




Determination of the importance of job offer characteristics by students of economic studies: factor analysis

GABRIELA WRONOWSKA

Krakow University of Economics, College of Economics, Finance and Law, Department of Economic Theory, ul. Rakowicka 27, 31-510 Krakow, Poland

✉ wronowsg@uek.krakow.pl

 orcid.org/0000-0001-9519-3690

Abstract

Motivation: The paper addresses the current subject matter related to the students' activity in the labour market and constitutes a part of the current research trend related to students' search for employment.

Aim: The paper presents four research questions: What is important to students of economic studies in a job? What job offers do students of economic studies look for? Which characteristics of a job offer are important for students of economic studies and why? Is there a difference in the expectations of students of economic studies regarding job offers, which is determined by gender, age, place of residence, type of study and source of income? In order to obtain data, an online questionnaire was developed and filled out by students of the Cracow University of Economics (N=756). The search for employment is based on individual preferences, but the survey can identify those that are common to the surveyed group of students. In order to analyze the collected data the Factor Analysis was implemented, with-in which the Principal Components Analysis method was used. The rotation method and the scree criterion were used to determine the number of factors. Next, the factor analysis was used to show the differences in the answers given by students, depending on the variables adopted to characterize the study group.

Results: Based on the results of the factor analysis, it was confirmed that the age, gender, place of residence, educational level and source of income of the surveyed students have an impact on the employment choices they make. The conclusions resulting from the study are of cognitive and applicable nature, especially for employers and recruiters who, with



this knowledge, can react flexibly and prepare accordingly to attract and hire employees from the generation “Z”.

Keywords: factor analysis; students; job attributes; labour market
JEL: I25; J24; J64

1. Introduction

The subject of students’ activity in the labour market is taken into consideration in the literature quite frequently, and it is possible to point to certain research areas that dominate in these studies. Due to the dynamically changing conditions of the labour market itself, the issues of entering into the labour market (transition), the search for employment, the adjustment of the level of skills and qualifications to the performed job, the hierarchy of values at work, motivations while taking up employment by students, the role of universities in this process and career development remain open and are the subject of research by many authors.

After reading the thematic studies, a large number of questions arose, the answers to which are ambiguous or non-existent. These became the inspiration for the present research. Thus, the paper presents four research questions:

1. What is important to students of economic studies in a job?
2. What job offers do students of economic studies look for?
3. Which characteristics of a job offer are important for students of economic studies and why?
4. Is there a difference in the expectations of students of economic studies regarding job offers, which is determined by gender, age, place of residence, type of study and source of income?

This paper constitutes a part of the current research trend related to students’ search for employment, and conclusions resulting from it can be of cognitive and applicable nature.

Young people, graduates of higher education institutions, enter the labour market in Poland and begin their professional careers on a regular basis (Statistics Poland, 2021). Increasingly, it happens that they already have experience in the labour market related to their first job, which they gained during the time of their university studies. However, it is only after completing their formal education that they begin to fully participate in the labour market.

The job search is a process that can follow a variety of scenarios that are different from one another in terms of, e.g. access to information, the duration and stages of the recruitment process, the size and type of the hiring company, or the job offer requirements preferred by the job seeker.

Also, the job offer itself should seem interesting to the seeker and attract attention. Job offers vary widely, so it is quite difficult to compare them and identify the one that could be considered exemplary or the best for young employees. This difficulty is related to the diverse and individual preferences of job seekers, which are based on needs, professed values or preferred lifestyles.

The purpose of this study is to present students' preferences related to the attractiveness of the job offer on the basis of selected characteristics of the offer and to identify the important ones that have a decisive influence on the final decision to take up employment. In addition, on the basis of the factor analysis it was examined whether gender, age, place of residence, type of studies and source of income of the surveyed students have an impact on the choices they make.

2. Literature review

Labour market expectations related to university graduates in relation to the level of their knowledge, skills and qualifications are often divergent. This is reflected in unfavourable phenomena called overeducation and undereducation (Duncan & Hoffman, 1981, pp. 75–86). The level and intensity of these phenomena has been studied by authors in various countries, where labour markets are characterized by different levels of development and specifications (see Alpin et al., 1998, pp. 17–34; Büchel & Mertens 2004, pp. 803–316; Hung, 2008, pp. 125–137; Kiker et al., 1997, pp. 111–125; Pauw et al., 2008, pp. 54–57; Rubb, 2013, pp. 741–751; 2020, pp. 263–274). The occurrence of these phenomena in the labour market testifies to the mismatch between the offer of higher education institutions and the requirements and needs of the dynamically changing labour market as well as the asymmetry of information among labour market participants (Kar & Datta, 2015, pp. 39–86).

Analyses of the level of competencies of a selected group of students facilitating transitions in the Polish labour market were conducted, as one of the first, by Piróg (2016b, pp. 221–236). The author emphasizes that there is a wide range of competencies of a diverse nature that affect finding an attractive job compatible with education. In another study, Piróg (2016a, pp. 144–157) analyzes the different ways in which students transit into the labour market, emphasizing the multiplicity of paths related to students' individual hierarchy of needs and professed values, their lifestyles and their ideas about their future careers and private lives. The author also points out the important role of universities in the transition process and recognizes the shortcomings of the existing education system in Poland.

Entering the labour market, starting employment and, in this context, the right fit in various aspects is analyzed in the work of Grosemans et al. (2017, pp. 68–84). The authors emphasize that the right fit in the areas of competence and work environment, among others, has an impact on career development and personal life.

The issue of employers' expectations related to universities and students is present in the research of Nicolescu & Pacaronun (2009, pp. 17–33), where the opinions of Romanian employers on the competencies possessed by students and used in the labour market were analyzed in the context of the quality

of higher education services. The existence of large discrepancies in this regard was indicated.

