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in Poland

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The Hidden Human Capital – Additional Capacities of the Polish Labour Market

Key results of the fifth round of the BKL Study in 2014

Edited by
Jarosław Górniak

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Jarosław Górniak

Polish Agency for Enterprise Development

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Contents

Ladies and Gentlemen,

we offer you the publication presenting the result of last, fifth round of the Study of Human Capital. You shall find in it not only the current information on the supply of and demand for competences, but also the answer to the question what causes gender-based segregation in the labour market. We shall discuss also the particulars of employment situation of disabled persons and the benefits associated with holding a higher education diploma. This report analyses also issues of the grey market and the consequences of educational passivity of Poles.

Data gathered under all the Study rounds were used in the work of public administration employees, entrepreneurs, academics and HR specialists. We have worked with due diligence to ensure that our research meets the highest quality standards, and the results match the needs and expectations of their recipients. We succeeded not only at creating a well-recognised brand, but also a reliable source of information on the Polish labour market.

We have noticed many significant issues, such as the mismatch of supply of and demand for competences in the labour market, reluctance of the Poles to develop their skills, and the salary gap between women and men. We have also diagnosed problems specific for regional labour markets, which we discussed during regional seminars.

We are looking forward to continuation of the Study of Human Capital under the new financial perspective 2014-2020. We shall continue to provide you with reliable data on the competences of Poles and on the demand for them among employers. This time, aside from market-wide study, we shall conduct analyses of data for individual sectors. We hope that the information we collect shall continue to be a valuable source of inspiration during the design of public interventions and the creation of strategies for development of human resources in enterprises.

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Jagiellonian University

Bożena Lublińska-Kasprzak
President of the Polish Agency
for Enterprise Development

Introduction

This report completes the series of five reports summarizing the subsequent rounds of the *Study of Human Capital*. The project was carried out at a difficult time for the labour market in almost all countries of the European Union – to limit ourselves only to this closest system of reference. In Poland, the consequences of global crisis were clearly felt despite the fact that the country succeeded in maintaining its economic growth rate. The Polish employers have protected jobs for many years after 2008, but the number of jobs has not been growing, which significantly hindered entry to the labour market for graduates of different levels, including university graduates. The worst situation in the labour market was seen in the first half of 2013. These phenomena have been described in our subsequent reports.

Tension in the labour market is present in many European countries. Everyone is aware of these facts. The very high unemployment among the young people is a particularly severe problem. Countries of the Mediterranean region – Greece and Spain in particular - experience exceptional hardships. Germany and Austria fare the best, owing to a mixture of factors, which include the dual vocational training system, the structure of the economy (having a large share of production enterprises strongly competitive in the international markets and the resulting reduced susceptibility to economic slump), reforms of the labour market conducted before the crisis and certain demographic factors, which sometimes are under-appreciated. As the Polish economy has strong ties with the German one, it profited from its resilience. The possibility to devaluate the exchange rate of the Polish currency, improving competitiveness of the Polish export, also played a certain buffer role. The overall economic situation is improving, which has already resulted in a decline in unemployment. Obstacles for the young people attempting to enter the labour market, also typical for Poland, have their strong condition-dependent (cyclical) element, which causes the reduction or slow-down in the creation of new jobs. This is compounded by educational mismatch, which becomes especially acute when the employers seek people to work mainly due to staff rotation and not as part of the expansion process.

Due to the demographic situation, which is particularly severe for Poland due to the coupling of the demographical low with significant emigration, the improvement of the economic situation and competition for workers in many countries of the OECD threatens a medium-term deficit in the workforce. In the longer perspective, we could experience a rapid ageing of the society, an increase in the demographical burden, and slow-down in growth, caused by deficits associated with labour. To maintain the competitiveness of the economy and to ensure growth, it will be necessary to base the economy on innovation, the use of new technologies and on highly competent personnel, which means a higher level of human capital and technological progress. This poses serious challenges for the education system, formal and non-formal alike, of children and young people, as well as adults in the lifelong learning process.

The Study of Human Capital from its very first report based on the 2010 research pointed out to the large significance placed on general competencies by the employers. The vocational skills - technical skills, in the broad meaning of this term - have well-grounded importance. However, the employers

more frequently point to deficits in the areas of ability to operate in a team, communicate with others, organize one's own work, or develop self-discipline. In the course of sector-specific study, conducted by our Krakow team and covering the labour market for university graduates, a more detailed list of deficit competencies was determined based on statements from the employers. It particularly applies to the modern, rapidly developing sectors, and the most frequently cited shortages include such features as the following: initiative, innovation, verbal and written communication skills; a focus on the company's goals; dedication; analytical abilities; adaptation ability; and, inter-cultural sensitivity. The relevance of entrepreneurial skills (initiative, activity, innovation) and of learning ability is rising.

Such competences of general nature are still indicated despite the fact that the economy – although at uneven rate in the different sectors - feels the pressure for changes. This pressure stems from the technological and social changes taking place at present, which shall result in deep transformations of the economy on a global scale. The mismatch of competencies, observed presently, is the result of rising discrepancies between the new trends of changes in the economy and the traits presented by available personnel – not just the result of the education system not being matched to the current needs of the labour market (such mismatch, defined in categories of occupational abilities, would be practically impossible in the rapidly changing economy). In the shorter perspective, we could face the coupling of deficits of competences and of workforce, while in the longer run, the far-reaching changes in the economy can lead to the loss of chances for employment by large social groups on the global scale. If Poland engages in earnest in the development of knowledge-based economy, the mismatch of competences, including the ability to develop and implement new solutions, will become even more pronounced and could become a significant barrier to development.

One of the most important challenges faced by the whole education system is the ability to have the students develop – aside from various technical competences associated with their chosen educational paths – the key general competences, which are sometimes grandly referred to as the competences of the 21st century (and there is some truth in this statement). For the educational policy, this means the need to work out concepts, tasks, and, most importantly, stimuli that would support the focus of education on the development of such competences. They should be more widely seen in the offer of adult education, which requires innovation in terms of methods for developing them in persons from various age categories.

An interesting case of such an instrument, stimulating the development of general competences, is the US *Graduate Record Examination* – an admission exam for under-graduates, who intend to continue their education in graduate studies. Irrespective of the desired study area, the potential graduate student needs to demonstrate the following skills: analysis and critical assessment of text, synthesis of information, analysis of semantic units, solving problems by using knowledge and skills from the field of mathematics and data analysis, effective written communication, critical thinking, and debating. Clearly, this list is similar to the one built on the basis of statements of Polish employers representing modern, developing sectors with respect to university graduates. One could also justifiably assume that the introduction of such an examination at the end of the first-cycle studies would also encourage the universities to exert stronger pressure on the development of such competences in their students. There are no obstacles to put stronger, more precise emphasis on the development of these competences on an appropriate level in the core curricula and examinations also at lower levels of education. Just as the introduction of the skill of mathematical reasoning into the core curriculum and the examination at the end of lower secondary school resulted in improvement of this skill among school leavers (and was reflected in the PISA 2012 results, placing Poland among global leaders), the use of the examination mechanism would be a realistic instrument for putting more pressure on the key general competences in education. Development of the relevant examinations would not be easy, but it is doable.

Problems regarding the mismatch of competences are not the only ones with which we grapple in the labour market. This closing report also discusses other problems, including the grey area and the employment of the disabled, gender-based diversity, or the absence of educational activity among a large part of adult Poles ... including teachers. It is also important to look at employment-related choices made for reasons other than salary. This report, summarizing the last of the five rounds of the Study of Human Capital – according to the already established custom – includes in-depth analyses of these selected, important issues of the labour market and competences of various categories of its participants.

The studies are based on the results of research conducted in Q2 of 2014, under gradually improving conditions, as compared to the clearly weaker beginning of 2013. No intense changes were seen in the labour market during the whole period covered by the Study of Human Capital, although certain fluctuations were visible in some areas, due to the overall situation. The relative stability – below aspirations regarding the core indices of the labour market, but also without sudden slumps – resulted from the global, and especially European, overall slow-down that the Polish economy resisted, but which it nevertheless felt.

The moderate variability of the fundamental structural features of the labour market allows us to combine data sets from the individual years – especially the most recent ones – to analyse the phenomena occurring in smaller social segments. Authors of the individual chapters profited from this opportunity. This focus of attention on certain isolated segments is the guiding concept for the present volume.

As customary, the volume opens with a chapter on the balance of the supply of and demand for employees and on their competences, written by Szymon Czarnik and Marcin Kocór. Review of results reassures the reader that the principal phenomena in the labour market, tied to competences of employees, are stable. The 17 percent of companies searching for employees has become a certain "natural search rate." Only once, in the spring of 2013, did it drop to 14%. Authors of the chapter, using a simple procedure of double centring, show where and which professions are linked to the most pronounced competence mismatch. The results show that the mismatch differs in occupational categories.

Once again, the main report discusses the issue of gender-based differences in the labour market. As previously, this subject is explored by Szymon Czarnik, in this issue supported by Krzysztof Kasparek. Frequently these issues are discussed from a strongly normative perspective, critical towards differences seen as negative discrimination of females. In this report, the authors have set a purely cognitive goal to present the facts on the segregation of women and men in the labour market. Proper diagnosis of the state of things is fundamental to determine whether or on what level and due to what mechanisms there is a gender-determined mechanism in the labour market, and to describe the process of the search for employment and choice of education areas that are associated with these mechanisms in the labour market. The authors restrained themselves from evaluation, focusing instead on presenting, in a reliable and creative manner, the analysed empirical material. This is an important, fact-based, analytical contribution into the ongoing lively discussion of the very important issue of the position of men and women in the labour market.

Magdalena Jelonek has tackled the intriguing issue of the quality of work found as the result of completed education. The theory of human capital has been, from its very beginning, strongly focused on a single dimension of reward for the investment in education – the salary. The choice of educational path, aside from external conditions determining the availability and variety of positions, is shaped by a complex set of motives, among which remuneration plays an important but not always the key role, at least in regards to the current salary that can be obtained at the given stage. The chapter contains interesting data that illustrates the difference among careers from the perspective of achieving status, in the various dimensions defining the quality of employment.

Barbara Worek, our key expert on the learning activity among adults and on the educational institutions, this time, dedicated her chapter to an in-depth analysis of persons who choose not to engage in any kind of education. In Poland, this group is very large, a majority. Even among teachers, half of them have not shown any activity to improve their competences in the year preceding our research. Of course, the competence development processes occur in all jobs, through *learning by doing*, in a more or less reflective manner. However, if they are not subjected to intentional self-control, they frequently only deepen the routine. Good understanding of the reasons behind the low educational activity of Poles is a huge challenge. This chapter is a step along the way.

Disabled persons are an important group in the labour market. The combination of samples from the BKL Study allowed us to conduct a deeper analysis of their situation, which was done by Mateusz Magierowski and Anna Strzebońska.

It comes as no surprise that the authors reached the conclusion that situation of the disabled is worse than of the able-bodied persons. This frequently results from a lower education level, which is often

due to the disability coupled with unprepared environment. However, it is interesting that the working disabled persons are generally pleased with their jobs. The problem lies in their low economic activity (at 27%), although this result is clearly better than it was in the past. We have deemed it important to breach the subject of disabled people in the labour market, because this issue should be present in the public discourse and dealt with by experts and decision-makers, since a lot remains to be done in this area.

The issue of the "grey economy" is intriguing, because this phenomenon is widely known, and yet it evades regular research, due to its "grey" nature. Konrad Turek set the results of analyses of questionnaires performed under the BKL Study against the backdrop of the carefully prepared context of international literature on this subject, since this phenomenon is not peculiar to Poland. It applies primarily to men with poorer educational levels, and also to the young people who are still studying or just entering the labour market. A surprising factor is the relatively small percentage of respondents who stated that their informal work was caused by the intention to avoid paying taxes. In addition, in this case, the motivation is more complex – at least on the declarative level. The supplied research results differ from the widespread stereotype, although they are understandable and could have been anticipated by persons interested in the labour market processes. The author of this chapter discusses the public policy means regarding the grey economy, sharing the qualified position that a certain, moderate level of grey economy is natural and functional for the overall economy. Of course, the problem lies in determining this «certain level,» as well as the sectoral and territorial structure of the grey economy, which always distorts the conditions for competition.

Over the past five years, the Study of Human Capital delivered plenty of data on the supply of and demand for competences in the labour market, as well as on the situation of various social groups in the labour market, especially from the standpoint of their education levels. We have researched the educational activity of Poles, its circumstances, and results. We have analysed the market of educational and training services, the dedication of enterprises to the training of their employees, and many other issues. Based on these results, we stubbornly disavow the media-promoted theories that education and university diplomas do not pay off, as well as the myths that there is a dramatic absence of opportunities in the labour market for graduates of humanities or social studies. From the very first report, we have been pointing out the importance of key general competences, especially those that support effective performance of team tasks and interpersonal skills. These conclusions have become part of the general awareness during the past five years. We hope that this volume will also offer important information and would enable better shaping of the education and labour market policies and that the general public receives a solid foundation to evaluate phenomena on the macro scale and to make better personal choices on the micro scale.

In the years to come, it would be advisable to dedicate more attention to phenomena typical for individual sectors. So far, the Study of Human Capital focused on building a comprehensive, cross-sectional image of phenomena in the wider labour market. This is both a strength of this undertaking and its drawback. To know what is important in positions tied to core processes in the various sectors and what is important in the auxiliary positions, specific, sector-oriented studies would be needed to more precisely analyse the types of competences crucial for the different kinds of economic activity. On the other hand, it is also worthy to gain knowledge on how, and with what delay, the various forms of educational activity influence the situation of the various groups of players in the labour market. This would require panel research: surveys of the same people, repeated at certain intervals. The subsequent rounds of the Study of Human Capital should strongly focus on these issues.

We trust that our readers, who systematically follow reports written under this project, would agree that the knowledge generated in the course of this study is useful. We are encouraged to reach this conclusion by the fact that the results of the BKL Study are used by the public administration in the course of work on important legislation in the field of education and the labour market and are also quoted in numerous publications, reports, and expert opinions. This fifth summary report completes a certain cycle. We do hope, however, that the Study of Human Capital would contribute to making the analysis of the correlation between the development of competences and the labour market a permanent item among the systematic empirical research, and we hope that the facts that we present would encourage in-depth analyses of the structural changes in the labour market and a search for responses to the significant challenges which they breed.

Core conclusions

Chapter I

Occupations and competences – confrontation of supply and demand

The demand for employees, as declared by employers, remained on a mainly stable level of 17% throughout the whole period of the Study of Human Capital, which were the years 2010-2014. This means that only one in six of all employers were seeking people for work during that time. Factors supporting recruitment of employees primarily include the development level of an enterprise (introduction of innovation and showing profit/income meant employees were sought more frequently) and its size (larger enterprises were hiring more frequently).

A juxtaposition of the recruitment needs of employers with the possibilities of the labour market allows one to identify professions where a systematic over-supply of workers is present, as well as those where the right employees are hard to come by. The over-supply was seen among the simpler professions – auxiliary labourers, secretaries, and sales personnel. The shortages applied to more specialized professions – construction workers of various specialties, professionals in economics and IT.

Chapter II

Gender segregation in the Polish labour market

The clear gender-based segregation in the Polish labour market can be described in the following proportions:

- Under 10% of Poles, male and female, hired under job contracts, work in occupations where the proportions of women and men are similar (40-60%).
- Around 60% of men work in occupations where the share of women does not exceed 20%, and around 60% of women work in professions where the share of men is under 20%.

Women much more frequently than men work in professions that require intense contacts with other people (the trade and service sector, education, medicine, office work). Men prevail in sectors tied to handling machinery and requiring physical force (the construction sector, driving vehicles, mechanics, protective services etc.). This pattern of gender segregation applies not only to full-time hired workers, but also to the unemployed job seekers and persons engaged in their own business activity.

The lower the level of education tied to the given type of work the stronger is the segregation. The strongest segregation is seen among employees who did not complete secondary education, while among those with tertiary education it is the weakest.

Core conclusions

Employers' preferences regarding the gender of persons sought for particular position provide a rather good reflection of the existing occupational segregation. Men are usually preferred in male-dominated professions, while in the female-dominated professions women are preferred – albeit less categorically. There are, however, certain professions where one of the genders dominates despite the absence of clearly defined employers' preferences – these include healthcare professionals (mostly women) and IT professionals (mostly men). Given these exceptions, and the segregation seen also among the self-employed, it would be right to conclude that employers' preferences regarding the gender of their employees reflect the natural differences between the genders in terms of their occupational predispositions and choices rather than being the causative factor responsible for gender segregation in the labour market.

