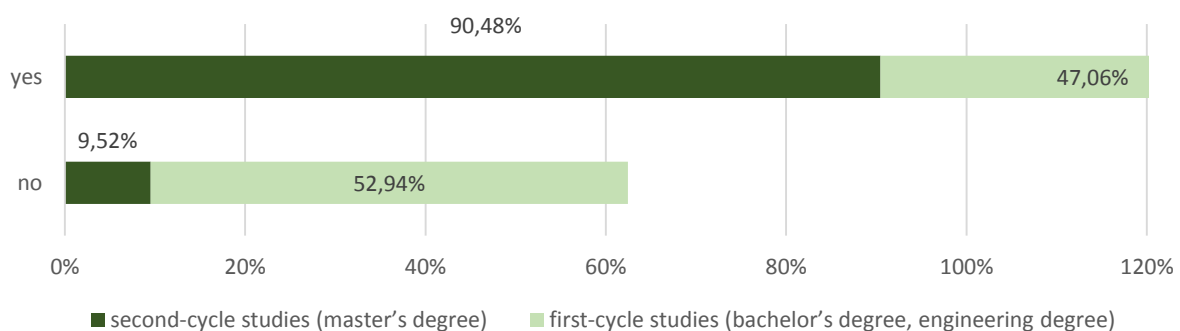


Figure 6. Share of the surveyed students of management and production engineering of the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology working while studying, taking into account whether they work in the profession and cycle of studies [%].

Source: own study.

The chi-square test of independence was used to examine the relationship between salary expectations and the completed field of study. Three level of salary expectations were adopted: low (PLN 3000-5000 gross), medium (PLN 5000-7000 gross) and high (PLN 7000-8000 gross and above). Figure 7 shows salary expectations of the students. There is a relationship between salary expectations and the field of study, and it is statistically significant. The result of chi-square test was 124.11, which exceeds the critical value - 9.48 (read from the chi-square distribution tables) with the significance level of 0.05 and 4 degrees of freedom (Table 2). These data are the basis for rejecting the null hypothesis in favour of the alternative one. Statistically, this is a significant relationship, salary expectations depend on the field of study.

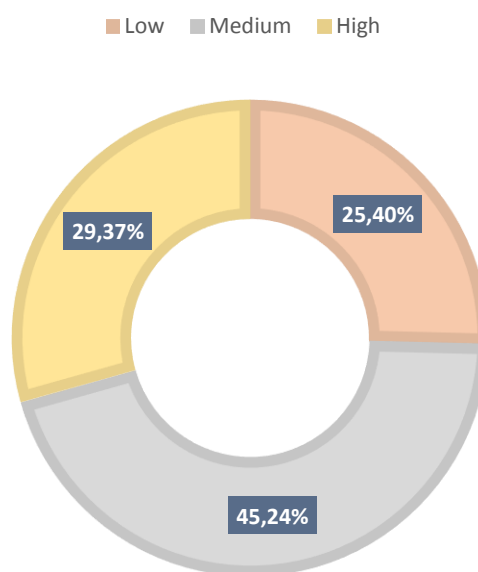


Figure 7. The level of salary expectations among the students of the Faculty of Management of the Jan and Jędrzej Śniadecki Bydgoszcz University of Technology - after graduation [%].

Table 2.

Financial expectations of the students of the Faculty of Management

Expectation level	low	medium	high
field of study	PLN 3000-5000 gross	PLN 5000-7000 gross	PLN 7000-8000 gross and above
finance and accounting	38	45	22
management	19	40	16
management and production engineering	7	29	36
total	64	114	74

Source: own study.

4. Conclusions

Literature sources present benefits from having higher education, such as higher wages and a decreasing unemployment rate. There are grounds to conclude that graduates of economics achieve the fastest return on education expenditure, at the same time, their salary is at an average

level. Moreover, the number of years of education is a key factor of success on the labour market, especially in terms of future income.

The research results show that 178 students take up jobs while studying, which constitutes over seventy percent of the respondents (70.63%). This indicates changes in the labour market, where the market demand for young people with both education and experience is clearly visible. The largest number of respondents in absolute terms, both employed and not working, are students of finance and accounting (first and second-cycle studies).

The survey results indicate that students of management and production engineering have the highest salary expectations after graduation, while students of finance and accounting have the lowest expectations. Students of management, however, fall between these groups.

The salary expectations of finance and accounting students differ from the average salary expectations by PLN 1334.69, by PLN 1251.55 (for management students) and by PLN 1194.76 (for management and production engineering students). Therefore, the largest deviation occurs for finance and accounting students who on average expect lower earnings than students of other fields. This means that the disproportion between salary expectations may be blurred, depending on the situation.

Interestingly, students of management in the highest percentage do not work in their profession (over 60%). The smallest disproportion between students who work and do not work in their profession involves finance and accounting students - 57.58%. The largest group working in their profession are students of management and production engineering - 63.64%, while the least numerous group are students of management - 36.84%.