Tymon (2013, pp. 841–856), on the other hand, draws attention to the role of higher education institutions in the process of preparing students to successfully enter the labour market, indicating areas for improvement. A survey carried out among students of first-cycle studies showed that there is a disparity among them in their perception of the need to engage in acquiring skills that would help them to successfully find a job. The author concluded that students are not fully aware of the great importance of these activities. They underestimate their impact on the effectiveness of the transition process.

Tomlinson (2007, pp. 285–304) focuses his research on questions related to the factors determining students' perceptions and actual actions related to employment issues. He points out the positive importance of professional skills, interpersonal skills, communication skills and social support in the employment process. A continuation of selected themes was present in the work of Jackson & Tomlinson (2020, pp. 435–455). The authors analyze British and Australian students' perceptions of the conditions of the modern labour market as well as their employability, professional activity and career development in the context of their competence advantages. Byrne (2022, pp. 159–176), on the other hand, focuses on the issue of the employability of British students from the employer's point of view. He analyzes the expectations of the demand side of the labour market in the context of the skills and qualifications that the surveyed students possess. The author highlights the inadequacies of the education system in preparing students to enter the labour market. The cited work lacks a picture of the process of labour market entry which would be reflecting students' expectations.

The expectations of students in the labour market were analyzed in the work of Braun & Brachem (2015, pp. 574–595). Based on the research, it was indicated what students do at work, what type of competencies they use, and what type of competencies employers most often expect from students. Expectations that students of social sciences have related to future professional work are the subject of a study by Frankowska et al. (2015, pp. 209–222). The authors point to students' key expectations related to finding a good and profitable job after university studies which prepare them well for the participation in the labour market. A realistic perception of market conditions allows students to reduce concerns about unemployment and potential advancement of the professional career. The authors' considerations are set in the conditions of sustainable development, which they believe will be determined by the behaviour and attitudes of the generation entering the labour market.

Kureková & Žilinčíková (2016, pp. 1–14) address the determinants of student employment in Slovakia based on different patterns. Student work is most often associated with flexible forms of employment while, it seems, how students want to work depends primarily on their individual preferences. In this



paper, the authors show the differences between flexible forms of employment and student work.

Labour markets are characterized by a different level of institutional development and a level of flexibility (Canny, 2002, pp. 277–301; Di Porto et al., 2017, pp. 1–22). It is worth noting that the analyzed labour market issues are universal in their nature, which means that they occur in labour markets in many countries, while their nature and intensity vary. Students entering the labour market belong to the youngest generation in the labour market, the Generation Z. They have a different approach to life, work, development, career, building relationships in a team, loyalty to the employer than older generations (Bieleń & Kubiczek, 2020; Grecíková & Vojtovic, 2017, pp. 557–563). This implies necessary changes related to the approach of employers to the new generation. It seems that employers should respond flexibly and be prepared to hire employees with specific job requirements. The job offer should include such attributes that, in the case of young workers with higher education, are important, attractive and determine their decisions related to employment. It is up to the employer to develop effective solutions and incentives to attract and retain demanding Generation Z employees. The effectiveness of these solutions also depends on a sound knowledge of students' expectations and preferences when choosing a job. Research confirms the significant impact of the nature of the job offer, its monetary and non-monetary characteristics, on students' and graduates' labour market behaviour related to job search and selection, job change, and job satisfaction, which has a positive impact on private life (see Baum & Kabst, 2013, pp. 1393–1417; Demell, 2019, pp. 473–499; Edwards & Quinter, 2011, pp. 81–87; Gallie et al., 2012, pp. 806–821; Mangham et al., 2009, pp. 151–158; Meyerding, 2017, pp. 219–236; Sibson, 2011, pp. 50–60; Stebleton, 2007, pp. 290–331).

The importance of the characteristics of the job offer for students is also presented in their work by Gyarteng-Mensah et al. (2022, pp. 159–178), emphasizing that employers should focus not only on the financial aspects of the job, but also on the non-monetary characteristics of the job offer. They should learn about the preferences of students and graduates in order to arouse their interest and attract them to the job. In addition, the authors stress that “However, and hitherto, scant research investigation has been conducted in most developing countries to uncover key considerations that lie behind an individual's career preferences using various job characteristics. This area delineated upon requires urgent research attention to assist employers and policymakers who seek to attract and retain the best qualified candidate,” which reinforces the belief that research and knowledge in this area need to be developed and expanded.

3. Methods

In order to analyze the collected data the Factor Analysis (FA) was implemented, within which the Principal Components Analysis (PCA) method was used (see Albaum, 1997, pp. 331–348; Kim & Mueller, 1978; Walesiak & Bak, 1997, pp. 75–87). The rotation method and the scree criterion were used to determine the number of factors. The Statistica package was used for the calculations. At first, the number of factors was determined. The purpose of such a procedure is to identify the set of factors that will most clearly explain the information contained in the primary variables (see Grabiński, 1992; Hair et al., 1998; Szttemberg-Lewandowska, 2008). Next, the factor analysis was used to show the differences in the answers given by students, depending on the variables adopted to characterize the study group, i.e.: gender, age, place of residence, educational level and source of income. Data for the analysis were collected by conducting an online survey, which was filled out by 756 students of the Cracow University of Economics, who were in their 3rd year of first-cycle studies or continued second-cycle studies. The survey was conducted in June 2021. The surveyed students represented all fields of study (Economics, Finance, Law, Management, Quality Sciences, Public Economy and Administration). 57% were city inhabitants. 88% of the surveyed students declared that they were already working professionally, and 57% of the surveyed group declared that they supported themselves through their own work. Women constituted 73% of the respondents. The surveyed students determined the importance of particular characteristics of the offer according to the Likert scale, with a value of -2 meaning that they considered the characteristic to be definitely unimportant, and $+2$ meaning that it was definitely important. In order to describe the job offer, 20 characteristics (variables) were proposed which describe the job in its various aspects, i.e.:

- remote (A);
- stationary (B);
- employment contract (C);
- contract in another legal form (D);
- attractive salary (E);
- bonuses (F);
- training (G);
- flexible working hours (H);
- company size (I);
- based on interesting concepts (J);
- developing, offering promotion (K);
- international environment (L);
- clearly defined range of responsibilities (M);
- good communication with superiors (N);
- good atmosphere (O);
- work life balance (P);



- socially useful (R);
- stable (S);
- compatible with education (T);
- stress-free (U).