The gender segregation is clearly visible already at the stage of upper secondary education. Depending on the gender:

- Students choose different areas of education in technical upper secondary schools, specialized secondary schools and vocational schools.
- Students of general secondary schools declare different plans for further education.
- Students choose different fields of university education.

Even among university graduates of similar study fields, differences in the choice of careers are observed (e.g. women clearly more frequently than men work as teaching and education professionals, from among graduates of almost all groups of study fields).

This clear gender-based segregation, observed in the Polish labour market, is very important for the analysis of the so-called wage gap. Many studies of this issue disregard the fact that the degree of gender segregation increases when the occupational categories are defined more precisely. As a result, salaries of persons from the same general occupational category are compared, even though in fact they perform very different work. A separate problem is the non-recognition of the fact that even people performing the same, precisely defined profession, differ in terms of the scope of their experience, obligations associated with their position, the size of the company where they work, the cost of their employment for the employer, etc.

Chapter III

Quality of work after graduation treated as return rate on university education

The first jobs of contemporary young people (after the completion of formal education) are usually associated with less prestige and a lower pay-off in economic terms than those of their older colleagues a few or several years earlier. The higher the level of education, the more pronounced is the stratification of generations.

Despite the overall worse prestige and economic standing of university graduates, they still manage to maintain a substantial, positive distance from the youths graduating from lower-level education. Both the scale of professional prestige and the economic standing clearly indicates the privileged position of persons holding a university degree. Presently, the scale of social prestige seems to be more content-related (strongly linked to the level of education) than the scale of economic position. It could be said that, currently, the reward for being a university graduate is more probable in the form of prestige of one's profession than of high salary.

It is not true that contemporary university graduates increasingly and frequently perform very low-prestige jobs; because, basically, there is no significant difference in that respect between the young and the older persons. The young are at a disadvantage not because of the growing probability that

they would perform lower rated jobs, but due to the reduced chances for performing jobs that enjoy very high prestige (and the loss is the strongest among those who are the worst among the best). On the other hand, in terms of economic standing of a profession, the chance of becoming part of the "elite" is the same (the elite does not shrink), but the percentage of those whose economic standing is not satisfactory does grow.

The factors that determine access to high-quality employment include the following: the area of education, the type of tertiary education institution, and when the job market is entered (periods of crisis vs. those with relative market stability).

An important competitive advantage of persons with university degrees is their immediate profit (higher chances for finding a good first job) and the deferred profit (better chances for faster social and professional promotion after entering the market). In the case of universities, differences in the occupational situation of their graduates are tied to the faster promotion of the brightest ones and to the stability of the others, sometimes with a slight degradation. A reverse trend can be observed among the graduates of lower secondary schools and basic vocational schools - occupational degradation is seen more frequently among them, coupled with a relatively low percentage of those receiving promotions.

University graduates, who found themselves among those performing the lowest-rated jobs usually moved up on the SIOPS scale in subsequent years. The socio-economic advancement was faster among university graduates performing less prestigious professions, which reduced the differences in prestige within the group, which became increasingly homogenous (in that regard).

Additionally, in terms of salary, occupational stability, and the quality of the occupational environment, we see a relative advantage of university graduates over other persons. They most rarely work more than 40 hours per week, they get the highest pay per hour, the environment usually supports their personal development, and they can foresee their promotion more frequently and are increasingly satisfied with stability of employment. Moreover, they have more opportunities for "extra work" aside from their main job (working both as contract employee and performing additional work).

Chapter IV

Reasons for and consequences of educational passivity of adult Poles

The differences between the level of educational activity among young people, well-educated, who are working and performing specialist professions and among people who are older, with poorer education and in worse occupational situation are much higher in Poland than on the average in the European Union. This problem should be taken into account when defining assumptions for the support of the lifelong learning system in Poland. Solutions applied so far turn out to be ineffective in terms of equalizing the chances and granting access to learning and development for those groups that encounter the largest difficulties.

When shaping the policy of lifelong learning in Poland, one needs to keep in mind its close ties to actions meant to increase the economic activity of Poles and to maintain it at an older age. As the motivation to learn and to develop is mostly of occupation-related nature, early occupational inactivity is conductive to educational passivity. However, this correlation can be reversed: Educational activity could help to uphold economic activity. Among the older persons with lower education levels, who believe their age prohibits them from undertaking work, a strong barrier for their educational activity is the conviction that at their age, it makes no sense to learn.

Attention should be given to the willingness to develop competences displayed by the unemployed and economically inactive persons, for whom the difficulty of finding employment is tied to their guardian

duties, primarily care for children. Having a child clearly lowers the educational activity of economically passive women, while it does not influence its level among men. Based on data gathered in the course of the BKL Study, it is not possible to state whether women caring for children would consider returning to the labour market if someone would relieve them of their duties. However, it does seem that part of the barriers reducing educational activity of this group is tied to the insufficient offer of affordable childcare services. A similar situation is seen among people who do not take up work because of the need to care for a family member other than a child, because the main factors limiting their educational activity are the care obligations.

The data indicating the relatively low level of educational activity among teachers should be seen as very disturbing. Teachers should play the fundamental role in shaping motivation for lifelong learning among young people. The presented data suggests, however, that only a little more than half of all teachers develop their competences, and the reason for this educational inactivity is not the lack of time, nor the lack of resources, but the fact that such activity is not required to perform their duties. In this context, it seems overly optimistic to expect that the school – whose quality is defined primarily by the teachers who work there – would play well its role in shaping openness to lifelong learning among children and young people.

The factor that stimulates educational activity is the level of education. This is not only seen among the occupationally inactive or unemployed persons with university degrees, who stand out from their less-educated peers in the same position owing to their stronger dedication in learning and development. This is confirmed also by the differences in the degree of educational activity among labourers working in the same positions, but having different education levels. The durability and strength of influence exerted by this factor is also suggested by the differences in educational activity of persons working in the same positions, whose parents had different educational levels. It can be concluded that education is a factor that strongly influences one's own educational activity during the later years, and it is also a cultural asset that includes shaping openness to learning among children. It would be difficult to determine whether the popularization of higher education would directly translate into an increase of educational activity and contribute to boosting positive attitudes towards learning in the family environment.

Persons who are educationally passive do not engage in training, mostly because their occupation does not require that activity of them. This justification is cited with almost the same frequency by representatives of all professional groups: managers, professionals, labourers, and operators. These results suggest that the work environment motivates adult Poles only to a small extent to develop their competences. Since there simultaneously is almost no culture of learning to foster one's own development, without significant changes in the innovation and competitiveness of Polish enterprises, it would be difficult to expect a visible increase in the level of educational activity of adult Poles.

Conclusions stemming from the comparison of competence self-assessment among the educationally active and inactive adults are relevant and important from the standpoint of shaping the development directions for the lifelong learning system. Among persons with primary and vocational education, this comparison shows a visibly higher self-assessment on all or the majority of competences. It cannot be stated clearly that educational activity is the reason for higher self-assessment, and it is certainly necessary to take into account its influence on the shaping of general competences among persons with lower education levels. This influence is not as strong in the case of persons with tertiary education; however, in this group, both the educationally passive and active ones have a high opinion of their general competences. It cannot be stated clearly that educational activity is the reason for higher self-assessment, it is certainly necessary to take into account its influence on the shaping of general competences among persons with lower education levels. Thus, this activity becomes a way to reduce differences in competences between persons with lower and higher levels of education.

Comparison of salaries of educationally active and inactive persons with the same level of education, or working at the same positions, shows that, in almost every case, the active ones earn more than do their inactive counterparts. One cannot speak here of the causal influence of educational activity on the increase of salary, but these differences are statistically significant and could confirm the influence of competence level on salary increase, which was observed in other research.

Chapter V

Specifics of the situation of occupationally active disabled persons in the polish labour market

Over 70% of disabled persons of working age function outside the labour market, despite the fact that their employment can be supported with resources of the State Fund for Rehabilitation of the Disabled (PFRON).

The market situation of persons with diagnosed disability, hired under employment contracts, is clearly worse than of the able-bodied working persons. They are less educated, earn less, often work only part-time, under defined-term contracts, or perform only simple jobs.

Similar differences are not seen in the comparison of disabled unemployed persons with the able-bodied candidates regarding the structure of education, preferences regarding desired occupations, or the average desired salary. Moreover, the job offers addressed to the disabled seem better matched to expectations than those meant for the able-bodied employees.

Certainly, this situation is influence by the behaviour of employers who, recruiting employees with diagnosed disability, party forgo the requirements that they pose for the able-bodied candidates. The employers reduce their expectations tied to formal education level (on the average, by one level of education), the requirements regarding the preferred set of competences of the job seekers, and also (slightly) shorten the prior experience requirement. In exchange, they demand references from the previous place of employment. Such qualitative information from people who actually worked with the candidate is decisive for the employer, especially in the case of recruitment of office employees.

Chapter VI

The grey side of the labour market

According to data collected under the BKL Study, the number of working-age persons who have worked without a formal contract during the 12 months preceding the research has been falling systematically from 2010 to 2012 – from 1.2 million (which accounted for 4.7% of persons aged 18/59/64) to the level of 932 thousand (3.8%). In 2013, this number remained almost unchanged (937 thousand, or 3.8%). In 2014, a slight increase was seen, to the level of 974 thousand, which amounted to 4% of working-age persons.

The high share of people working in the grey market was seen among the registered unemployed (around 10%).

The non-registered sector of the labour market is very varied in terms of the characteristic of its participants: it includes all age groups, people with various levels of education, performing different professions, city dwellers, and rural residents alike.

The non-registered employees are mostly men (70%) and persons with a lower education level (almost 60%). Quite frequently these people are young, only starting their career (e.g. looking for their first job), or still studying (18% of those working without a contract were engaged in formal education).

Among working students of the final years of full-time studies, around 25% "moonlighted."

In comparison with the official labour market, the grey market has a visible over-representation of unskilled labour occupations (mostly in the construction sector).

A relatively small percentage of those working without a contract were simultaneously hired under a legal contract (17%).

Core conclusions

Results of the BKL Study confirm that it is difficult to form an unambiguous evaluation of the consequences of the semi-official sector of the economy. It has its good sides (at least in the short term) and bad ones – from the perspective of the employee, the enterprises and the whole socio-economic system.

For one-third of those working without a contract, this work was of an occasional nature, and a further 19% performed it for family or friends.

Most of the participants of the grey market (60%) claimed they were satisfied with the working conditions, including salary.

Half of the non-registered employees would not like their employment to be legalized at the expense of reduced salary. Even those who would agree to a reduction in pay stated they would not sacrifice more than 10% to have their employment registered.

Among the main reasons for not signing employment contracts, respondents most frequently named reluctance of the employer (40% of all responses, and 50% among the unemployed). The second reason was the fact that this was additional work of an occasional nature (30% of responses). For 19% of respondents, the lack of contract was because they performed work for family or friends. Avoidance of taxes was indicated by only 18% of those working without a contract.

Chapter I

Szymon Czarnik, Marcin Kocór

Occupations and competences – confrontation of supply and demand

In the course of the five rounds of the Study of Human Capital in Poland, the researchers systematically collected data on the recruitment needs of employees tied to specific positions and specific sets of competences, as well as data on the competence self-assessment of Poles and the professions in which they seek jobs. This construction of the research allowed obtaining a comprehensive picture of the domestic labour market, seen from the dual perspective of employers and employees.

The analyses performed on data collected during the previous years (Kocór, Czarnik 2011; 2013; Kocór, Czarnik, Strzebońska 2012) have shown that the largest shortages in terms of sought-after employees applied to the category of professionals and skilled workers. Surplus was regularly found in the groups of unskilled workers, sales, and service personnel. This picture was not influenced by the momentary downward trend in the first half of 2013. The employees reduced their recruitment needs during this period; nevertheless, the structure of the supply and demand balance in the labour market remained very similar.

A supplement of the occupational balance is the balance of competences, based on the comparison of the level of competences required by employers for the vacancies with the self-assessment of one's own competences, made by persons seeking such jobs. This comparison can be made in several ways. In the simplest perspective, this analysis – in all the years from the 2010-2014 period – shows systematic shortages of the self-organization and interpersonal competences.

This chapter has been divided into three sections. The first focuses on factors that determine demand for employees, the second presents the balance of professions, and the third one completes the picture by presenting balance of competences.

1. Demand for employees

The percentage of employers seeking employees has been rather stable in the subsequent rounds of the BKL Study. From the year 2010 onwards, one in seven employers declared the will to hire new workers (in 2010 this proportion reached 16%, in 2011 and 2011 – 17%, in 2013 – 14% and in 2014 – 17%). Only during the temporary slump experienced by the Polish labour market in the first half of 2013 did the

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number of recruiting companies visibly drop (Kocór, Strzebońska 2014). In terms of absolute numbers, the estimated demand for employees rose from circa 560 thousand to 610 thousand in the years 2010-2012, to drop again to around 550 thousand in 2013. This reduction was not permanent, and, in the spring of 2014, demand for labour reached the highest level recorded, at 750 thousand persons.

The factors determining the stronger or weaker readiness to search for employees have turned out to be stable, which is shown by the results of logistic regression, where the dependent variable was the declaration of seeking people for work (Table I.1).[1] Due to the nature of the variables used, the analysis covered only enterprises, omitting institutions (circa 10% of business entities from the following categories: organs of government administration, local self-governments, mutual insurance societies, state organisational units, self-government organisational units, cooperatives, higher education institutions, independent public medical facilities and funds).

The interpretation of results shown in Table I.1 is best discussed on a specific example. For this purpose, let us look at the factor of enterprise size and focus on the value +22.3 for enterprises with 250-499 employees in 2014. The reference category (Ref.) includes companies with less than 10 employees, for which the average probability of recruiting in 2014 was on the level of 16.7%. Thus, the table show us that, in enterprises from the 250-499 size category, the probability of seeking new employees was higher by 22.3 percentage points from the one recorded in the smallest companies. This effect (as well as all the other effects shown in the table) is interpreted as average differences found under conditions of the control of all other factors taken into account in the model. Thus, we assume that we compare enterprises from the 250-499 size category with companies from the 1-9 size category, having the same development phase, the same level of satisfaction with competences of employees, and operating in the same sector and region.

Regardless of the year of the research, the factors that had the strongest influence on search for employees included the size of the enterprise, its development phase, and the level of satisfaction with its employees. The region where the enterprise operated and its business sector influenced the readiness to hire to a smaller extent.

The recruitment relationship is clear – the larger the enterprise, the more frequently it seeks new people for work. Based on data for 2014, under the control of all other factors, the probability of recruitment in the largest enterprises (from 500 employees upwards) was higher by 26.6 percentage points than in the smallest companies, where it amounted to less than 16.7%. This situation is obviously primarily because large enterprises much more frequently experience the need to replace employees who leave the firm or temporarily interrupt work.

The frequency of recruitment was clearly positively correlated with the company's development phase. In 2014 this probability amounted to 12.3% on average for stagnant entities, while among strongly developing companies, it was, *ceteris paribus* higher by 20.1 percentage points. However, it should be added that the development phase did not exert such a stable influence on the readiness to hire as did the size of the enterprise in 2010 and 2014, and this influence was smaller than during the three other years of the BKL Study.

[1] Despite this stability, it needs to be stressed that all the factors combined allow one to predict to a small degree whether the given company is recruiting or not. The search for employees by a given company at a given moment depends mostly on random factors as well as on factors not included in the model due to the absence of appropriate data.