Second-cycle students have the largest share in the group of working students. However, second-cycle students constitute a smaller group than first-cycle students. Among first-cycle students, management students are the most numerous working group - as many as 71.43%, and slightly less - management and production engineering students - 70.83%. The hypothesis that students of finance and accounting have higher salary expectations than students of other fields has been refuted. The study showed that students of management and production engineering have higher salary expectations than students of management and students of finance and accounting.

There is a relationship between salary expectations and the field of study, and it is statistically significant. The result of chi-square test was 124.11, which exceeds the critical value of 9.48 (chi-square distribution tables), with the significance level of 0.05 and 4 degrees of freedom. This is a basis for rejecting the null hypothesis in favour of an alternative one. The assumption that 66% of students work has been confirmed. Over 70.63% of students work (less than every second student).

References

1. Adamczyk, A., Jarecki, W. (2008). Szacowanie wewnętrznej stopy zwrotu inwestycji w wyższe wykształcenie. *Gospodarka Narodowa. The Polish Journal of Economics*, vol. 228, no. 11-12, pp. 77-93.
2. Baron-Polańczyk, E., Klementowska, A. (2018), *Od „ryнку pracodawcy” do „ryнку pracownika” – zawody deficytowe w ujęciu ogólnokrajowym i regionalnym*. Społeczności Lokalne. Studia Interdyscyplinarne, p. 199.
3. Creed, P.A, French, J., Hood, M. (2015). Working while studying at university: The relationship between work benefits and demands and engagement and well-being. *Journal of Vocational Behavior*, 86, 48-57, 10.1016/j.jvb.2014.11.002] 19.12.2023
4. Devlin, M., James, R., Grigg, G. (2008). Studying and working: A national study of student finances and student engagement. *Tertiary Education and Management*, 14, 111-122, 10.1080/13583880802053044] 19.12.2023
5. Jarecki, W. (2006). Okres zwrotu indywidualnych inwestycji w wyższe wykształcenie. *Gospodarka Narodowa. The Polish Journal of Economics*, vol. 208, no. 5-6, pp. 23-31.
6. Jurczak, K. (2021). Wynagrodzenia osób z różnym wykształceniem w 2020 roku. OBW.
7. Kryńska, E. (2003). *Elastyczne formy zatrudnienia i organizacji pracy a popyt na pracę w Polsce*. Warszawa: Instytut Pracy i Spraw Socjalnych.
8. Manthei, R.J., Gilmore, A. (2005). The effect of paid employment on university students' lives. *Education and Training*, 47, 202-215, 10.1108/00400910510592248] 19.12.2023
9. *Mechanizmy decyzyjne ludzi młodych przy wyborze kierunków kształcenia* (2009). *Raport z badań*. Lublin: Wojewódzki Urząd Pracy w Lublinie, pp. 6-7.
10. Oficjalna Strona Internetowa Metropolitan State University of Denver, <https://www.msudenver.edu/10-benefits-of-higher-education/?fbclid=IwAR0WkHVHEwR8HX40yq9xatUU8-k19fgNNDG3AroXd19JM2FnIt1Baf17v5I>, 12.14.2023.
11. Oficjalna Strona Internetowa Politechniki Bydgoskiej, <https://pbs.edu.pl/pl/kandydat/oferta-dydaktyczna/studiuj-i-pracuj>, 4.11.2023.
12. Pracuj.pl. *Oczekiwania i potrzeby pracowników w zmieniających się warunkach 2023 roku*, <https://poradydlafirm.pracuj.pl/oczekiwania-pracownikow-wobec-pracodawcytrendy/#:~:text=Potrzeby%20pracownik%C3%B3w%20mo%C5%BCna%20podsumowa%C4%87%20czterema%20has%C5%82ami%3A%20stabilizacja%2C%20godne,transparentno%C5%9Bci%C4%85%20i%20cyfryzacja%C4%85.%20Potrzeby%20pracownik%C3%B3w%20w%202023%20roku>, 19.09.2023.
13. Radło, M.J. (ed.) (2007). *Jak realizować Strategię Lizbońską w regionach?* Warszawa: Instytut Badań nad Gospodarką Rynkową, p. 8.

14. Rajeev, D. (2014). Working (and studying) day and night: Heterogeneous effects of working on the academic performance of full-time and part-time students. *Economics of Education Review*, Vol. 38, p. 38, <https://doi.org/10.1016/j.econedurev.2013.10.004>, 20.09.2023.
15. Wiśniewski, Z. (2004). Rynki pracy w przyszłości – deregulacja a zatrudnienie. In: S. Borkowska (ed.), *Przyszłość pracy w XXI wieku*. Warszawa: Instytut Pracy i Spraw Socjalnych, pp. 287-288.