The selection was based on the indications of the surveyed students.

4. Results

The above variables were presented to students to assess their level of importance in choosing a job offer. Descriptive statistics of selected variables are presented in Table 1. The variables were ordered according to the mean, according to which good atmosphere (4.76) and attractive salary (4.76) ranked highest, while contract in another legal form (2.42) ranked lowest. The size of the company is also of low importance (3.00). Based on the mean, it can be concluded that students most often indicated such job characteristics as good atmosphere, attractive salary, good communication with superiors, developing and offering promotion, stable, clearly defined range of responsibilities, work life balance and employment contract. Students perceive these as definitely important. Standard deviations for these variables range from 0.51 to 1.07.

In the following part of the study, the main components were determined. Two methods were used below to select the number of principal components. The Kaiser (1960) criterion and the scree test (Cattell, 1966, pp. 245–276) were implemented. The scree criterion was applied in Chart 1.

The curve ceases to be steep at the 5th factor (Table 2). Based on the criterion of eigenvalues and the scree plot, it was decided to leave for further analysis the five components whose eigenvalues were greater than 1. This was followed by an analysis with varimax rotation (Górniak, 1998, pp. 83–102).

The results of the calculations are shown in Table 3. Bold indicates items that form a common factor. The first component explains the most variances, each subsequent component explains less and less. The reliability of the scales formed on the basis of the items combined in the factors was calculated using the Cronbach's alpha measure. All scales have a value above 0.60, and this value is considered acceptable (Sztemberg-Lewandowska, 2008).

They load the following items on factor 1: range of responsibilities, communication with supervisor, work life balance, stability, stress-free, good atmosphere. All variables loading on this factor describe the company's work environment. Thus, this factor was named work environment. The Cronbach's alpha measure amounts to 0.67

They load the following on factor 2: company size, company with interesting concepts, international environment, socially useful work. All of these variables inform about the nature of the company, hence this factor is named company identity. The Cronbach's alpha measure amounts to 0.63.

Factor 3 combines: salary, bonuses, training. It includes monetary and non-monetary components of compensation, hence the name for this factor

is remuneration. Developing work and promotion opportunities load less than 0.5 on this factor, which is why they were not included in this factor.

They load three items on factor 4: stationary work, remote work, work compatible with education. Stationary work and remote work load with different signs, making it impossible to include them in a common scale. The two items do not correlate particularly strongly with each other. Perhaps this has to do with the fact that people may have different preferences as to how work should be performed. This was especially true during the pandemic, when remote work was widely performed. Therefore, respondents may want to work both remotely and stationary. It seems reasonable to break this down into two factors. The first factor 4A was given its name expected work because of the items that compose it, i.e.: stationary work, compatible with education. It is associated with the traditional career path. The Cronbach's alpha measure is low and amounts to 0.28, but this is because there are only two items included in the factor. The second factor 4B was called remote work. This factor was separated due to the fact that remote work has now become a mass phenomenon.

They load 3 items on factor 5: flexible working hours, employment contract and contract in another legal form, with the last two items loading on the factor with different signs. It was therefore decided to separate two factors. The first 5A called temporary work is of a casual work nature, and consists of two items: contract in another legal form and flexible working hours. The Cronbach's alpha measure is low and amounts to 0.29, but this is due to the small number of items included in this factor. Factor 5B was named traditional work and contains one item, i.e. employment contract.

Scales were created on the basis of the factor analysis. Table 4 presents the statistics related to the created scales. The results of the factor analysis can be used to assess the importance for students of the main characteristics of their future work. Factor 1 work environment has the highest importance for the surveyed students (mean: 4.47). Factor 2 related to the company identity occupies the second place. It mainly consists of the job offer features that constitute the specific nature of the company. They depend on the employer, the way work is organized in the company and the informal labour market institutions operating there. Factor 3 remuneration was only in the third place (mean: 4.38), which may mean that it is not the primary and most important tool with which an employer would attract a young employee. It may not be enough to attract young people to the company. Factors 1 and 2 are more important for graduates, and this is information for employers on what and how they can gain a competitive advantage over other companies in the labour market in the process of attracting young employees. Factor 4 and factor 5 are related to the individual preferences of the respondents as to the form of employment and the way of performing work.

In this part of the paper, based on the factor analysis, an attempt was made to answer the questions whether gender, age, place of residence, educational level, and source of income matter in the selection of job offer characteristics?

4.1. Gender vs. perception of job offer characteristics

The formation of preferences related to job offer characteristics represented by women and men is presented first. Table 5 illustrates the results of the survey. The difference between the analyzed participants according to their gender was checked using the Student's t-test. A statistically significant difference was found in the case of factor 1 work environment ($p < 0.01$), factor 4A expected work ($p < 0.05$), factor 5B traditional work ($p < 0.05$). For women, factor 1, i.e. the work environment, will be more important than for men. Women have a greater preference for stationary work that is compatible with their education and socially useful, and they value work based on employment contract, which means that factors 4A and 5B are important to them. This may be due to their social roles and the way they treat professional work differently from men (Barbulescu & Bidwell, 2013, pp. 737–756; Chusmir & Parker, 1991, pp. 325–335). In economic theory, the gender difference in various aspects is very clear in the labour market (Musiał-Karg, 2017, pp. 120–139). This is due to the ascribed and actual role of women outside the labour market, where they perform unpaid, relation-based activities, most often associated with the role of the mother, caretaker, housewife (Zachorowska-Mazurkiewicz, 2016). Women's and men's choice of job offers is based on a different hierarchy of determinants. Interestingly, the genders do not differ in their assessment of the remuneration factor. In contrast, men are more likely than women to want to work remotely. Women clearly prefer to separate their professional life from their work at home, so they prefer stationary work.