Table I.1. Results of the model of logistic regression predicting whether a company is advertising vacancies (differences in probability with respect to reference category)

	2010	2011	2012	2013	2014
The whole sample	**18.0**	**18.1**	**17.9**	**14.5**	**17.9**
(Reference: stagnant)	**12.2**	**11.1**	**10.6**	**9.1**	**12.3**
Poorly developing	+3.6	+7.3	+6.9	+5.1	+1.7
Developing	+12.2	+13.2	+12.4	+9.3	+11.4
Strongly developing	+13.9	+24.0	+24.5	+24.4	+20.1
(Reference: 1-9)	**17.4**	**17.8**	**17.6**	**14.2**	**16.7**
10-49	+4.5	+1.2	+3.0	+2.8	+3.6
50-249	+11.0	+10.5	+13.0	+8.5	+9.9
250-499	+25.0	+26.9	+23.5	+19.6	+22.3
500+	+36.5	+31.7	+32.4	+29.4	+26.6
(Reference: satisfied)	**13.2**	**12.8**	**12.0**	**9.5**	**11.0**
Require supplementary training	+7.8	+8.6	+9.3	+8.3	+11.8
Unsatisfied	+22.0	+18.7	+16.7	+14.7	+24.0
(Reference: Mazowieckie Province)	**18.7**	**16.3**	**19.0**	**15.2**	**24.1**
Dolnośląskie	-7.1	-1.2	+1.5	-1.5	-1.9
Kujawsko-pomorskie	-4.6	-3.1	-5.6	-2.1	-6.9
Lubelskie	-1.3	-0.2	-3.7	-0.3	-8.7
Lubuskie	-3.2	+0.1	-0.6	-1.3	-8.7
Łódzkie	-3.8	+6.6	-2.3	-1.7	-2.6
Małopolskie	+0.5	+0.2	+3.2	-2.7	-4.8
Opolskie	-0.8	+1.3	-6.7	-1.9	-9.7
Podkarpackie	-2.7	-2.1	-0.8	+3.7	-8.7
Podlaskie	+1.5	-0.7	+4.5	-3.3	-4.9
Pomorskie	-2.1	+5.7	+0.7	-1.6	0.0
Śląskie	-2.6	-0.2	-0.6	-0.3	-5.3
Świętokrzyskie	-8.9	+1.4	-2.3	-4.7	-10.2
Warmińsko-mazurskie	-4.8	+3.0	-4.3	+0.2	-7.4
Wielkopolskie	-6.4	+1.1	-1.2	-0.5	-6.8
Zachodniopomorskie	-2.2	+4.2	-0.3	-1.2	-6.7
(Reference: Construction and transport)	**21.7**	**22.7**	**21.8**	**16.3**	**18.5**
Trade, accommodation and food services	-8.4	-6.2	-7.7	-3.4	-3.6
Specialist services	-4.7	-6.9	-3.5	-3.2	-2.8
Private education	+6.0	-12.5	+9.2	-5.7	-2.3
Human health and social work activities	-3.7	-10.0	-6.4	-6.0	-6.0
Manufacturing and mining	-5.3	-4.7	-3.4	-1.8	+0.7
The McFadden's R2	0.058	0.065	0.069	0.069	0.086
Numbers	9407	14526	14286	14312	14087

Bold fonts denote the average probability in the reference categories. The other values, preceded with a + or – indicate how many percentage points the probability in particular category of a given variable differs from the probability in the reference category. Green font marks the differences which are statistically insignificant (p>0.0.5)

Source: BKL Employer Study 2010–2014.

The readiness to recruit was quite obviously influenced by the degree of satisfaction with currently employed persons. In comparison to fully satisfied employers, those who saw their personnel as requiring training were 12 percentage points more likely to recruit in 2014. In the case of employers unsatisfied with competences of their personnel, this probability was higher by even 24 percentage points.

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Discussion of the two other factors of influence – region and sector of business – is difficult due to the very irregular changes occurring in the individual years of the research. The most striking element is the situation in 2014, when the Mazowieckie province came ahead, more or less visibly, of the remaining provinces (with the exception of Pomorskie).

A slightly more transparent pattern can be seen in the influence of the business sector on the readiness to hire. The reference category is the construction and transport sector and (as shown by the results) employers in these sectors seek employees more frequently than those from other sectors, regardless of the year of the research. This suggests that this sector is the most developmental one in terms of employment growth.

Aside from the above findings on the crucial factors influencing recruitment, it is also important to scrutinize the structure of labour demand. Declarations of employers who seek employees, regarding the position they wished to fill, allow one to conclude that the structure did not change significantly in the years 2010–2014 (Table I.2). The most frequently sought after workers were skilled workers, professionals, and sales and service personnel. If we additionally consider that the first research of 2010 was carried out in the autumn, and the remaining ones during spring, the demand situation in the labour market appears to be even more stable.

Table I.2. Percentage of employers seeking people for work in specific professions (percentage of responses)

ISCO-1	2010	2011	2012	2013	2014
1 MANA	3.4	3.6	2.0	2.1	4.0
2 PROF	26.4	15.1	23.1	17.7	22.4
3 ASSO	17.6	16.7	16.9	13.6	14.7
4 CLER	12.8	7.2	6.6	9.2	7.9
5 SERV	18.0	24.8	20.7	23.3	21.5
7 CRAF	24.1	31.0	31.3	31.4	30.2
8 OPER	15.4	14.2	14.6	15.7	14.2
9 ELEM	5.4	6.9	8.3	8.9	8.1
Total N	2554	2741	2700	2120	2656

Note: percentages do not add up to 100 as employers could be seeking people for several vacancies simultaneously.

Source: BKL Employer Study 2010–2014.

Generally speaking, almost half of business entities were seeking skilled workers, including assemblers and operators of machinery and equipment. Roughly one-third of employers advertising vacancies were interested in professionals, technicians, and other associate personnel. About one-fifth of all employers were looking for sales and service workers.

2. Balance of supply of and demand for employees

The balance of supply of and demand for employees was developed based on the following two data sets:

- Information obtained from employees on the positions which the companies are looking to fill, and
- Information obtained from the unemployed[2] on the professions in which they are looking for work.

[2] The unemployed are defined as persons who were seeking work at the time of the research, during the past month have undertaken specific steps to find work and were ready to start work within the coming week, and also were not hired anywhere, did not run their own business and were not engaged in any other work, full-time or part-time.

Both sets have been prepared according to the International Standard Classification of Occupations (ISCO), which was developer under the auspices of the International Labour Organization (ILO) to facilitate such analyses:

[This classification] is meant for use in statistical applications and in numerous customer-oriented applications. The customer-oriented applications include **matching the job seekers to existing vacancies** (underscored by S.C.), management of the short- and long-term migration of employees between countries and the development of training programs and vocational consulting [ILO 2010].

Comments regarding interpretation

Before we move on to specific comparisons, the readers deserve a few words regarding the limits to the interpretation of the presented results.

First of all, one needs to keep in mind that occupational categories are not internally homogenous by necessity. The idea behind the ISCO classification (just as in the case of any other classification of that type) is to group occupations based on similarities,[3] but such categorization is always based on disregarding details. The higher the level of generalization (i.e., the smaller is the number of categories into which we want to divide all occupations), the more superficial are the similarities among occupations included in the individual groups, and the more differences will be seen among occupations so combined. Thus, category 83 from level 2 of ISCO, "Drivers and mobile plant operators" includes drivers of cars, vans, trucks, buses and trams, but also machine operators, crane operators and even sailors. The scale of mismatch between supply and demand for labour may therefore be larger in reality than it seems (e.g. if companies needed primarily truck drivers, while the job seekers were primarily unemployed car drivers).

Secondly, it is not always possible to clearly determine the right occupational category from the ISCO list based on the respondent's statements; it could be difficult to place the given position in the appropriate category from the first, most general level. For instance, a person engaged in clerical work may be categorized either in the major Group 3 ("technicians and associate professionals") as "assistant to the director" or in the major Group 4 ("clerical support workers") as "secretary." Contrary to the problem indicated in the preceding paragraph, the ambiguity of coding could be responsible for exaggerating the mismatch.[4]

Thirdly, the balance juxtapositions compare percentage structures, disregarding the absolute numbers. In reality, the estimated number of positions for which enterprises were seeking employees in 2015 did not exceed 530,000, while the number of unemployed seeking work in specific occupations exceeded 2 million. If in a certain occupational category there were 5% of unemployed job seekers, and simultaneously, this category accounted for 5% of vacancies, we see a **relative** match of the supply and demand structures (but in absolute numbers, there would be 2-3 unemployed per one vacancy anyway).

For these reasons, the balance values presented further should be considered as qualitative ones, i.e. as an estimation of the relationship between supply and demand, without placing excessive importance on the specific numerical values.

Comparison of supply and demand for work

We propose two comparative approaches. In the first one, we analyse seven broadly defined occupational categories from the first level of ISCO classification (major occupational categories), presenting the differences among the individual administrative regions. In the second approach, we move on to 33 professions defined in more detail, on the second level of ISCO (sub-major groups), again presenting differences among the regions of Poland.[5]

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[3] ISCO is a tool for organizing jobs into a clearly defined set of groups according to the tasks and duties undertaken in the job. [ILO 2010].

[4] However, the internal lack of homogeneity of the categories is a much more serious problem.

[5] In the case of more detailed definition of occupations, it is not possible to conduct the analysis on the administrative region (province) level due to falling numbers.

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On a countrywide scale, the most sought-after group of employees were skilled workers (28.8% of jobs offered in 2014). The subsequent places belonged to professionals (18.0%), and sales workers and service employees (17.0%). In most of the administrative regions (provinces), the structure of demand is similar to the nationwide one, i.e. differences appear in certain professional categories in certain provinces as presented in the following:

- In the Lubuskie, Łódzkie, Podkarpackie and Świętokrzyskie demand for professionals (2 PROF) is smaller than elsewhere, while demand for craft workers is higher (7 CRAF).
- In Podlaskie, there is an above-average demand for elementary workers (9 ELEM).
- In Opolskie, the most sought-after group were technicians and associate professionals (3 ASSO).

Table I.3. Occupational structure of demand for employees (ISCO-1)

Administrative region	2 PROF	3 ASSO	4 CLER	5 SERV	7 CRAF	8 OPER	9 ELEM	Total
Dolnośląskie	21.2	8.5	4.7	13.5	23.5	14.2	6.9	100.0
Kujawsko-pomorskie	24.6	13.6	9.2	12.8	26.1	4.1	8.1	100.0
Lubelskie	21.1	9.4	1.6	17.5	25.8	10.0	4.4	100.0
Lubuskie	7.5	5.1	9.8	17.2	36.1	15.6	8.3	100.0
Łódzkie	12.0	5.8	1.5	22.2	39.4	12.7	4.4	100.0
Małopolskie	23.5	10.0	7.1	19.0	25.1	8.7	4.9	100.0
Mazowieckie	23.6	9.0	6.9	13.8	25.0	10.2	8.9	100.0
Opolskie	18.1	22.4	2.9	16.0	22.3	11.3	6.5	100.0
Podkarpackie	13.7	8.6	2.4	10.6	41.5	14.7	5.8	100.0
Podlaskie	14.9	7.9	1.7	13.5	21.5	14.1	25.1	100.0
Pomorskie	20.3	15.9	4.0	16.3	22.1	11.1	4.9	100.0
Śląskie	18.8	11.2	2.8	20.5	32.1	8.6	5.5	100.0
Świętokrzyskie	14.6	6.1	0.3	9.2	57.8	8.9	1.1	100.0
Warmińsko-mazurskie	17.2	6.4	3.3	16.6	31.3	11.3	12.1	100.0
Wielkopolskie	14.7	12.0	6.4	24.8	26.3	9.3	6.0	100.0
Zachodniopomorskie	14.9	10.8	4.7	23.5	21.4	9.7	12.7	100.0
Country total	18.0	10.1	4.6	17.0	28.8	10.9	7.8	100.0

Source: BKL Employer Study 2014.

Demand for the more precisely defined occupational categories from ISCO-2 is presented in Table I.4. It shows two predominant categories: construction workers (category 71; 12.0%) and sales workers (cat. 52; at 10.8%). The next most sought-after categories included metal, machinery and related trade workers (category 72) and drivers and mobile plant operators (category 83), each one with share at 8.8%. In the case of professionals, demand was spread more or less evenly across several categories.

Table I.4. Occupational structure of demand for employees (ISCO-2)

ISCO-1	ISCO-2	Central	Southern	Eastern	North-Western	South-Western	Northern	Country total
2 prof	21 science and engineering professionals	2.2	6.2	2.4	1.9	3.4	6.4	3.7
	22 health professionals	3.5	4.5	5.8	3.7	4.3	4.0	4.3
	23 teaching professionals	4.5	1.4	4.8	3.3	1.4	3.5	3.3
	24 business and administration professionals	5.5	4.5	3.0	1.6	5.9	5.5	4.2
	25 information and communications technology professionals	4.0	4.3	0.7	2.1	5.4	0.8	2.7
	26 legal, social and cultural professionals	0.4	0.5	0.4	0.4	0.4	0.8	0.5
3 asso	31 science and engineering associate professionals	0.9	2.1	0.9	1.1	5.1	2.1	1.9
	32 health associate professionals	0.6	1.1	1.0	1.3	0.6	1.2	1.0
	33 business and administration associate professionals	6.1	6.9	4.9	6.2	5.6	9.1	6.5
	34 legal, social, cultural and related associate professionals	0.7	0.3	1.6	0.9	1.1	0.4	0.8
	35 information and communication technicians	0.0	0.5	0.3	0.4	1.8	0.0	0.4
4 cler	41 general and keyboard clerks	2.3	2.0	0.4	2.1	1.6	2.6	1.8
	42 customer service clerks	0.8	0.9	0.5	2.9	1.4	2.0	1.4
	43 numerical and material recording clerks	1.5	1.9	0.5	2.3	1.3	0.9	1.4
	42 other clerical support workers	0.4	0.1	0.4	0.0	0.0	0.0	0.2
5 serv	51 personal service workers	5.5	6.7	4.9	10.4	5.6	3.6	6.1
	52 sales workers	11.9	13.3	9.1	9.2	9.2	12.1	10.8
	53 personal care workers	0.1	0.1	0.1	0.3	0.0	0.4	0.2
	54 protective services workers	0.8	0.3	0.1	3.0	0.5	0.2	0.8
7 craf	71 building and related trade workers (excluding electricians)	16.3	6.9	17.2	11.9	7.5	10.2	12.0
	72 metal, machinery and related trades workers	7.7	12.3	9.8	6.6	7.5	8.8	8.8
	73 handicraft and printing workers	1.5	0.8	0.5	0.5	0.0	0.1	0.6
	74 electrical and electronic trades workers	0.9	4.4	2.3	3.6	2.1	1.9	2.5
	75 food processing, wood working, garment and other craft and related trades workers	6.2	5.4	6.6	6.5	7.3	6.6	6.4
8 oper	81 stationary plant and machine operators	1.9	1.6	0.6	2.0	0.7	2.1	1.5
	82 assemblers	0.1	0.8	0.4	0.1	0.0	1.6	0.5
	83 drivers and mobile plant operators	9.7	5.7	11.2	8.4	13.0	5.9	8.8
9 elem	91 cleaners and helpers	1.6	0.8	0.9	1.5	1.3	1.6	1.3
	92 agricultural, forestry and fishery labourers	0.0	0.0	1.5	0.1	0.0	0.0	0.3
	93 labourers in mining, construction, manufacturing and transport	1.8	2.6	5.8	4.4	5.6	3.0	3.8
	94 food preparation assistants	0.8	0.9	1.3	0.4	0.1	2.7	1.1
	95 street and related sales and service workers	0.0	0.0	0.0	0.6	0.0	0.0	0.1
	96 refuse workers and other elementary workers	0.1	0.3	0.0	0.1	0.1	0.0	0.1
	total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Administrative regions (provinces) comprising the supra-regions: Central (Mazowieckie, Łódzkie), Southern (Małopolskie, Śląskie), Eastern (Lubelskie, Podkarpackie, Podlaskie, Świętokrzyskie), North-Western (Lubuskie, Wielkopolskie, Zachodniopomorskie), South-Western (Dolnośląskie, Opolskie), Northern (Kujawsko-Pomorskie, Pomorskie, Warmińsko-Mazurskie).

Source: BKL Employer Study 2014.

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The occupational structure of the unemployed (not currently employed, but actively seeking a job and ready to work) is presented in Table I.5. As in the previous years, the three categories generating the largest number of queries in the labour market, equally on a nationwide scale and in the individual regions, were the services and trade professions (Category 5), skilled workers (Category 7), and elementary workers (Category 9).