4.2. Age vs. perception of job offer characteristics

The following part of the analysis presents a discussion of the results, taking into account the age of the surveyed students. Box plots were used to better illustrate the differences between the analyzed age groups. The surveyed students were divided into five age groups, with the smallest group consisting of the so-called seniors, who are over 40 years old. This group is represented by only 6 cases, so the results obtained should be treated with a great deal of caution. The results for this group are less certain but still interesting, and that is why this group was separated. The largest group (605) is represented by people within the age range of 22–25. The first group (77) is represented by people aged 18–21. The third group (47) is represented by people aged 26–30 and the fourth (21) represented by people aged 31–40.

Factor 1 is important for all age groups, with a clear indication that for people in the over-40 age group, the work environment matters most (Chart 2). Perhaps this has to do with the stage of professional life, more stable, and treating the current job as the final place of employment. Therefore, it is important for this age group that the workplace environment is friendly.

Factor 2 company identity has the highest importance for the 5th group and, in second place, for the youngest survey participants (Chart 3). In the case of seniors, the importance may result from the stage of their professional careers, the stability of their professional lives as well as from working for a prestigious company. The young, on the other hand, when entering the labour market, aspire to get a job in a company with a recognized reputation as soon as possible. The other groups are quite mobile and look for an attractive place of employment for themselves. They are guided also by other factors, not only by the prestige of the company.

Factor 3 remuneration is important for all age groups, and this importance generally increases with age (Chart 4). This may be related to the relationship between the length of work experience and the level of remuneration as well as with realistic salary expectations at the beginning of a professional career. This may be confirmed by the relatively low level of importance of this factor in the case of the first two age groups. Remuneration for respondents is more important than factor 2 company identity, and is as important as factor 1 work environment.

For the 5th group, factor 4A expected work is of the greatest importance (Chart 5). Taking into account the fact that these people are students of second-cycle studies, they expect that their effort and time spent on studying will translate into such a job, where the skills acquired and knowledge gained will be used. They believe this is what will happen, which is why they study (Myjak, 2018, pp. 125–139). For the two youngest age groups, this factor is also quite important. People representing these age groups have just graduated from universities and expect to find a job in line with their education. This factor is less important for those who have already been in the labour market for several years, perhaps due to the fact that their work experience and the performed jobs are often incompatible with their field of study. According to the SW Research (2018), a job compatible with education is the least common job and is difficult to find.

The importance of factor 4B remote work for the first four age groups is at a very similar level (Chart 6). For the two older groups, the phenomenon described by this factor is less important. Perhaps this has to do with the length of work experience and the stationary way of performing work, to which those in the older age groups are accustomed and treat it as their typical way of performing work. Remote work became a necessity during the pandemic, and for older people it was an imposed and new way of working (Leśniak, 2021). It required a transition to a new mode, which could often cause discomfort among older employees as well as many difficulties in adjusting to the new situation resulting from using new technologies required for remote work. For young people in the first two age groups, remote work may have been, more often than in the case of older people, the only or most common form of work they know.

Factor 5A temporary work is less important with age for the surveyed students (Chart 7). The intensity of the phenomenon decreases with age. This



is in line with intuition, since a contract in a different legal form and flexible working hours are often identified with casual, periodic or seasonal work, which is more typical for young people, who often combine study with work. While this is an attractive opportunity for young people still studying, allowing them to combine education with work, it is no longer an attractive idea for seniors. Seniors definitely prefer stability at work. In this context, people in group 4 seem to constitute an interesting group. Their interest in temporary work, which is greater than for seniors and for the younger age group, may be due to the opportunities provided by flexible working hours, which allows one to combine professional work with parental and caretaker responsibilities.

Factor 5A describing the phenomenon of temporary work is a typical example where the intensity of the phenomenon decreases with age.

It is worth noting that the relationship between age and the rating of factor 5B traditional work is the opposite of the one for the previous factor 5A temporary work (Chart 8). Factor 5B traditional work is more important for those between the ages of 26 and 30, and for those over 40. Up to the age of 22, typically all respondents are still students, although already continuing second-cycle studies with prospects for stability. For young people under 25, an employment contract is not as important as for older students. This may be due to several reasons. Firstly, those entering the labour market start looking for the kind of employment that suits them best. This may involve being employed in several jobs, sometimes more than ten, usually for a short period of time in order to check what works best for them, where they feel comfortable and where they see themselves in a few years. Gaining new experience in the labour market through high turnover is usually based on temporary contracts, and the beginning of a professional career is usually dynamic. People who have been active in the labour market for several years and are tired of searching need the sense of stability and job security that is guaranteed in the case of an employment contract. So for people in the 3rd group, the importance of traditional work is growing. This may also have to do with the fact that in order to take out a mortgage to buy your own apartment, you need an employment contract which confirms the stability and long duration of employment. Due to the regulations regarding mortgage lending in Polish banks, people younger than 25 are usually not creditworthy, while people over 40 are very often beyond the possibility of obtaining a long-term loan due to their age (ZBP, 2018). For older people, who are already at a different stage in their professional careers, work based on an employment contract is a guarantee of job security and stability. Experimenting in the labour market is no longer interesting for this group of respondents. At this age, there is a high awareness of one's own value, of possessed skills and experience (Newport, 2012). Therefore, the stage of searching is over and the stage of career development in a familiar place offering job security follows.

4.3. Place of residence vs. perception of job offer characteristics

Next, Table 6 presents the results for the surveyed group taking into account the place of residence. The respondents were divided into two groups. The first is represented by those who live permanently in the countryside. They account for 43% of the respondents. The second group (57%) is represented by students who reside permanently in the city.

The difference between the respondents according to their place of residence was checked using the Student's t-test. A statistically significant difference was found for factor 2 company identity ($p < 0.1$), factor 3 remuneration ($p < 0.05$), factor 4B remote work ($p < 0.01$).

The importance of the characteristic described by factor 2 called company identity is at a higher level in the case of students living in cities than in the case of those living in the countryside. To them it is more important where they work, with whom, and what the company is. Also factor 4B called remote work is of greater importance to them, and especially the possibility of flexible working hours. Factor 3 remuneration, which includes monetary and non-monetary compensation for work, is also more important to students living in cities, especially the possibility of receiving bonuses, which was confirmed by checking differences at the level of particular variables.

4.4. Educational level vs. perception of job offer characteristics

The next part of the study refers to checking for differences depending on the type of studies. The research sample was divided into two groups. The first group consisted of students of first-cycle studies (31%), the second group (69%) consisted of students of second-cycle studies (Table 7).

The difference between the respondents according to their educational level as checked using the Student's t-test. A statistically significant difference was found for factor 3 remuneration ($p < 0.01$), factor 4B remote work ($p < 0.05$), factor 5B traditional work ($p < 0.05$).

The phenomenon described by factor 3 remuneration is more important for students who are in the second-cycle level of education. The possibility of working remotely (factor 4B) is also more important for this group, as this provides the opportunity to combine studies with work or family responsibilities. For them, an employment contract (factor 5B) is also important because it provides security and stability of employment.

4.5. Source of income vs. perception of job offer characteristics

The following section of the study presents the results for the surveyed group, taking into account the main, declared source of income. The analyzed participants were divided into two groups. The first group included those who rely on financial support from others, including family, care-givers and scholar-

ships. The second group included those who declared their source of income is their own work. This was 57% of the respondents (Table 8).

The difference between the respondents according to their source of income was checked using the Student's t-test. A statistically significant difference was found for factor 3 remuneration ($p < 0.05$), factor 5A temporary work ($p < 0.01$), factor 5B traditional work ($p < 0.01$).

People who make a living from their own work value the components of remuneration described in factor 3 more highly, and it is important for them to have a secure and stable job, which is described by factor 5B. Those who do not make a living from their own work and can rely on the financial support from third parties value higher the casual work described by factor 5A temporary work, which is also confirmed by the research report (SW Research, 2018). An additional analysis verified that there is variation in factor 3 only in the case of the bonuses variable. In the case of factor 5A, variation occurs on all variables included in it.

5. Conclusion

The factors that are important to students of economic studies, and on the basis of which they make employment decisions, were identified based on the factor analysis. According to the order of their importance, these are: work environment, company identity, remuneration, expected work, remote work, temporary work and traditional work. The results of the analysis gave a clear answer to the research questions number 1, 2, and 3 posed in the paper. Using the results of the factor analysis, it was verified and confirmed that the gender, age, place of residence, type of studies and source of income of the surveyed students affect their decisions related to job choice. Thus, the research question number 4 was answered positively. The analysis shows that there is no so-called “model job offer” for a “typical student of economic studies.” Among the key conclusions obtained in this part of the study, it can be pointed out that:

- factor 1 work environment is most important for women and those in age over 40;
- factor 2 company identity is most important for permanent city residents, seniors and those in age 18–21;
- factor 3 remuneration is valued most highly by permanent city residents, students of second-cycle studies, those supporting themselves during studies as well as those in age over 40;
- factor 4A expected work is valued by women and those in age over 40;
- factor 4B remote work is valued most highly by permanent city residents, students of second-cycle studies and those in age 26–30;
- factor 5A temporary work is most highly valued by the youngest survey participants who are in age 18–21 and age 22–25, and those who receive financial support from third parties during their studies;

- factor 5B traditional work is most important for women, students of second-cycle studies, those supporting themselves, and those in age 26–30 and age over 40.

The applicable nature of the research may be useful to employers, recruiters and universities. The conclusions of the analysis are cognitive in nature, thus enriching the literature and providing ideas for further research and discussions.

There are some weaknesses about the conducted survey related to the fact that the questionnaire was completed online. It may be possible that not all the relevant characteristics of job offers were included, and in the case of some variables the groups were very small (e.g. the oldest cohort for the age variable), which resulted in formulating very cautious conclusions. In addition, the way the results are presented does not take into account the possible interaction between variables. Directions for further research will be related, in particular, to the methodological aspect, i.e. the search for a more comprehensive research method and more in-depth conclusions explaining the reasons for the existing variation in students' preferences related to the choice of employment.

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Appendix

Table 1.
Descriptive statistics of students' ratings of selected job characteristics

Variable	Mean	Median	Standard deviation
good atmosphere (O)	4.76	5	0.53
attractive salary (E)	4.76	5	0.51
good communication with superiors (N)	4.70	5	0.55
developing, offering promotion (K)	4.60	5	0.61
stable (S)	4.59	5	0.65
clearly defined range of responsibilities (M)	4.43	5	0.78
work life balance (P)	4.40	5	0.81
training (G)	4.31	4	0.78
flexible working hours (H)	4.28	4	0.88
employment contract (C)	4.21	5	1.07
stress-free (U)	3.92	4	1.01
bonuses (F)	3.85	4	1.02
compatible with education (T)	3.74	4	1.19
international environment (L)	3.44	4	1.20
socially useful (R)	3.37	3	1.18
stationary (B)	3.27	3	1.17
remote (A)	3.20	3	1.29
based on interesting concepts (J)	3.18	3	1.16
company size (I)	3.00	3	1.24
contract in another legal form (D)	2.42	2	1.25

Source: Own preparation.

Table 2.
Eigenvalues and percentage of variance explained by successive components obtained by the principal components analysis

No.	Eigenvalue	% of variance	Cumulative eigenvalue	Cumulative % of variance
1	3.722	17.724	3.722	17.724
2	1.927	9.177	5.649	26.901
3	1.692	8.058	7.341	34.960
4	1.521	7.245	8.863	42.205
5	1.155	5.500	10.018	47.705

Source: Own preparation.