Table I.5. Occupational structure of the unemployed (ISCO-1)

Administrative region	2 prof	3 asso	4 cler	5 serv	7 craf	8 oper	9 elem	Total
Dolnośląskie	5.6	10.4	7.2	31.2	20.0	4.8	20.0	100.0
Kujawsko-pomorskie	5.8	9.6	8.7	21.2	20.2	2.9	31.7	100.0
Lubelskie	8.9	9.8	8.0	25.0	22.3	8.0	17.0	100.0
Lubuskie	4.7	9.3	7.0	18.6	32.6	4.7	23.3	100.0
Łódzkie	9.8	8.5	7.3	20.7	23.2	9.8	20.7	100.0
Małopolskie	9.5	12.4	9.5	19.7	21.2	8.8	18.2	100.0
Mazowieckie	8.8	10.9	10.2	16.1	21.2	8.0	23.4	100.0
Opolskie	11.4	8.6	5.7	25.7	28.6	5.7	11.4	100.0
Podkarpackie	10.5	11.3	6.0	24.1	20.3	3.8	24.1	100.0
Podlaskie	8.1	12.9	8.1	22.6	16.1	12.9	19.4	100.0
Pomorskie	4.6	6.2	9.2	30.8	29.2	3.1	16.9	100.0
Śląskie	9.9	7.7	12.0	22.5	16.9	6.3	24.6	100.0
Świętokrzyskie	12.1	6.1	10.6	21.2	21.2	9.1	19.7	100.0
Warmińsko-mazurskie	6.3	6.3	8.9	22.8	19.0	6.3	30.4	100.0
Wielkopolskie	5.5	9.4	7.8	25.0	31.3	4.7	16.4	100.0
Zachodniopomorskie	7.2	8.7	5.8	18.8	23.2	7.2	27.5	100.0
Country total	8.1	9.5	8.5	22.8	22.2	6.5	21.9	100.0

Due to the low counts, the managerial (Category 1) and farm workers (Category 6) were excluded from the analysis. Category 9 (ELEM) includes persons declaring they would be interested in an unspecified "physical labour." Respondents who declared that they seek "any employment" (about 18% of all respondents) were omitted.[6]

Source: BKL – Population Study 2014.

Table I.6 presents the labour supply structure based on ISCO-2. It is worth noting that, in the category of skilled workers, aside from construction workers, there is a significant share of job-seeking mechanics (Category 72). Category 5 ("Service and sales workers") is dominated by sales workers (Category 52 – 13.6% of unemployed), coming ahead of personal service workers (Category 51 – 8.6%).

[6] Readiness to undertake any work was declared primarily by persons with lower education levels. We could, therefore, assume that they are mostly after work from the lower ranges of the ISCO hierarchy. It is, however, not possible to allocate them to specific occupational categories; therefore, they have been omitted in the analysis.

Table I.6. Occupational structure of the unemployed (ISCO-2)

ISCO-1	ISCO-2	Central	Southern	Eastern	North-Western	South-Western	Northern	Country total
2 PROF	21 science and engineering professionals	1.5	3.4	2.2	2.7	1.9	1.4	2.3
	22 health professionals	1.5	2.3	1.4	0.4	0.6	0.5	1.2
	23 teaching professionals	5.6	2.3	3.7	0.4	1.9	3.7	3.0
	24 business and administration professionals	0.0	0.8	1.1	1.3	0.6	0.0	0.7
	25 information and communications technology professionals	0.5	0.0	0.8	0.0	0.6	0.5	0.4
	26 Legal, social and cultural professionals	1.0	1.5	0.8	1.3	1.3	0.5	1.1
3 ASSO	31 science and engineering associate professionals	2.0	2.7	3.1	1.3	1.9	1.9	2.3
	32 health associate professionals	2.0	1.5	1.1	0.9	0.6	0.9	1.2
	33 business and administration associate professionals	2.0	4.6	3.9	5.8	5.2	3.7	4.2
	34 legal, social, cultural and related associate professionals	1.5	1.5	1.7	1.3	0.6	2.3	1.6
	35 information and communication technicians	4.1	0.4	1.1	0.4	2.6	0.5	1.3
4 CLER	41 general and keyboard clerks	4.6	10.3	5.3	6.7	4.5	7.9	6.7
	42 customer service clerks	0.0	0.0	0.8	0.4	1.9	0.0	0.5
	43 numerical and material recording clerks	5.1	1.1	1.7	0.4	0.6	2.3	1.8
	42 Other clerical support workers	0.0	0.0	0.0	0.4	0.0	0.0	0.1
5 SERV	51 Personal service workers	7.1	9.5	7.0	8.1	14.3	7.9	8.6
	52 Sales workers	11.2	10.6	14.6	14.3	14.9	15.7	13.6
	53 Personal care workers	0.5	1.1	0.8	0.4	0.0	1.4	0.8
	54 protective services workers	0.5	1.1	2.0	0.4	1.9	2.3	1.4
7 CRAF	71 Building and related trade workers (excluding electricians)	8.1	4.2	5.9	12.6	8.4	10.6	7.9
	72 Metal, machinery and related trades workers	6.1	8.7	7.9	9.9	8.4	7.9	8.2
	73 Handicraft and printing workers	2.0	0.8	0.0	0.0	0.6	0.0	0.5
	74 Electrical and electronic trades workers	5.1	0.8	3.1	4.0	1.9	1.4	2.7
	75 Food processing, wood working, garment and other craft and related trades workers	3.0	5.3	4.5	4.9	3.2	5.6	4.5
8 OPER	81 Stationary plant and machine operators	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	82 Assemblers	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	83 Drivers and mobile plant operators	9.6	8.4	7.3	5.8	5.2	4.6	7.0
9 ELEM	91 Cleaners and helpers	3.0	3.4	3.7	2.2	1.9	3.2	3.1
	92 Agricultural, forestry and fishery labourers	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	93 Labourers in mining, construction, manufacturing and transport	12.2	13.3	13.2	12.1	12.3	12.5	12.7
	94 Food preparation assistants	0.0	0.4	0.8	0.0	1.3	0.9	0.6
	95 Street and related sales and service workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	96 Refuse workers and other elementary workers	0.0	0.0	0.3	0.9	0.0	0.0	0.2
	total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Administrative regions (provinces) comprising the supra-regions: Central (Mazowieckie, Łódzkie), Southern (Małopolskie, Śląskie), Eastern (Lubelskie, Podkarpackie, Podlaskie, Świętokrzyskie), North-Western (Lubuskie, Wielkopolskie, Zachodniopomorskie), South-Western (Dolnośląskie, Opolskie), Northern (Kujawsko-Pomorskie, Pomorskie, Warmińsko--Mazurskie).

Source: BKL – Population Study 2014.

Occupations and competences – confrontation of supply and demand

The percentage structures of the supply of and demand for work are directly compared in Table I.7 (ISCO-1 broken down per administrative regions – provinces) and Table 8 (ISCO-2 broken down per supra-regions). Each cell of these tables calculates the difference between the share of the given occupational category among the unemployed in the given province/region, and its share in the overall volume of vacant positions, for which the employers from this province/region seek candidates. This data enables **relative** comparisons, presenting the **relative** "surplus" or "shortage" of specific type of employees in the individual provinces and regions. Negative values do not mean that the number of unemployed willing to work in a given occupation is smaller than the number of positions for which the employers are recruiting. It only means that the number of candidates competing for a position in the given category is smaller than the average number of candidates per vacancy among all occupational categories.

To summarize the data on differences between the percentage shares of supply of and demand for work, on a nationwide scale as well as for the individual provinces and regions, the dissimilarity index (D) has been calculated[7]. This index is presented with the following formula:

$$D = \frac{1}{2}\sum_{i=1}^{k}\left|\frac{u_i}{u} - \frac{v_i}{v}\right|,$$

where k is the number of occupational categories covered by the research,
u_i – number of unemployed seeking work in the profession i,
u – total number of unemployed,
v_i – number of vacancies offered in profession i,
v – total number of vacancies.

The *D* value may be interpreted as the lowest percentage of jobseekers who would need to be retrain in order for a complete structural match to appear in the market (Flückiger, Silber, 1999: 53).

Table I.7. Balance in the labour market: The difference between the shares of individual occupations (ISCO-1) in the supply and demand structure:

Administrative region	2 prof	3 asso	4 cler	5 serv	7 craf	8 oper	9 elem	D*
Dolnośląskie	-15.6	1.9	2.5	17.7	-3.5	-9.4	13.1	0.318
Kujawsko-pomorskie	-18.8	-4.0	-0.5	8.4	-5.9	-1.2	23.6	0.312
Lubelskie	-12.1	0.4	6.4	7.5	-3.4	-2.0	12.6	0.222
Lubuskie	-2.9	4.2	-2.8	1.4	-3.6	-11.0	14.9	0.204
Łódzkie	-2.3	2.7	5.8	-1.4	-16.2	-3.0	16.4	0.239
Małopolskie	-14.0	2.4	2.4	0.7	-3.9	0.1	13.4	0.185
Mazowieckie	-14.8	1.9	3.3	2.3	-3.8	-2.1	14.4	0.214
Opolskie	-6.7	-13.8	2.8	9.7	6.3	-5.6	4.9	0.249
Podkarpackie	-3.2	2.7	3.7	13.4	-21.2	-10.9	18.3	0.367
Podlaskie	-6.8	5.0	6.4	9.1	-5.3	-1.2	-5.8	0.198
Pomorskie	-15.6	-9.8	5.2	14.5	7.1	-8.0	12.0	0.361
Śląskie	-8.9	-3.4	9.2	2.1	-15.2	-2.2	19.1	0.301
Świętokrzyskie	-2.5	0.0	10.3	12.0	-36.6	0.2	18.6	0.402
Warmińsko-mazurskie	-10.9	-0.1	5.6	6.2	-12.3	-4.9	18.3	0.291
Wielkopolskie	-9.2	-2.6	1.4	0.2	5.0	-4.6	10.4	0.168
Zachodniopomorskie	-7.6	-2.1	1.1	-4.6	1.8	-2.5	14.8	0.173
total	-9.9	-0.6	3.9	5.8	-6.6	-4.4	14.0	0.226

** D – Duncan's dissimilarity index.*

Source: BKL – Population Study 2014, Employer Study 2014.

[7] This measure was proposed by Otis Dudley Duncan. In the 2013 report, we have called this measure the Ratio of Structural Mismatch. This ratio can have values from the 0 to 1 range. Zero means complete match of both percentage structures, whereas 1 would mean an extreme situation in which the unemployed are seeking jobs only in such professions for which the employers do not exhibit any demand.

Balance of supply of and demand for employees

As in the previous years, the largest relative surplus of unemployed is observed in the category of unskilled workers. From this perspective, the lack of specific qualifications is the main reason for difficulties in finding employment. Excessive supply is also present in the service, trade, and office professions, which are two categories where mostly women declare their willingness to work.

On the other hand, the relatively largest shortage of workers applies primarily to skilled workers, operators/assemblers and professionals.

Table I.8. Balance in the labour market: The difference between the shares of individual occupations (ISCO-2) in the supply and demand structure:

		Central	Southern	Eastern	North-Western	South-Western	Northern	Country total
ISCO-1	ISCO-2 D*	0.335	0.331	0.318	0.263	0.326	0.319	0,254
2 PROF	21 science and engineering professionals	-0.6	-2.8	-0.2	0.8	-1.5	-5.0	-1.5
	22 health professionals	-1.9	-2.2	-4.4	-3.2	-3.7	-3.5	-3.1
	23 teaching professionals	1.1	0.8	-1.2	-2.8	0.6	0.2	-0.3
	24 business and administration professionals	-5.5	-3.8	-1.9	-0.3	-5.2	-5.5	-3.5
	25 information and communications technology professionals	-3.5	-4.3	0.2	-2.1	-4.7	-0.3	-2.2
	26 legal, social and cultural professionals	0.6	1.0	0.5	0.9	0.9	-0.3	0.6
3 ASSO	31 science and engineering associate professionals	1.1	0.6	2.2	0.2	-3.1	-0.3	0.4
	32 health associate professionals	1.5	0.4	0.1	-0.4	0.0	-0.3	0.2
	33 business and administration associate professionals	-4.0	-2.3	-0.9	-0.4	-0.4	-5.3	-2.3
	34 legal, social, cultural and related associate professionals	0.9	1.2	0.0	0.4	-0.5	2.0	0.7
	35 information and communication technicians	4,1	-0.2	0.8	0.0	0.8	0.5	0.9
4 CLER	41 general and keyboard clerks	2.2	8.3	4.9	4.6	2.9	5.3	4.8
	42 customer service clerks	-0.8	-0.9	0.4	-2.4	0.6	-2.0	-0.9
	43 numerical and material recording clerks	3.5	-0.8	1.2	-1.9	-0.7	1.4	0.4
	42 Other clerical support workers	-0.4	-0.1	-0.4	0.4	0.0	0.0	-0.1
5 SERV	51 Personal service workers	1.6	2.8	2.2	-2.4	8.7	4.3	2.5
	52 Sales workers	-0.7	-2.7	5.5	5.2	5.7	3.6	2.7
	53 Personal care workers	0.4	1.1	0.8	0.1	0.0	1.0	0.6
	54 protective services workers	-0.3	0.9	1.9	-2.6	1.5	2.1	0.6
7 CRAF	71 Building and related trade workers (excluding electricians)	-8.1	-2.8	-11.3	0.6	0.9	0.4	-4.0
	72 Metal, machinery and related trades workers	-1.6	-3.5	-2.0	3.2	1.0	-0.9	-0.6
	73 Handicraft and printing workers	0.5	0.0	-0.5	-0.5	0.6	-0.1	-0.1
	74 Electrical and electronic trades workers	4.2	-3.6	0.8	0.4	-0.2	-0.5	0.2
	75 Food processing, wood working, garment and other craft and related trades workers	-3.2	-0.1	-2.1	-1.6	-4.1	-1.0	-1.9
8 OPER	81 Stationary plant and machine operators	-1.9	-1.6	-0.6	-2.0	-0.7	-2.1	-1.5
	82 Assemblers	-0.1	-0.8	-0.4	-0.1	0.0	-1.6	-0.5
	83 Drivers and mobile plant operators	0.0	2.7	-3.9	-2.6	-7.8	-1.2	-1.9
9 ELEM	91 Cleaners and helpers	1.5	2.6	2.8	0.8	0.6	1.6	1.8
	92 Agricultural, forestry and fishery labourers	0.0	0.0	-1.5	-0.1	0.0	0.0	-0.3
	93 Labourers in mining, construction, manufacturing and transport	10.4	10.7	7.4	7.7	6.7	9.5	8.9
	94 Food preparation assistants	-0.8	-0.5	-0.4	-0.4	1.2	-1.8	-0.5
	95 Street and related sales and service workers	0.0	0.0	0.0	-0.6	0.0	0.0	-0.1
	96 Refuse workers and other elementary workers	-0.1	-0.3	0.2	0.8	-0.1	0.0	0.1
	total	0.0	0.0	0.0	0.0	0.0	0.0	0.0

** D – Duncan's dissimilarity index.*

Source: BKL – Population Study 2014, Employer Study 2014.

Occupations and competences – confrontation of supply and demand

Analysis conducted on ISCO Level 2 (Table I.8) reveals that the problem with mismatched structure of supply and demand is most pronounced in categories of auxiliary industrial labourers (Cat. 93), secretaries (Cat. 41), and sales workers (Cat. 52) – excessive supply is present in all these categories. On the other hand, the largest shortages are found in the category of construction workers (Cat. 71), business and administration professionals (Cat. 24), and information and communications technology professionals (Cat. 25).

The analysis of structural mismatch (expressed in percentage) in the labour market should be supplemented by data based on absolute values.[8] Table I.9 presents estimates of the number of job seekers ready to start work in a given ISCO-1 occupational category per one vacancy advertised by the employers under the same category.

This analysis confirms that, in the subsequent years of the study, the occupations where the employers encountered the largest difficulties in finding people to work (the smallest number of candidates per vacancy) included the categories of professionals, skilled workers, and operators. It comes as no surprise that the category with the largest number of job seekers, translating into very slim chances for employment, was the category of elementary workers, not requiring qualifications.