Table 3.
Factor loadings obtained after rotation of variables using the varimax method

Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
remote (A)	0.0802	0.0743	0.3446	-0.6089	0.1209
stationary (B)	0.0535	0.0672	0.1027	0.7184	0.0170
employment contract (C)	0.1121	0.0627	0.2647	0.0783	-0.7430
contract in another legal form (D)	-0.0246	-0.0045	-0.0503	0.0935	0.7963
attractive salary (E)	0.1943	-0.1991	0.6184	-0.0793	-0.1051
bonuses (F)	0.1113	0.1045	0.7712	-0.0784	-0.1585
training (G)	0.0107	0.2473	0.6494	0.2138	-0.0492
flexible working hours (H)	0.2081	0.2358	0.2281	-0.2774	0.5030
company size (I)	0.0621	0.5364	0.1672	0.1436	0.0688
based on interesting concepts (J)	0.0444	0.7994	0.0530	-0.0098	0.0090
developing, offering promotion (K)	0.0096	0.3651	0.4663	0.1031	-0.1198
international environment (L)	-0.0718	0.5973	0.3609	-0.1169	0.0423
clearly defined range of responsibilities (M)	0.5013	0.0311	0.1581	0.2580	0.0705
good communication with superiors (N)	0.6369	0.1262	0.1719	0.0291	-0.1136
good atmosphere (O)	0.6698	0.0433	0.0197	0.0114	-0.0324
work life balance (P)	0.5753	0.2991	0.0418	-0.2871	-0.0139
socially useful (R)	0.3581	0.6566	-0.0656	0.0850	-0.0873
stable (S)	0.5137	0.0317	0.1398	0.2474	-0.3735
compatible with education (T)	0.2021	0.0833	0.1615	0.5094	0.0267
stress-free (U)	0.6678	0.0143	0.0663	0.0308	0.0468
explained variance	2.4430	2.1461	2.1427	1.5611	1.6830
share in explained variance	0.1221	0.1073	0.1071	0.0780	0.0841

Source: Own preparation.

Table 4.
Descriptive statistics of the scales

No.	Factor	Mean	Median	Standard deviation	Coefficient of variation	Skewness	Kurtosis
1	work environment	4.47	4.666	0.45	10.20	-1.14	1.21
2	company identity	3.25	3.250	0.83	25.54	-0.30	-0.12
3	remuneration	4.38	4.500	0.52	11.88	-0.92	0.87
4A	expected work	3.51	3.500	0.90	25.73	-0.48	-0.11
4B	remote work	3.20	3.000	1.29	40.53	-0.29	-0.93
5A	temporary work	3.35	3.500	0.83	24.88	-0.20	-0.18
5B	traditional work	4.21	5000	1.07	25.57	-1.41	1.23

Source: Own preparation.



Table 5.
Preferences of women and men related to job offer characteristics for factors

Factor	Mean women	Mean men	t	p	Standard deviation women	Standard deviation men
work environment	4.53	4.26	7.013	0.000	0.40	0.54
company identity	3.27	3.18	1.272	0.203	0.81	0.87
remuneration	4.39	4.33	1.392	0.164	0.51	0.54
expected work	3.54	3.38	2.088	0.037	0.87	0.97
remote work	3.15	3.34	-1.717	0.086	1.29	1.30
temporary work	3.34	3.38	-0.568	0.570	0.84	0.81
traditional work	4.27	4.04	2.489	0.012	1.05	1.13

Source: Own preparation.

Table 6.
Students' preferences related to job offer characteristics for factors depending on the place of residence

Factor	Mean countryside	Mean city	t	p	Standard deviation countryside	Standard deviation city
work environment	4.47	4.47	0.006	0.99	0.43	0.47
company identity	3.18	3.30	-1.887	0.05	0.81	0.84
remuneration	4.33	4.42	-2.152	0.03	0.52	0.51
expected work	3.55	3.47	1.223	0.22	0.88	0.91
remote work	3.05	3.32	-2.836	0.00	1.30	1.28
temporary work	3.32	3.37	-0.914	0.36	0.85	0.81
traditional work	4.28	4.18	0.911	0.36	1.06	1.08

Source: Own preparation.

Table 7.
Students' preferences related to job offer characteristics for factors depending on educational level

Factor	Mean first-cycle	Mean second-cycle	t	p	Standard deviation first-cycle	Standard deviation second-cycle
work environment	4.46	4.47	-0.12	0.89	0.44	0.46
company identity	3.25	3.24	0.24	0.80	0.76	0.86
remuneration	4.28	4.43	-3.57	0.00	0.54	0.50
expected work	3.47	3.52	-0.70	0.47	0.86	0.92
remote work	3.06	3.26	-1.97	0.04	1.31	1.28
temporary work	3.40	3.33	1.01	0.31	0.79	0.85
traditional work	4.09	4.27	-2.10	0.03	1.11	1.06

Source: Own preparation.

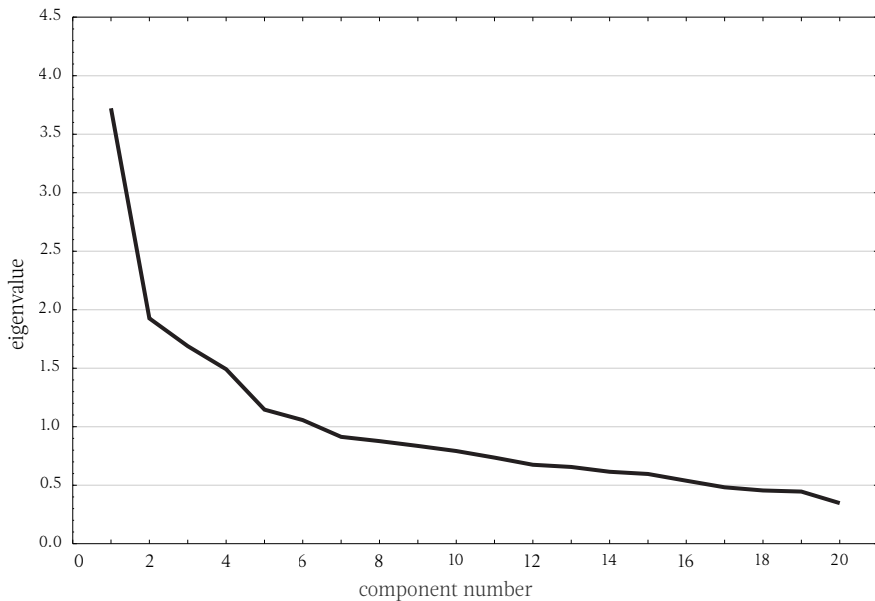


Table 8.
Students' preferences related to job offer characteristics for factors depending on sources of income

Factor	Mean gr. 1	Mean gr. 2	t	p	Standard deviation gr. 1	Standard deviation gr. 2
work environment	4.44	4.47	-0.750	0.45	0.46	0.45
company identity	3.24	3.24	-0.056	0.95	0.76	0.86
remuneration	4.33	4.42	-2.042	0.04	0.53	0.51
expected work	3.53	3.48	0.704	0.48	0.84	0.95
remote work	3.11	3.22	-1.129	0.25	1.21	1.35
temporary work	3.51	3.23	4.312	0.00	0.77	0.85
traditional work	4.09	4.32	-2.811	0.00	1.13	1.03

Source: Own preparation.

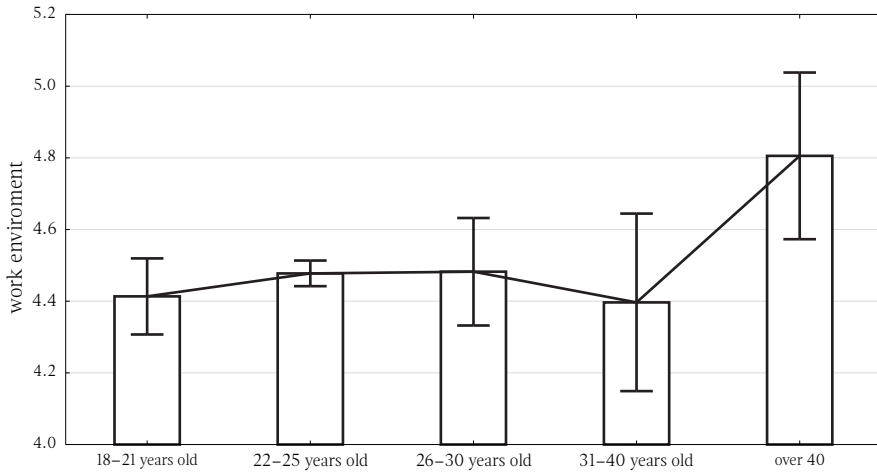
Chart 1.
Scree plot in factor analysis



Source: Own preparation.

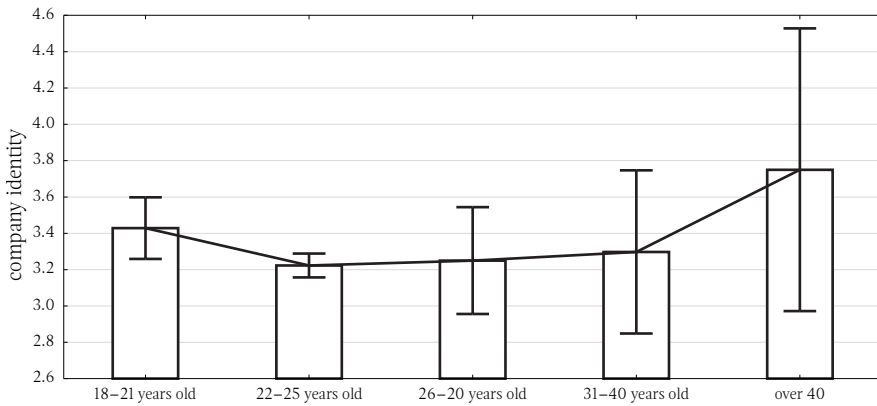


Chart 2.
Results for age groups for the factor work environment



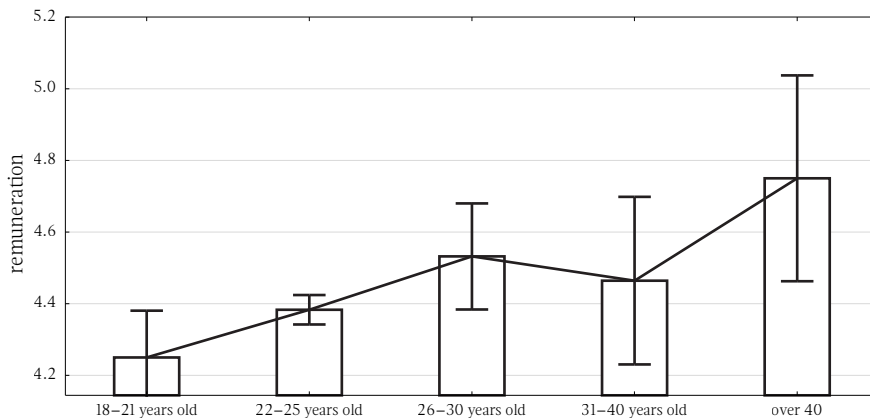
Source: Own preparation.

Chart 3.
Results for age groups for the factor company identity



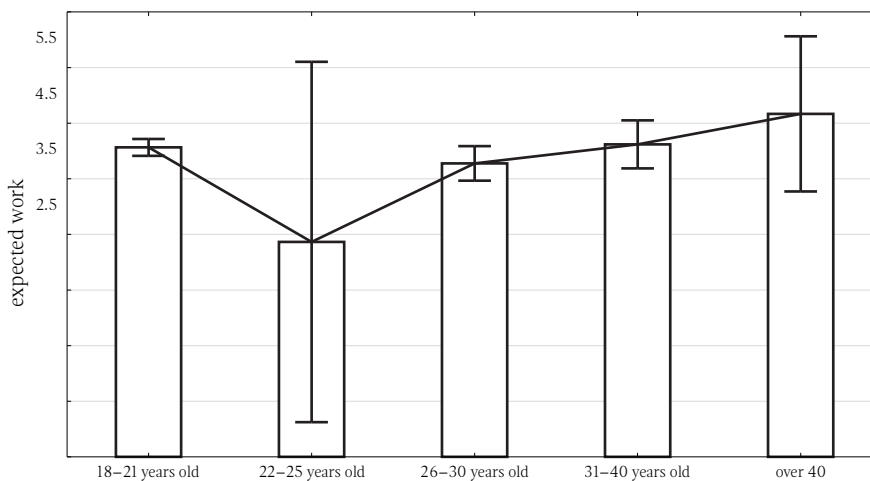
Source: Own preparation.