Table I.9. Estimated number of job-seekers in a given occupation per one vacancy (2014)

		2 PROF	3 ASSO	4 CLER	5 SERV	7 CRAF	8 OPER	9 ELEM	Total occupations
2010	Country total	1.0	3.1	4.1	4.3	2.4	2.0	15.1	3.1
2011	Country total	1.8	2.3	9.0	4.8	1.9	2.0	9.9	3.2
2012	Country total	1.9	3.6	8.2	6.0	2.3	2.2	12.0	3.8
2013	Country total	2.8	4.8	6.8	5.6	3.2	2.5	12.1	4.5
2014	Country total	1.3	2.8	5.4	3.9	2.2	1.7	8.1	2.9
Administrative regions (2014)	Opolskie	0.9	0.6	3.5	2.3	1.9	0.8	2.7	1.5
	Lubuskie	0.9	2.7	1.2	1.6	1.3	0.3	4.0	1.5
	Pomorskie	0.4	0.7	3.7	3.1	2.3	0.5	5.9	1.7
	Podlaskie	1.1	3.4	9.9	3.6	1.5	2.0	1.7	2.1
	Łódzkie	1.8	3.5	11.1	2.0	1.3	1.8	10.4	2.2
	Warmińsko-mazurskie	0.8	2.5	6.3	3.4	1.5	1.3	6.2	2.4
	Mazowieckie	1.0	3.0	3.7	2.9	2.1	1.9	6.5	2.5
	Zachodniopomorskie	1.4	2.5	4.0	2.3	3.2	2.2	6.3	2.9
	Dolnośląskie	0.8	3.7	4.4	6.9	2.5	1.0	8.4	2.9
	Wielkopolskie	1.2	2.5	3.7	3.1	3.7	1.6	8.3	3.1
	Śląskie	1.7	2.3	13.9	3.6	1.7	2.4	14.8	3.3
	Małopolskie	1.5	4.6	5.1	3.9	3.2	3.9	14.2	3.8
	Świętokrzyskie	3.3	4.2	*---	8.5	1.4	4.0	*---	3.9
	Kujawsko-pomorskie	0.9	2.8	3.9	6.5	3.0	2.6	15.7	4.0
	Lubelskie	1.8	4.1	19.6	5.8	3.6	3.3	15.9	4.1
	Podkarpackie	4.2	7.5	15.4	13.1	2.8	1.4	23.8	5.7

← regions arranged ← according to average number of unemployed per offered vacancy

* *The very high values for Categories 5 and 9 in the Świętokrzyskie province were omitted, due to the very small (compared to the previous year) number of vacancies reported by employers.*

Source: BKL – Population Study 2010-2014, Employer Study 2010-2014.

[8] This type of analysis is burdened with a higher risk of error, regardless of the difficulty of transposing the absolute values from the sample to the whole population.

3. Structure of requirements and competence self-assessment

Both the employers and working-age respondents, including the unemployed, were asked questions regarding the general competence set. Employers were asked about the level of competences expected from candidates for specific positions, and the job seekers were asked to perform a self-assessment of their competences. Because both groups defined the individual competencies in an identical manner, and almost identical formats for response scales[9] were used, it is possible to compare competence profiles for specific positions with the competence profiles of the unemployed applying for a given type of work. Such comparisons can be done in several ways; each of which underscores another aspect of the "mismatch."[10] The section below presents three types of comparisons, which take into account the following:

1. Raw results (absolute values): This is the simplest comparison, based on the average levels of competence requirements defined by the employers and the average self-assessment levels of the unemployed. The differences show whether the respondents verbally define their level of competencies as equal to, or higher or lower than the level set by employers.
2. Results centred within occupational categories: In consequence of this centring, each competence is evaluated against all the remaining competencies **in the given occupation**. In the group of employers, positive results mean that the given competence is more necessary than are the others in this occupation, while negative results (the contrary) indicate that the competence is less necessary. Similarly, in the group of job seekers, positive results mean that persons seeking work in a given profession have a higher self-assessment of the given competence than of other competences, while a negative value indicates the contrary. The zero value corresponds to the average level of competence requirements and self-assessments in the given occupation. Applying this kind of centring, we disregard the fact that, in certain occupations, people have a general tendency for higher self-assessment (or the employers pose stricter requirements) than in other ones, and we focus on the relative importance of the individual competencies for particular occupations.

   The differences between results centred in this manner show to what extent **in the individual occupational categories** the *relative* weight given to specific competencies by the employers differs from the *relative* self-assessment of the candidates.

3. Double centred results (within both occupational categories and competences): Such centring takes into account both the importance of a given competence in a given occupation, versus other competencies, and also its importance in a given occupation as compared to other occupations.[11] The zero value denotes the average level of self-assessment/requirements, for all competences and occupations analysed together.

   The differences between results centred in this manner show to what extent the weight given by the employers to the given competency for the given occupation (compared to all other competences and to all other occupations) differs from the self-assessment of the job seekers regarding this competence (also compared to all other competences and to all other occupations).

The logic of this three-level analysis is presented below based on technical competences (TEC) in the category of skilled workers (7 – Craftsmen / skilled workers). Taking the appropriate data contained in Tables I.12–I.14, we can prepare the following comparison.

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[9] In both cases, 5-point scales were applied. Competence levels from 2 to 5 were defined, in turn, as "elementary," "medium," "high," and "very high". The definition of the first, lowest level, was the only one that differed, i.e. in the employers' study it was labeling the whole competence as "unnecessary," while in the population study it was labeling the competence level as "low."

[10] As both the self-assessment of the unemployed and requirements of employers are very stable across all rounds of the study, all the analyses shown here have been made on aggregated databases for the years 2010-2014.

[11] Formally, if x_{kz} refers to the average level of competence k required in occupation z, and $\overline{x}_z, \overline{x}_k, \overline{x}$ refer, respectively, to: the average level of all competence requirements for occupation z, the average level of requirements for competence k in all occupations, and the average level of all requirements with respect to all the occupations, the centring is done according to the formula: $c_{kz} = x_{kz} - \overline{x}_z - \overline{x}_k + \overline{x}$.

Table I.10. Balance of technical competences (TEC) for craftsmen and skilled workers (7 CRAF)

Results:		Raw		Centred relative to occupations		Centred relative to occupations and competences	
Evaluators:	Category:	TEC	Overall competences	TEC	Overall competences	TEC	Overall competences
Unemployed	7 CRAF	3.22	2.92	0.30	0.00	0.69	0.00
	Total occupations	2.76	3.14	-0.39	0.00	0.00	0.00
Employers	7 CRAF	2.62	2.50	0.12	0.00	0.84	0.00
	Total occupations	2.01	2.73	-0.72	0.00	0.00	0.00
Difference	7 CRAF	0.60	0.42	0.18	0.00	-0.15	0.00
	Total occupations	0.75	0.42	0.33	0.00	0.00	0.00

Source: BKL – Population Study 2010-2014, Employer Study 2010–2014.

On the basis of the raw results, we see that the unemployed skilled workers assess their technical competences on the average at 3.22, while the employers recruiting skilled workers require technical competences on the level of 2.62. Thus, the difference is positive (+0.60). From the first perspective, it appears that the workers have a subjective surplus of technical competences.

The unemployed skilled workers self-assess all their competences on the average at 2.92, which means that their self-assessment of technical competences is 0.30 points higher than this average level. The 0.30 is the result centred with respect to occupations (here: with respect to the occupational category 7 craf). Similarly, the employers – taking into account all competences – pose requirements for skilled workers on the average level of 2.50, which means that their technical requirements are 0.12 points higher than this average level. This manner of centring results reduced the difference between the self-assessment of job seekers and the requirements of employers from 0.60 for raw data to 0.18 (the "surplus" does not appear so large, anymore). This is due to the overall self-assessment of skilled workers being higher than the overall level of requirements posed by employers seeking to recruit them. This in turn results from the fact that the unemployed workers declare a certain level of competences that, from the employers' perspective, are completely useless in positions of this type (artistic, office, managerial and computer competences). Compared to the other competence groups, the technical competences are more important from the employers' perspective than that of the workers, and this difference in perspective is reflected in the results centred within the Category 7 craf.

In the last step, we additionally take into account the fact that among **all employers** the technical requirements are as much as 0.72 points (2.01 – 2.73) below the overall level for competence requirements (in this comparison, enterprises seeking skilled workers present rather "strict" requirements), while among **all the unemployed**, the self-assessment of technical competences does not differ so much from that for overall competences – it is lower by 0.39 points (2.76 – 3.14). In consequence, it turns out that the difference between doubly centred results (for both occupations and professions) is negative (-0.14), so the doubly relativised requirements of employers are slightly higher than the doubly relativised self-assessment of job seekers.

In summary, according to the formula presented in footnote 11, the difference between the doubly centred results for technical competences in the group of skilled workers can be presented in the following manner, broken down into the individual components:

Table I.11. Double centring of technical competences in the occupational category of craft workers

	c_{kz} =	(1) $+ x_{kz}$	(2) $- \bar{x}_z$	(3) $- \bar{x}_k$	(4) $+ \bar{x}$
Self-assessment of job-seekers	**0.69** =	+3.22	–2.92	–2.76	+3.14
Requirements of employers	**0.84** =	+2.62	–2.50	–2.01	+2.73
Difference SA - R	**-0.15** =	+0.60	–0.42	–0.75	+0.42

(1) x_{kz} *– average result for technical competences in the craft workers' occupations*
(2) $\bar{x}_z$ *– average result for all competences in the craft workers' occupations*
(3) $\bar{x}_k$ *– average result for technical competences for all occupations*
(4) $\bar{x}$ *– average result for all competences among all occupations*

Source: BKL – Population Study 2010–2014, Employer Study 2010–2014.

As a matter of fact, both the technical competences self-assessment of craft workers exceeds by 0.60 points the requirements of the employers seeking to hire them (x_{kz}), and the overall self-assessment of the unemployed exceeds the overall competence requirements of the employers by 0.42 points ($\bar{x}$), but these "surpluses" are more than leveled out by two facts. First of all, the level of technical requirements among all the employers is lower by as much as 0.75 points from the self-assessment of technical competences among all the unemployed ($\bar{x}_k$). In this light, the technical requirements of employers seeking craft workers appear very radical compared to other employers, while these workers do not much surpass representatives of other professions in that respect. Second, the overall competence requirements of employers seeking craft workers are lower by 0.42 points from the overall self-assessment of the unemployed seeking such work ($\bar{x}_z$). This in turn means that the large technical advantage (in terms of raw data) of craft workers against the requirements of employers seeking to recruit them declines significantly, if we analyse these self-assessments and technical requirements vis-a-vis **other competences**.

In the further part of this section, all three approaches to competences (raw results, centred with relation to occupations and doubly centred, with relation to occupations and competences) are presented according to the same model: first the requirements of employers, next self-assessment of job-seekers, finally the differences between self-assessments and requirements. Competences in the table are organised according to the overall average level of employers' requirements (calculated on raw data). Analysing these results, it is necessary to keep in mind that they are not based on objective measurement of actual competencies and actual competence requirements, but on declarations of the employers and job-seekers, reflecting their subjective assessments.

Competence self-assessments and requirements: comparison of raw data

Table I.12a. Competence requirements of employers (raw data)

	PER	SLF	AVL	LANG	PHY	COG	COM	MAT	TEC	MNG	OFF	ART	Total
2 prof	4.11	4.06	3.52	3.92	2.22	3.71	3.72	2.64	1.58	2.18	2.44	2.18	3.02
3 asso	4.12	4.08	3.45	3.76	2.44	3.56	3.57	3.11	1.72	2.11	2.68	1.78	3.03
4 cler	4.02	3.79	3.16	3.79	2.25	3.12	3.56	2.88	1.60	2.08	3.11	1.49	2.90
5 serv	4.06	3.58	3.41	3.52	2.90	2.76	2.48	2.57	1.42	2.07	1.87	2.09	2.73
7 craf	3.23	3.32	3.25	2.70	3.43	2.44	1.72	2.33	2.62	1.97	1.26	1.72	2.50
8 oper	3.43	3.32	3.72	2.90	3.41	2.36	1.69	2.24	2.73	1.71	1.29	1.22	2.50
9 elem	3.25	3.24	3.45	2.64	3.61	2.26	1.31	1.94	1.95	1.68	1.20	1.46	2.33
total	3.74	3.63	3.42	3.34	2.92	2.90	2.55	2.54	2.01	2.01	1.89	1.79	2.73

Table I.12b. Competence self-assessment of job seekers (raw data)

	PER	SLF	AVL	LANG	PHY	COG	COM	MAT	TEC	MNG	OFF	ART	Total
2 prof	4.22	3.93	4.04	4.21	3.77	3.91	4.14	3.56	2.65	3.49	3.71	3.17	3.73
3 asso	4.08	3.77	3.92	3.93	3.75	3.53	3.84	3.53	2.87	3.31	3.39	2.85	3.56
4 cler	4.03	3.68	4.00	4.00	3.70	3.59	3.88	3.44	2.52	3.39	3.73	2.78	3.56
5 serv	3.85	3.32	3.73	3.52	3.55	3.10	3.10	3.06	2.27	2.79	2.79	2.58	3.14
7 craf	3.61	3.11	3.76	3.11	3.63	2.78	2.43	2.74	3.22	2.42	2.08	2.20	2.92
8 oper	3.77	3.34	3.98	3.37	3.81	3.01	2.81	2.89	3.47	2.69	2.27	2.15	3.13
9 elem	3.52	2.96	3.67	2.98	3.51	2.59	2.22	2.49	2.71	2.23	1.99	2.06	2.74
total	3.80	3.33	3.81	3.45	3.63	3.08	3.00	2.99	2.76	2.76	2.67	2.46	3.14

Table I.12c. Balance of competences as difference between self-assessment and requirement (raw data)

	PER	SLF	AVL	LANG	PHY	COG	COM	MAT	TEC	MNG	OFF	ART	Total
2 prof	0.10	-0.13	0.52	0.29	1.55	0.20	0.42	0.92	1.06	1.30	1.27	0.99	0.71
3 asso	-0.04	-0.31	0.47	0.17	1.31	-0.03	0.28	0.42	1.15	1.20	0.71	1.07	0.53
4 cler	0.00	-0.11	0.84	0.21	1.44	0.47	0.32	0.56	0.92	1.31	0.62	1.29	0.66
5 serv	-0.21	-0.25	0.32	0.00	0.65	0.34	0.63	0.49	0.85	0.72	0.92	0.48	0.41
7 craf	0.38	-0.21	0.51	0.41	0.19	0.34	0.71	0.41	0.60	0.45	0.83	0.48	0.42
8 oper	0.33	0.02	0.25	0.47	0.40	0.65	1.12	0.65	0.74	0.98	0.98	0.93	0.63
9 elem	0.26	-0.28	0.22	0.35	-0.10	0.33	0.92	0.56	0.76	0.55	0.78	0.60	0.41
total	0.06	-0.29	0.39	0.12	0.71	0.18	0.44	0.45	0.75	0.75	0.78	0.67	0.42

ART – artistic, OFF – office, AVL – availability, PHY – physical, PER – interpersonal (contacts with other people), LANG – languages, MNG – managerial, COG – cognitive, COM – computer, MAT – mathematical, SLF – self-organisational, TEC – technical.

Source: BKL – Population Study 2010-2014, Employer Study 2010-2014.

As illustrated above, the general competence requirements and self-assessment of job seekers have a similar structure. The job seekers usually assess their competences above the level of the requirement posed by employers. The only clear exceptions are the self-organisational competencies, where the self-assessment does not reach the level of requirements. The dominance of self-assessment over requirements is particularly high in the case of those competences which are less in demand among all employers (physical, technical, managerial, office and artistic). It is also worth noting that competencies characterized by the most uniform (and rather low) demand among employers, across various occupations, are the managerial competences.

Competence self-assessments and requirements: comparison of data centred within occupational categories

Table I.13a. Competence requirements of employers (data centred with respect to occupational categories)

	PER	SLF	AVL	LANG	PHY	COG	COM	MAT	TEC	MNG	OFF	ART	Total
2 prof	1.09	1.03	0.49	0.90	-0.81	0.69	0.70	-0.38	-1.44	-0.84	-0.58	-0.84	0.00
3 asso	1.09	1.05	0.42	0.73	-0.59	0.53	0.53	0.08	-1.31	-0.92	-0.35	-1.26	0.00
4 cler	1.12	0.89	0.26	0.88	-0.65	0.21	0.66	-0.02	-1.31	-0.82	0.21	-1.42	0.00
5 serv	1.34	0.85	0.68	0.80	0.17	0.03	-0.25	-0.16	-1.31	-0.66	-0.86	-0.64	0.00
7 craf	0.73	0.82	0.75	0.19	0.93	-0.06	-0.78	-0.17	0.12	-0.53	-1.24	-0.78	0.00
8 oper	0.93	0.82	1.22	0.40	0.91	-0.14	-0.81	-0.26	0.23	-0.79	-1.21	-1.28	0.00
9 elem	0.92	0.91	1.12	0.30	1.27	-0.07	-1.02	-0.40	-0.38	-0.65	-1.13	-0.87	0.00
total	1.01	0.90	0.69	0.61	0.19	0.17	-0.17	-0.19	-0.72	-0.72	-0.84	-0.93	0.00

Table I.13b. Competence self-assessment of the unemployed: (data centred with respect to occupational categories)

	PER	SLF	AVL	LANG	PHY	COG	COM	MAT	TEC	MNG	OFF	ART	Total
2 prof	0.48	0.20	0.30	0.47	0.04	0.18	0.41	-0.17	-1.08	-0.24	-0.02	-0.56	0.00
3 asso	0.51	0.20	0.36	0.37	0.18	-0.03	0.28	-0.04	-0.69	-0.25	-0.17	-0.72	0.00
4 cler	0.46	0.12	0.44	0.44	0.14	0.03	0.32	-0.12	-1.04	-0.17	0.17	-0.78	0.00
5 serv	0.71	0.19	0.59	0.38	0.42	-0.04	-0.03	-0.08	-0.87	-0.35	-0.34	-0.56	0.00
7 craf	0.69	0.18	0.84	0.18	0.70	-0.14	-0.50	-0.19	0.30	-0.50	-0.84	-0.72	0.00
8 oper	0.64	0.21	0.84	0.24	0.68	-0.12	-0.32	-0.24	0.34	-0.44	-0.86	-0.98	0.00
9 elem	0.77	0.21	0.92	0.24	0.76	-0.15	-0.52	-0.25	-0.03	-0.51	-0.76	-0.69	0.00
total	0.65	0.19	0.67	0.31	0.48	-0.06	-0.15	-0.15	-0.39	-0.39	-0.47	-0.68	0.00

Table I.13c. Balance of competences as the difference between self-assessment and requirements (data centred with respect to occupational categories)

	PER	SLF	AVL	LANG	PHY	COG	COM	MAT	TEC	MNG	OFF	ART	Total
2 prof	-0.61	-0.84	-0.19	-0.42	0.84	-0.51	-0.29	0.21	0.36	0.60	0.56	0.28	0.00
3 asso	-0.58	-0.85	-0.06	-0.36	0.77	-0.56	-0.26	-0.11	0.62	0.67	0.18	0.54	0.00
4 cler	-0.65	-0.77	0.18	-0.45	0.79	-0.18	-0.33	-0.10	0.26	0.65	-0.04	0.64	0.00
5 serv	-0.62	-0.66	-0.09	-0.42	0.24	-0.07	0.22	0.08	0.44	0.31	0.51	0.07	0.00
7 craf	-0.04	-0.64	0.09	-0.01	-0.23	-0.09	0.28	-0.02	0.18	0.02	0.40	0.06	0.00
8 oper	-0.30	-0.61	-0.38	-0.15	-0.23	0.03	0.49	0.02	0.11	0.35	0.36	0.30	0.00
9 elem	-0.15	-0.69	-0.19	-0.06	-0.51	-0.08	0.50	0.15	0.35	0.14	0.37	0.19	0.00
total	-0.36	-0.71	-0.03	-0.30	0.29	-0.24	0.03	0.04	0.33	0.33	0.37	0.25	0.00

ART – artistic, OFF – office, AVL – availability, PHY – physical, PER – interpersonal (contacts with other people), LANG – languages, MNG – managerial, COG – cognitive, COM – computer, MAT – mathematical, SLF – self-organisational, TEC – technical.

Source: BKL – Population Study 2010-2014, Employer Study 2010-2014.

After centring the results within the individual occupations, we see that competences differ more in terms of employers' demand than self-assessment of job seekers. This is particularly visible on the basis of physical fitness (PHY): white-collar workers (2 prof, 3 asso, 4 cler) are expected to demonstrate a certain level of physical fitness, but other requirements are much more important, while, in the case of blue-collar workers performing physical labour (7 craf, 8 oper, 9 elem), their physical fitness becomes the key requirement. Looking at the self-assessment of physical fitness among the job seekers, there is

Occupations and competences – confrontation of supply and demand

a similar dependency (compared to other competences, white-collar workers self-assess their physical fitness relatively lower than blue-collar ones), but it is not so radical. The balance shows that, in terms of interpersonal (PER), self-organisational (LSF) and language (LANG) competences, the job seekers across all professions have relative shortages with respect to requirements of employers, while, in terms of technical (TEC), managerial (MNG), office (OFF) and artistic (ART), they display a relative surplus. In the case of computer (COM) competencies and the already mentioned physical fitness, there is a clear polarisation: The white-collar occupations display a relative shortage of computer skills and a surplus of physical fitness, while the blue-collar occupations display the contrary.

Competence self-assessments and requirements: comparison of doubly-centred data

Table I.14a. Competence requirements of employers (data centred with respect to occupational categories and competences)

	PER	SLF	AVL	LANG	PHY	COG	COM	MAT	TEC	MNG	OFF	ART	Total
2 prof	0.08	0.13	-0.20	0.29	-1.00	0.51	0.87	-0.19	-0.72	-0.12	0.26	0.09	0.00
3 asso	0.08	0.15	-0.27	0.12	-0.78	0.36	0.71	0.27	-0.59	-0.20	0.49	-0.32	0.00
4 cler	0.10	-0.01	-0.43	0.27	-0.84	0.04	0.83	0.17	-0.59	-0.10	1.05	-0.48	0.00
5 serv	0.32	-0.05	-0.01	0.19	-0.02	-0.14	-0.08	0.03	-0.59	0.06	-0.02	0.30	0.00
7 craf	-0.28	-0.08	0.06	-0.41	0.74	-0.23	-0.60	0.02	0.84	0.19	-0.40	0.16	0.00
8 oper	-0.08	-0.08	0.53	-0.21	0.72	-0.31	-0.64	-0.07	0.95	-0.07	-0.37	-0.35	0.00
9 elem	-0.09	0.01	0.43	-0.31	1.08	-0.24	-0.85	-0.20	0.34	0.07	-0.29	0.06	0.00
total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 1.14b. Competence self-assessment of the unemployed (data centred with respect to occupational categories and competences)

	PER	SLF	AVL	LANG	PHY	COG	COM	MAT	TEC	MNG	OFF	ART	Total
2 prof	-0.17	0.01	-0.36	0.17	-0.45	0.24	0.56	-0.02	-0.69	0.14	0.45	0.13	0.00
3 asso	-0.14	0.02	-0.31	0.06	-0.30	0.03	0.42	0.12	-0.31	0.13	0.30	-0.03	0.00
4 cler	-0.19	-0.07	-0.22	0.13	-0.35	0.09	0.47	0.03	-0.65	0.22	0.64	-0.10	0.00
5 serv	0.06	0.00	-0.08	0.07	-0.07	0.02	0.11	0.08	-0.48	0.03	0.13	0.12	0.00
7 craf	0.04	-0.01	0.17	-0.12	0.22	-0.08	-0.35	-0.03	0.69	-0.12	-0.37	-0.04	0.00
8 oper	-0.02	0.02	0.18	-0.07	0.20	-0.05	-0.17	-0.09	0.73	-0.06	-0.38	-0.30	0.00
9 elem	0.12	0.02	0.26	-0.07	0.28	-0.09	-0.37	-0.10	0.36	-0.13	-0.28	0.00	0.00
total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 1.14c. Balance of competences as difference between self-assessment and requirement (data centred with respect to occupational categories and competences).

	PER	SLF	AVL	LANG	PHY	COG	COM	MAT	TEC	MNG	OFF	ART	Total
2 prof	-0.25	-0.13	-0.16	-0.12	0.55	-0.27	-0.31	0.17	0.03	0.26	0.20	0.03	0.00
3 asso	-0.22	-0.14	-0.04	-0.06	0.48	-0.32	-0.28	-0.15	0.28	0.33	-0.19	0.29	0.00
4 cler	-0.29	-0.06	0.21	-0.14	0.50	0.05	-0.36	-0.13	-0.07	0.32	-0.40	0.39	0.00
5 serv	-0.26	0.05	-0.07	-0.11	-0.05	0.16	0.19	0.04	0.11	-0.03	0.15	-0.18	0.00
7 craf	0.32	0.07	0.11	0.29	-0.52	0.15	0.26	-0.05	-0.15	-0.31	0.04	-0.19	0.00
8 oper	0.06	0.10	-0.35	0.15	-0.52	0.26	0.47	-0.01	-0.22	0.01	-0.01	0.05	0.00
9 elem	0.21	0.02	-0.17	0.24	-0.80	0.15	0.48	0.11	0.02	-0.19	0.00	-0.06	0.00
total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ART – artistic, OFF – office, AVL – availability, PHY – physical, PER – interpersonal (contacts with other people), LANG – languages, MNG – managerial, COG – cognitive, COM – computer, MAT – mathematical, SLF – self-organisational, TEC – technical.

Source: BKL – Population Study 2010-2013, Employer Study 2010-2013.

The doubly centred data show a clear polarisation of white-collar and blue-collar occupations in terms of physical fitness and computer competencies. In the white-collar occupations, physical fitness is less necessary than other competencies. It is also relatively less necessary than in other occupations; hence, there is a clear surplus of physical fitness in these occupations. The issue with computer skills is the reverse: They are relatively important, compared to other competencies, for white-collar occupations, as well as more necessary than in different types of occupations; hence, there is a shortage. According to the same rule, but in reverse, there is a shortage of physical fitness and a surplus of computer skills in the case of blue-collar occupations.

It is possible to observe, in the case of white-collar occupations (including trade and services), a special deficiency of interpersonal competences and (not including trade and services) a deficiency of self-organisational competences. On the other hand, the white-collar occupations display a relative surplus of self-assessment regarding managerial competences.

The balance of cognitive competences is negative only in the categories of professionals (2 prof) and associate professionals (3 asso), and of office competences – only among associate professionals and clerical employees.

4. Summary

During the years 2010-2014, the Polish labour market did not experience any radical changes in the demand for and supply of occupational categories. The structure of employers' demand has been similar every year, and the occupational structure of the unemployed also remained rather stable. The most sought-after employees were the craft workers, with professionals, sales workers and service workers being the next most popular groups. Among the unemployed, the largest categories were those willing to work in service and trade occupations (mostly women) and in blue-collar occupations, including both skilled (craft) and elementary (primarily men).

In terms of the number of unemployed per one vacancy, on a nationwide scale, the largest recruitment difficulties are encountered in the case of professionals, operators (including drivers) and craft workers. Obviously, the recruitment problems encountered by employers are reflected in the relatively better position of people looking for work in the given occupational category. From this perspective, the elementary workers are in the worst situation, because the absence of specific qualifications is clearly an obstacle to finding one's place in the labour market. The unemployed looking for office work are also in a difficult position.

The structure of employers' demand for competences in the various occupations roughly matches the structure of competence self-assessment of the unemployed seeking work in the particular occupations. Usually, the unemployed rate their skills above the level of requirements typical for the individual occupations.

Irrespective of the occupation, the employers underscore their demand for interpersonal and self-organization competences, and here the largest shortages among the job seekers can be seen. Potential problems are revealed especially in those areas where the employers have a demand for specific occupations. Particular attention is devoted to specific competences. On one hand, significance is placed on computer and cognitive competences in the case of professionals, technicians and associate professionals; and on the other hand, physical fitness is more significant in the case of blue-collar occupations.

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Chapter II

Szymon Czarnik, Krzysztof Kasparek

Gender segregation in the Polish labour market

Gender, aside from education and age, is one of the strongest determinants of an individual's position in the labour market. On the average, women enter the labour market at an later age than men (which is the consequence of the fact that they more frequently choose tertiary education), are less professionally active in their reproductive age,[12] and when working as contract employees, they choose to stay longer with the same employer, and, regardless of their age, they run their own businesses less frequently than men, and their salaries are lower than those of their male counterparts, as shown in different rankings[13] (Czarnik, Strzebońska, Szklarczyk, Keler, 2011; Czarnik, Turek, 2012a; 2012b; 2014). One of the significant aspects of this differentiation, which is the subject of this chapter, is also the fact that women and men tend to seek and undertake work in different professions. This phenomenon has various causes and leads to further consequences of social and economic natures. During the era of egalitarianism, all such diversities are frequently treated as "problems to be solved," especially in the political and media discourse. To a certain extent, this critical attitude is reinforced by the negative associations of the term "segregation," used to describe this phenomenon. This motivates some authors to seek neutral terms, such as "sex typing" of occupations (Czarnik, Turek 2012a; Steinmetz 2012)[14]. To begin with, we want to stress that the term "segregation" is used throughout this chapter to describe the objective fact of differences between the occupational choices made by women and men, without attempting to impose on the readers the need to interpret these differences as undesirable. On the other hand, our goal does not include the defence of gender segregation, e.g. as a mechanism that would be linked to potentially beneficial specialization. We focus rather on measuring the extent of this phenomenon invarious areas of the labour market, as well as on showing how the horizontal segregation of the occupational structure is linked with other, significant factors.

[12] More on that subject from the international perspective – see *Women as a potential of the European labour force* (Chłoń-Dominczak, Kamińska, Magda; 2013).

[13] Many of these differences are strongly tied to the dissimilar family roles of women and men. This fact is frequently stressed during the explanation of reasons for the diversity, and equally frequently overlooked in the evaluation of its consequences. For instance, the wage differences between women and men do not translate directly into differences in the standard of living of women and men, because the majority of people live in relationships where both spouses profit from the earnings made by any of them.

[14] Stephanie Steinmetz distinguishes two perspectives on gender-based segregation of occupations: sex typing, which refers to the male/female ratio within a given occupational category, and occupational chances, which refer to differential probabilities of men and women taking up jobs in particular occupations. In a contingency table eliciting the relationship between gender (columns) and occupation (rows), sex typing and occupational chances are based on calculating row and column percentages, respectively.

Segregation indexes

The relevant literature describes many alternative ways of measuring occupational segregation, and discussions on the advantages and disadvantages of particular measures are ongoing. In this chapter, we shall use the most popular measures, namely, the dissimilarity index, supplementing it by two others – the Cramér's *V* coefficient and the homogeneity index.

We shall use the following symbols:

c	the number of analyzed occupational categories,
m_1	the number of men in occupation *i*,
M	total number of men, $M = \sum_{i=1}^{c} m_i$,
f_i	the number of women in occupation *i*,
F	total number of women, $F = \sum_{i=1}^{c} f_i$,
n_i	number of persons in occupation *i*, $n_i = m_i + f_i$,
N	total number of persons, $N = M + F$

The dissimilarity index compares the occupational structure of men with that of women by calculating differences between the percentages of men and women in particular occupations (Flückiger, Silber, 1999). It is based on the following formula:

$$D = \frac{1}{2}\sum_{i=1}^{c}\left|\frac{f_i}{F} - \frac{m_i}{M}\right|$$

The *D* value is interpreted as the minimum percentage of persons of a specific gender (e.g. women), who would have to change their occupation to make the occupational structures identical for both genders. It can range from 0 to 1, where 0 means the occupational structures of women and men are identical (i.e. a situation where the share of women within each occupation is the same as the share of women in the whole sample), and 1 means complete segregation (i.e. each occupation is performed either by women only or by men only).

The Cramér's *V* coefficient measures the strength of relationship between gender and occupation by inspecting how much the numbers of men/women performing various occupations deviate from numbers that would be expected under conditions of complete independence of the variables,

$$V = \sqrt{\frac{1}{N}\left(\sum_{i=1}^{c}\frac{\left(m_i - E(m_i)\right)^2}{E(m_i)} + \sum_{i=1}^{c}\frac{\left(f_i - E(f_i)\right)^2}{E(f_i)}\right)}$$

where $E(m_i)$ and $E(f_i)$ denote, respectively, the numbers of men and women who would be performing occupation *i* under complete absence of segregation (given M, F, and n_i):

$$E(m_i) = \frac{Mn_i}{N}, E(f_i) = \frac{Fn_i}{N}$$

Just as the dissimilarity index, the *V* coefficient can range from 0 to 1.