Chart 4.
Results for age groups for the factor remuneration



Source: Own preparation.

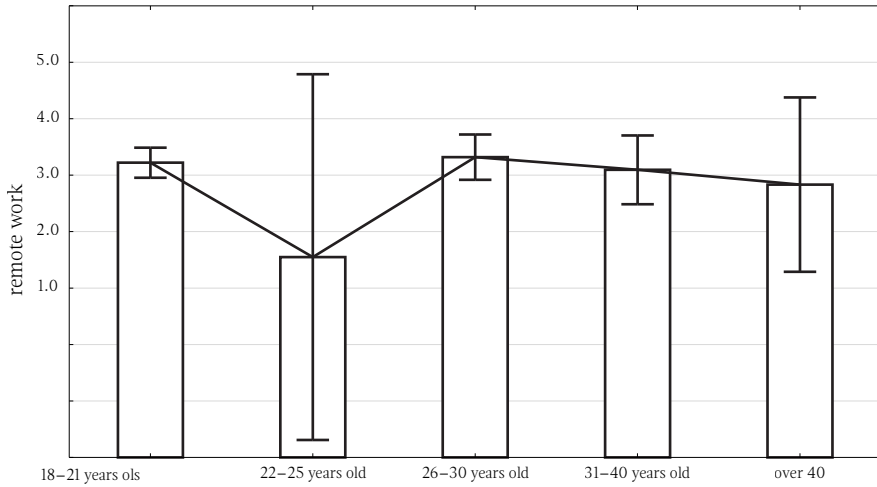
Chart 5.
Results for age groups for the factor expected work



Source: Own preparation.

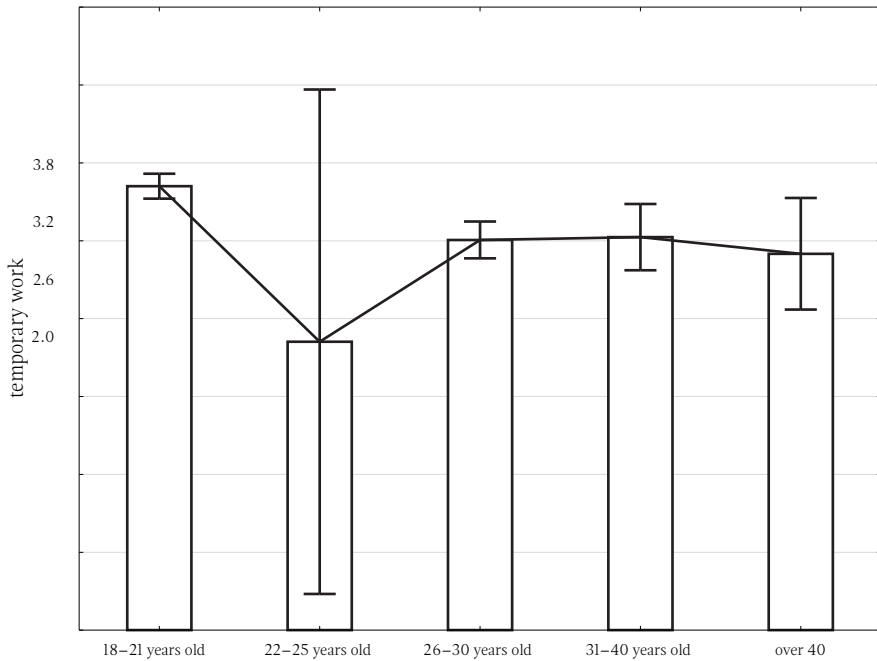


Chart 6.
Results for age groups for the factor remote work



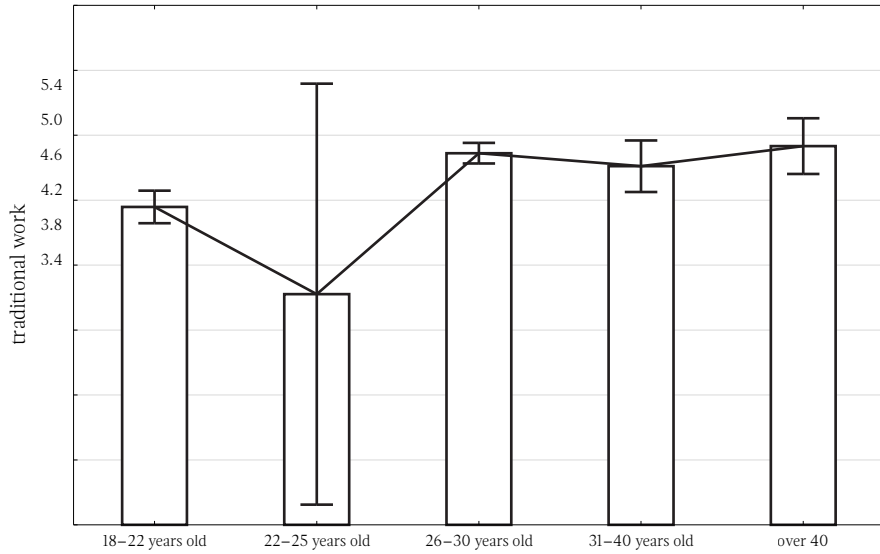
Source: Own preparation.

Chart 7.
Results for age groups for the factor temporary work



Source: Own preparation.

Chart 8.
Results for age groups for the factor traditional work



Source: Own preparation.