The homogeneity index informs us of the difference between the probability that two persons randomly selected from a single occupational category would be of the same gender, and the probability that their genders would differ.

$$H = \sum_{i=1}^{c}\frac{n_i}{N}\left[\left(\frac{m_i}{n_i}\right)^2 + \left(\frac{f_i}{n_i}\right)^2 - 2\frac{m_i}{n_i}\frac{f_i}{n_i}\right]$$

The maximum value of *H* is 1 (under full segregation), while the minimum value depends on the proportion of women and men in the sample. When the share of women and men is identical, the minimum value of H under the absence of segregation is 0.[15]

[15] The more one gender dominates numerically over the other one, the larger the overall probability that two people selected at random from the sample would be of the same gender rather than opposite gender. For the whole sample, the difference between the probability of drawing people of the same and of different genders is given by the formula $(M/N)^2 + (F/N)^2 - 2(M/N)(F/N)$ and this value is the minimum *H* value.

Table II.1 presents sample tables with the numbers of men and women (M, W) working in three different occupational categories (A, B, C). The tables have been arranged by the ascending degree of segregation. In the first table, we see no segregation at all, while in the last table, segregation is absolute. The three middle tables represent intermediate situations. For each of the tables, the values of the *D, V,* and *H* measures have been calculated to provide an illustration of how the values of these measures are linked to specific degrees of segregation.

Table II.1. Sample values of the *D, V* and *H* measures for hypothetical tables with varying degree of segregation

	M	W	
A	15	15	30
B	35	35	70
C	50	50	100
	100	100	200

D = 0.00
V = 0.00
H = 0.00

	M	W	
A	15	15	30
B	25	45	70
C	60	40	100
	100	100	200

D = 0.20
V = 0.22
H = 0.05

	M	W	
A	10	20	30
B	15	55	70
C	75	25	100
	100	100	200

D = 0.50
V = 0.51
H = 0.26

	M	W	
A	5	25	30
B	10	60	70
C	85	15	100
	100	100	200

D = 0.70
V = 0.70
H = 0.49

	M	W	
A	0	30	30
B	0	70	70
C	100	0	100
	100	100	200

D = 1.00
V = 1.00
H = 1.00

Occupational segregation of contract employees

Our analysis of occupational segregation is performed on the aggregated data from all rounds of the BKL Population Study, i.e. from the years 2010-2014, using the ISCO classification scheme (International Standard Classification of Occupations) developed under the auspices of the International Labour Organization. The classification is a hierarchical one, comprising 5 levels, which are denoted as ISCO-1 (the most general one), ISCO-2, ISCO-3, ISCO-4, and ISCO-5 (the most detailed one). Each higher-level category is divided into several sub-categories on the lower level, which are again broken into more precisely defined sub-categories on the next level down. For the purpose of analyses presented in this chapter, an additional, super-generalized level of classification (ISCO-0) was introduced, with the following 3 categories:

- White-collar work (comprising categories: 1 mana + 2 prof + 3 asso + 4 cler),
- Trade/services (category: 5 serv), and
- Blue-collar workers, physical labour (categories: 7 craf + 8 oper + 9 elem).[16]

Already at this broadly defined level, there are very clear differences between the genders. Table II.2 presents first the percentages of women and men of a given age, working in the given types of occupations. Next, the difference between the percentages in the groups of women and men is calculated. For example, physical labour is performed by only 11.6% of women aged 18-34 and as much as 53.3% of men in the same age group, which means that the difference is a negative one at 41.7 percentage points.

Table II.2. Employment structure by gender and age (generalized level ISCO-0)

Gender		Men				Women				Difference W-M			
Age		18-34	35-49	50+	Total	18-34	35-49	50+	Total	18-34	35-49	50+	Total
1 white-collar work		34.6	33.0	26.8	32.3	54.8	57.3	58.8	56.8	20.1	24.3	31.9	24.5
2 trade /services		12.0	9.3	10.3	10.6	33.6	22.5	16.8	25.0	21.6	13.2	6.5	14.3
3 blue-collar work		53.3	57.8	62.8	57.1	11.6	20.2	24.4	18.3	-41.7	-37.6	-38.4	-38.8
Total	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0
	N	8043	7741	4414	20198	6348	7676	4485	18509	14391	15417	8899	38707

Source: BKL – Population Study 2010-2014

[16] Due to the minimal numbers of agriculture-related occupation categories among people hired under employment contracts, the analysis omits the category 6 agri.

Gender segregation in the Polish labour market

Women much more frequently have white-collar jobs or work in the trade and services sector, while physical labour is much more popular with men. The age factor very clearly manifests itself in the trade and services, which are particularly dominated by young women.

More detailed data from the first and second levels of ISCO are presented in Tables II.3 and II.4. In both tables, the occupations are sorted from those most dominated by women to those most dominated by men. On the first level, a particularly strong over-representation of women is seen in the professional occupations, whereas women are barely present in the categories of operators/fitters (mostly drivers) and craft workers. It is worth noting that the least differentiating category is the managerial positions.

Table II.3. Employment structure per gender and age (general level ISCO-1)

Gender		Men				Women				Difference W-M			
Age		18–34	35–49	50+	Total	18–34	35–49	50+	Total	18–34	35–49	50+	Total
5 serv		12.0	9.3	10.3	10.6	33.6	22.5	16.8	25.0	21.6	13.3	6.5	14.4
2 prof		11.9	11.9	8.7	11.2	21.7	27.8	23.2	24.6	9.9	15.9	14.5	13.4
4 cler		7.5	5.6	5.0	6.2	16.1	11.0	14.6	13.6	8.6	5.4	9.7	7.4
3 asso		12.1	10.9	8.1	10.8	13.8	14.3	17.0	14.8	1.7	3.4	8.9	4.0
9 elem		8.1	6.3	9.2	7.6	5.0	8.8	15.7	9.2	-3.1	2.5	6.6	1.5
1 mana		3.2	4.5	5.1	4.1	3.2	4.2	3.9	3.8	0.0	-0.3	-1.2	-0.3
8 oper		18.0	21.0	20.2	19.6	2.6	3.3	2.2	2.8	-15.4	-17.7	-18.0	-16.8
7 craf		27.3	30.5	33.5	29.9	4.0	8.0	6.5	6.3	-23.3	-22.4	-27.0	-23.6
total	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0
	N	8043	7739	4415	20197	6347	7675	4486	18508	14390	15414	8901	38705

Source: BKL – Population Study 2010-2014.

On the second level of ISCO, the domination of women is most pronounced in the case of sales personnel, teachers, secretaries, and health professionals. Men clearly dominate occupations of drivers, mechanics, and construction workers. It is plain to see that "feminine" occupations and the "masculine" ones are distinguished by the fact that the former primarily involve working with people, and the latter primarily involve working with machines.

Table II.4. Employment structure per gender and age (general level ISCO-2)

Occupational segregation of contract employees

	Men				Women				Difference W-M			
	18–34	35–49	50+	Total	18–34	35–49	50+	Total	18–34	35–49	50+	Total
52 Sales workers	6.4	3.2	1.7	4.1	25.8	16.2	9.6	17.9	19.5	13.0	7.8	13.8
23 Teaching professionals	1.9	3.0	2.8	2.5	8.7	13.9	11.1	11.5	6.8	11.0	8.3	9.0
41 General and keyboard clerks	1.8	1.6	1.9	1.7	10.1	6.4	7.6	8.0	8.3	4.8	5.7	6.2
22 Health professionals	0.6	0.8	0.8	0.7	3.2	6.8	6.7	5.6	2.7	6.0	5.9	4.8
91 Cleaners and helpers	0.4	0.4	1.5	0.6	1.7	4.7	9.9	4.9	1.3	4.3	8.4	4.3
33 Business and administration associate professionals	5.8	5.6	2.7	5.0	8.7	9.0	10.3	9.2	2.9	3.5	7.6	4.2
51 Personal service workers	2.4	1.3	2.2	2.0	6.4	4.7	4.6	5.3	4.0	3.4	2.5	3.3
24 Business and administration professionals	2.6	2.1	1.4	2.2	6.0	4.2	2.9	4.5	3.4	2.1	1.4	2.3
42 Customer service clerks	0.6	0.3	0.3	0.4	3.0	1.5	2.3	2.2	2.4	1.2	2.0	1.8
34 Legal, social, cultural and related associate professionals	0.6	0.4	0.6	0.5	1.9	2.3	2.6	2.2	1.3	1.9	2.0	1.7
32 Health associate professionals	0.7	0.6	0.6	0.6	2.1	1.6	2.6	2.0	1.5	1.0	2.0	1.4
53 Personal care workers	0.1	0.2	0.3	0.2	0.9	1.0	1.6	1.1	0.8	0.7	1.3	0.9
12 Administrative and commercial managers	0.7	1.1	1.0	0.9	1.4	1.9	1.9	1.8	0.7	0.8	1.0	0.9
26 Legal, social and cultural professionals	0.7	0.8	0.8	0.7	1.5	1.5	1.0	1.4	0.9	0.7	0.2	0.6
94 Food preparation assistants	0.2	0.0	0.1	0.1	0.7	0.7	0.9	0.7	0.5	0.7	0.8	0.6
14 Hospitality, retail and other services managers	0.4	0.4	0.2	0.3	0.8	0.7	0.4	0.7	0.4	0.3	0.3	0.3
44 Other clerical support workers	0.8	0.8	0.5	0.7	0.7	1.0	1.3	1.0	-0.1	0.2	0.8	0.3
95 Street and related sales and service workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92 Agricultural, forestry and fishery labourers	0.4	0.3	0.4	0.4	0.1	0.3	0.4	0.3	-0.3	0.0	0.0	-0.1
96 Refuse workers and other elementary workers	0.5	1.0	2.3	1.1	0.3	0.9	1.9	0.9	-0.2	-0.1	-0.4	-0.2
75 Food processing, wood working, garment and other craft and related trades workers	5.2	5.4	3.1	4.8	2.7	6.1	4.7	4.6	-2.5	0.7	1.5	-0.3
99 [General elementary workers]	0.9	0.5	0.9	0.8	0.3	0.3	0.6	0.4	-0.6	-0.3	-0.2	-0.4
73 Handicraft and printing workers	1.0	1.4	0.7	1.1	0.3	0.6	0.7	0.5	-0.6	-0.8	0.0	-0.6
82 Assemblers	1.5	1.2	1.0	1.3	0.9	0.8	0.4	0.7	-0.6	-0.5	-0.6	-0.6
11 Chief executives, senior officials and legislators	0.5	0.9	1.7	0.9	0.3	0.3	0.3	0.3	-0.2	-0.6	-1.4	-0.6
35 Information and communication technicians	1.1	0.7	0.0	0.7	0.0	0.2	0.0	0.1	-1.1	-0.5	0.0	-0.6
43 Numerical and material recording clerks	4.4	3.0	2.3	3.4	2.3	2.1	3.5	2.5	-2.1	-0.9	1.1	-0.9
13 Production and specialized services managers	1.6	2.0	2.2	1.9	0.6	1.1	1.1	0.9	-1.0	-0.9	-1.2	-1.0
25 Information and communications technology professionals	2.5	1.4	0.3	1.6	0.3	0.2	0.2	0.2	-2.3	-1.2	-0.1	-1.4
21 Science and engineering professionals	3.7	3.8	2.5	3.5	2.1	1.3	1.4	1.6	-1.6	-2.5	-1.1	-1.9
31 Science and engineering associate professionals	3.9	3.8	4.3	4.0	1.1	1.2	1.6	1.3	-2.8	-2.6	-2.7	-2.7
93 Labourers in mining, construction, manufacturing and transport	5.7	4.1	4.1	4.7	1.9	2.0	2.1	2.0	-3.8	-2.0	-1.9	-2.7
74 Electrical and electronic trades workers	3.0	4.6	4.4	3.9	0.4	0.5	0.4	0.4	-2.6	-4.1	-4.0	-3.5
54 Protective services workers	3.2	4.6	6.2	4.4	0.7	0.7	1.1	0.8	-2.5	-3.9	-5.2	-3.6
81 Stationary plant and machine operators	5.1	6.0	4.2	5.2	1.1	1.7	1.1	1.3	-4.0	-4.3	-3.1	-3.9
71 Building and related trade workers (excluding electricians)	8.2	8.6	11.7	9.1	0.2	0.2	0.2	0.2	-8.0	-8.4	-11.5	-8.9
72 Metal, machinery and related trades workers	10.0	10.7	13.7	11.1	0.4	0.7	0.6	0.6	-9.6	-10.0	-13.1	-10.5
83 Drivers and mobile plant operator	10.9	13.4	14.7	12.7	0.3	0.6	0.6	0.5	-10.6	-12.8	-14.1	-12.2
Total %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0
Total N	7975	7674	4385	20034	6315	7643	4474	18432	14290	15317	8859	38466

Source: BKL – Population Study 2010–2014.

Gender segregation in the Polish labour market

Table II.5 presents values of the segregation measures for consecutive age categories, calculated based on the data in Tables II.2–II.4. Regardless of how detailed are the definitions of occupations, the intensity of segregation is very similar across all age categories.

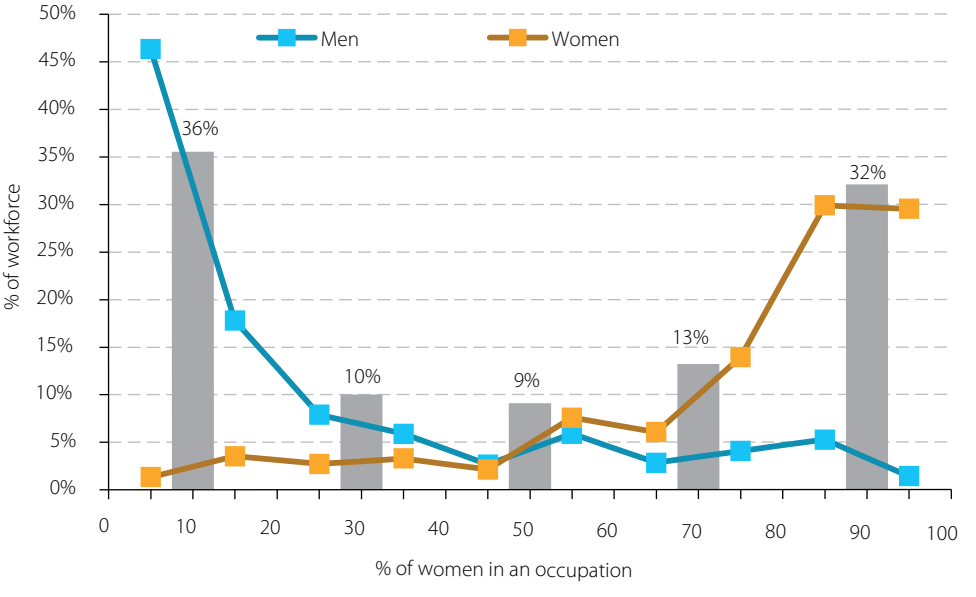
Table II.5. Measures of segregation in the individual age categories

	ISCO–0				ISCO–1				ISCO–2			
Age	18–34	35–49	50+	Total	18–34	35–49	50+	Total	18–34	35–49	50+	Total
D	0.417	0.376	0.384	0.388	0.418	0.405	0.462	0.407	0.573	0.563	0.608	0.565
V	0.446	0.389	0.390	0.401	0.468	0.450	0.504	0.457	0.606	0.622	0.659	0.617
H	0.210	0.151	0.152	0.163	0.230	0.202	0.254	0.210	0.376	0.387	0.434	0.381

Source: BKL – Population Study 2010–2014.

So far, we have compared "occupational chances" of women and men[17] (in Tables II.2–II.4 column percentages were applied). Now it is worth looking at the data also from the "gender typing" perspective by using row percentages that indicate the relative number of females in various occupations. This approach is employed in Figure II.1, making use of the gender proportions in occupational categories from the fourth level of ISCO.[18]

Figure II.1. The percentage of the workforce in occupations with a given share of women (N = 35 199)



Lines represent data separately for each gender (share of women is categorized into 10%-wide intervals). Bars represent data for the total population, including both women and men (share of women is categorized into 20%-wide intervals).

Source: BKL – Population Study 2010–2014.

The scale of labour market segregation is best shown by the fact that under 10% of all contract workers are in occupations where the share of women and men is relatively balanced (central column in the chart, representing occupations with 40%–60% women).[19] Almost 70% of people work in occupations clearly dominated by one of the genders (36% in occupations with the female share under 20% and 32% in occupations with female share above 80%). The occupational separation of men is particularly visible, since almost half of male contract employees work in occupations with the female share under 10%.

[17] See Footnote 14.

[18] Only categories represented by at least 20 persons were included in the analysis.

[19] When restricting the analysis to more sizable groups (i.e. represented in the sample by at least 100 persons), the share of "gender-balanced" occupations drops as low as 7%.

Relationship between occupational segregation and education level

One of the main factors determining the individual's place in the occupational structure is the level of his or her education. The majority of persons with tertiary education, women and men alike, fall into the top section of the ISCO hierarchy ("white-collar" work). The differences between the genders manifest themselves clearly in the case of upper secondary and lower education (Table II.6).

Table II.6. Employment structure per gender and education (general level ISCO-0)

Gender		Men				Women				Difference W–M			
Education*		low	sec	hi	Total	low	sec	hi	Total	low	sec	hi	Total
1 white–collar work		7.3	33.0	82.3	32.3	9.1	53.2	92.7	56.8	1.8	20.2	10.3	24.5
2 trade /services		7.8	15.2	8.3	10.6	41.4	31.7	6.4	25.0	33.6	16.5	–1.9	14.4
3 blue–collar work		84.9	51.8	9.3	57.1	49.5	15.1	1.0	18.3	–35.4	–36.7	–8.4	–38.8
total	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0
	N	8618	7405	4198	20221	4438	7472	6628	18538	13056	14877	10826	38759

** low = primary and basic vocational, sec = upper secondary, hi = tertiary*

Source: BKL – Population Study 2010–2014.

In the case of men, education at the vocational or lower level usually allocates them to the category of blue-collar work (physical labour), while, for women, an almost equally frequent option is employment in trade and services. Men with secondary education also mostly perform blue-collar work, while most women with the same level of education engage in white-collar work.

From the standpoint of the relationship between occupational segregation and human capital, it is worth looking at how strongly segregated is the labour market for persons with a specific education level (Table II.7, Figure II.2). The pattern here is clear – as we move into higher levels of education, gender-based segregation becomes weaker.

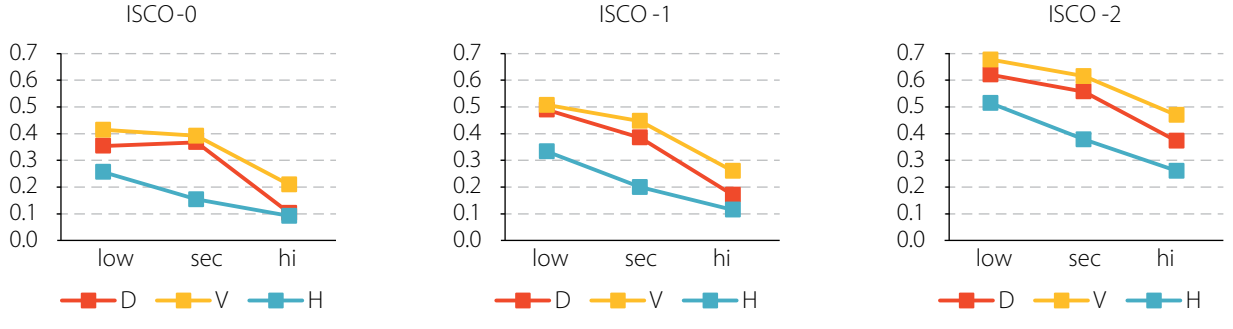
Table II.7. Measures of segregation in the individual education categories

	ISCO–0				ISCO–1				ISCO–2			
Education*	low	sec	hi	Total	low	sec	hi	Total	low	sec	hi	Total
D	0.354	0.367	0.103	0.388	0.489	0.385	0.171	0.407	0.621	0.558	0.373	0.565
V	0.414	0.392	0.209	0.401	0.507	0.447	0.260	0.457	0.677	0.615	0.469	0.617
H	0.256	0.154	0.092	0.163	0.333	0.200	0.115	0.210	0.514	0.378	0.260	0.382

** low = primary and basic vocational, sec = upper secondary, hi = tertiary*

Source: BKL – Population Study 2010–2014.

Figure II.2. Measures of segregation by education level



Red – education lower than secondary, orange – upper secondary, blue – tertiary education

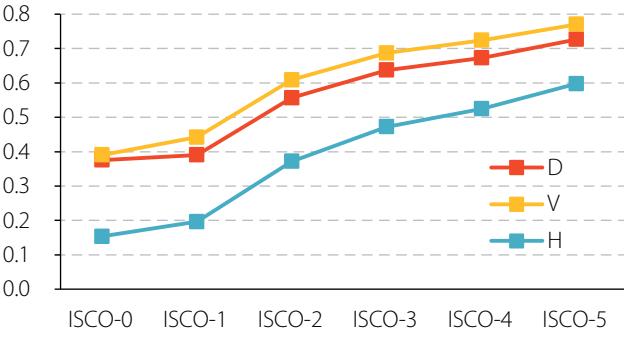
Source: BKL – Population Study 2010–2014.

Intensity of segregation and degree of precision in defining occupational categories

Aside from the influence of education, the subsequent diagrams in Figure II.2 show clearly the tendency of segregation to be stronger at lower (more precisely defined) levels of occupational classification. Table II.8, supplemented with Figure II.3, contains values of segregation measures calculated for the whole sample at consecutive ISCO levels.

Table II.8 and **Figure II.3.** The degree of segregation depending on the level of occupational categories

	D	V	H
ISCO–0	0.376	0.391	0.154
ISCO–1	0.391	0.442	0.197
ISCO–2	0.557	0.609	0.372
ISCO–3	0.638	0.687	0.473
ISCO–4	0.673	0.724	0.525
ISCO–5	0.727	0.771	0.598



The calculations include only persons for whom the 6-digit ISCO code was determined.

Source: BKL – Population Study 2010–2014.

The value of the dissimilarity index *D* tells us that, while at the first level of ISCO, full removal of segregation would require the "retraining" of 39.1% of women (or men), after the definition of occupations is made precise on the fifth level of ISCO, retraining would have to be required of 72.7% of representatives of either gender. The homogeneity index *H* informs us that, in a randomly selected occupational category from the ISCO-1 level, the probability that any two persons in this category are of the same sex is roughly at 60%, but at the ISCO-5 level, it reaches 80%.[20]

The phenomenon of the increase in segregation when features of the occupation are defined more precisely has much relevance for the correct interpretation of statistical data based on the comparison of women and men performing work within the same occupational categories. Analyses of this kind are performed, for example, to compare the earnings of women and men in "the same kind of work." For this purpose, data on a very general level is frequently used, e.g., from the first or second level of ISCO.[21] These comparisons obviously supply certain knowledge on the varied market situation of women and men (or any other social categories), but they cannot be automatically treated as the "actual level of wage discrimination" found "within particular occupational groups of relatively equivalent competences, duties and positions" (Czapiński 2013, p. 202).

The problem with the approach described above lies in the fact that women and men, who, from the perspective of the given classification level, can make the impression of working "in the same occupation," in fact, frequently perform completely different work. To realize the scale of the problem, it is sufficient to mention that health professionals are differentiated from teaching professionals at the second ISCO level, doctors are differentiated from nurses at the third level, specialist and generalist medical practitioners are separated at the forth level, and only level five allows us to learn whether the person in question is a paediatrician or a cardiac surgeon.

Very frequently the categories which at first glance seem gender-egalitarian only serve to mask segregation hidden at lower levels. This can be illustrated using a fragment of the ISCO classification tree,

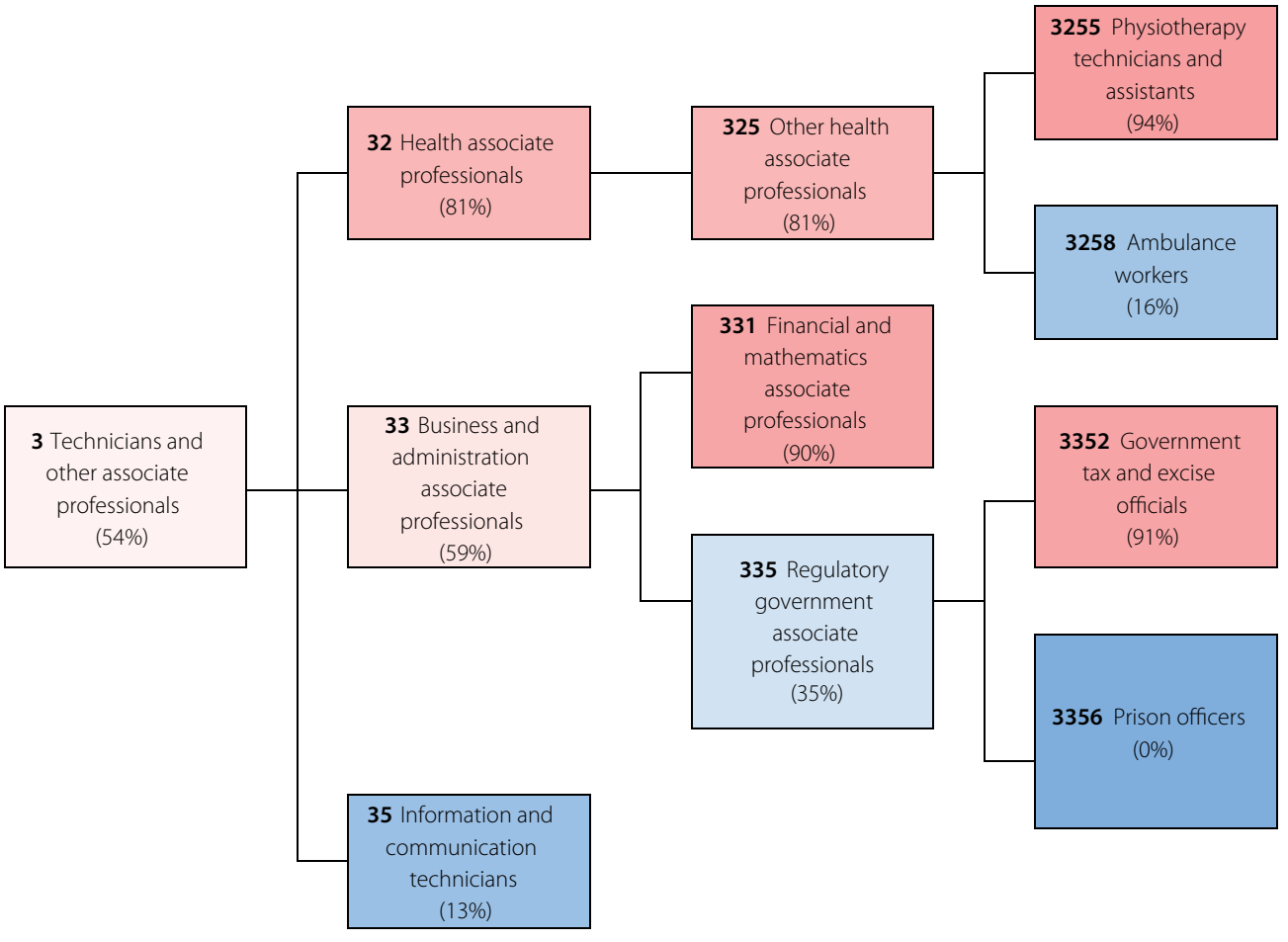
[20] *H* is equal to the difference between the probability of the random selection of a pair of the same gender, and the probability of random selection of a pair of different genders, which must add up to 1. For ISCO-1, it is 0.197 = 0.598 – 0.401, while for ISCO-5, it is 0.598 = 0.799 – 0.201.

[21] The justification for this approach usually stems from the fact that more detailed differentiation is not possible due to insufficient sample size.

which presents the branching out of first-level Category no. 3 ("Technicians and associate personnel") with the female share of 54%. At each next level of this gender-egalitarian category, new dimensions of segregation are revealed (Figure II.4).

Intensity of segregation and degree of precision in defining occupational categories

Figure II.4. An example of segregation manifesting itself on increasingly deeper levels of occupational classification



The numbers in parenthesis state the percentage of women in the given occupational category.

Source: BKL – Population Study 2010.

For the above reasons, a reliable assessment of the wage gap between women and men cannot be based on mechanical comparison performed within more or less precisely defined statistical aggregates. As an example of a good standard in the research of gender-related differences in wages, it is worth quoting the report of the Supreme Audit Office (2013), dedicated to the assessment of the observance of the principle of equal pay for women and men in selected public sector entities. Aside from comparing the average salaries of a randomly selected group of 499 women and 392 men (under control of such factors as education, length of experience, scope of competences and responsibility), the analysis covered results for 59 woman-man pairs, who had a comparable scope of work performed, or qualifications, the length of experience, or competences. With a broad scope of similarity of positions, salary differences between women and men were found only in 2 out of the 59 pairs. Regarding the remaining analyses performed to search for wage inequality, the Supreme Audit Office (NIK) stated the following:

> *The statistical analysis of salaries of over 120 thousand of persons hired under employment contracts in public sector entities, … , in groups of comparable positions has shown that men earn more than women in most of the entities analysed by NIK …. Detailed analysis of salaries of 891 persons (of which 499, i.e. 56% were women) shows, however, that the differences in the level of salary are not caused by the employers' breaching the law on the obligation for equal treatment of women and men. The difference in salaries … results primarily from the nature of the organizational entity where*

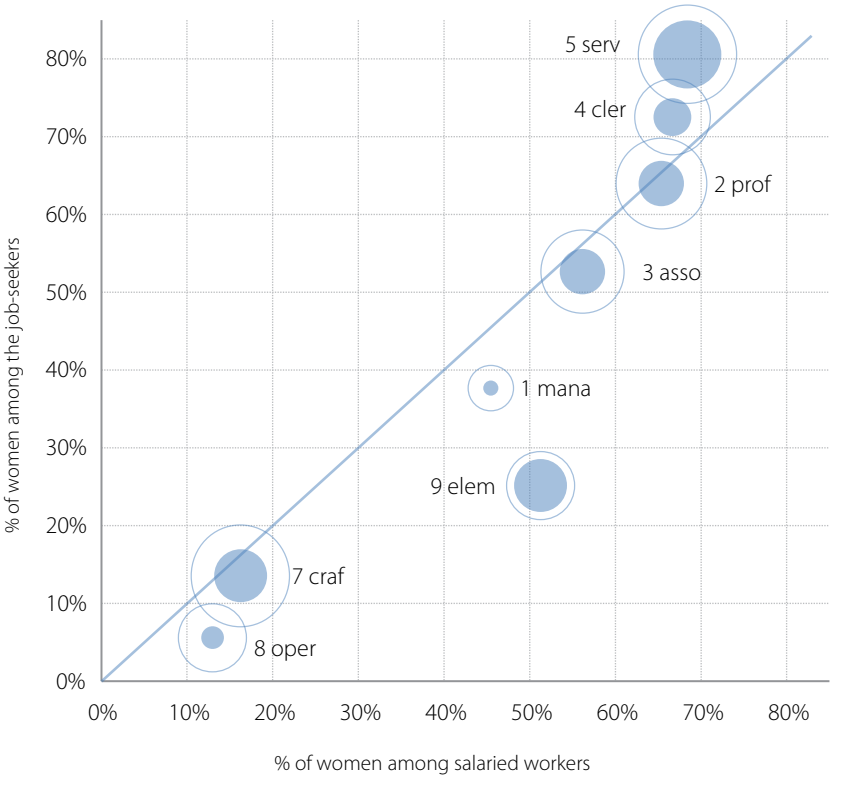
the employee in question works and its role for the institution as a whole, … from the scope of duties of the employee. Women worked primarily in organizational units providing services for the controlled entity, while men – mostly due to their relevant education – more frequently worked in specialized units, dealing with the institution's core tasks. The differences in salaries between women and men were largely caused also by the larger presence of men among the executive positions.

(NIK, 2013, p. 5)

Segregation of job seekers

The strong segregation of contract positions is mirrored by an equally strong, or stronger, self-segregation of job seekers. Not surprisingly, the structure of occupations where women and men look for employment is very similar to the structure of occupations actually performed (Figure II.5).

Figure II.5. The share of women among contract employees and job seekers



Circumferences represent numbers of persons employed in particular occupations, while inner blue circles represent numbers of job seekers in these occupations[22].

Source: BKL – Population Study 2010–2014.

The overall tendency is clear – the more feminized a given occupational category, the more women dominate among people seeking this kind of work. It is worth noting that, in the most feminized groups (trade and service sector, office work), the share of women among job seekers is higher than the share of currently employed, and, in the case of the least feminized groups (craft workers and operators), the proportion of women among job seekers is even smaller than among the employed.

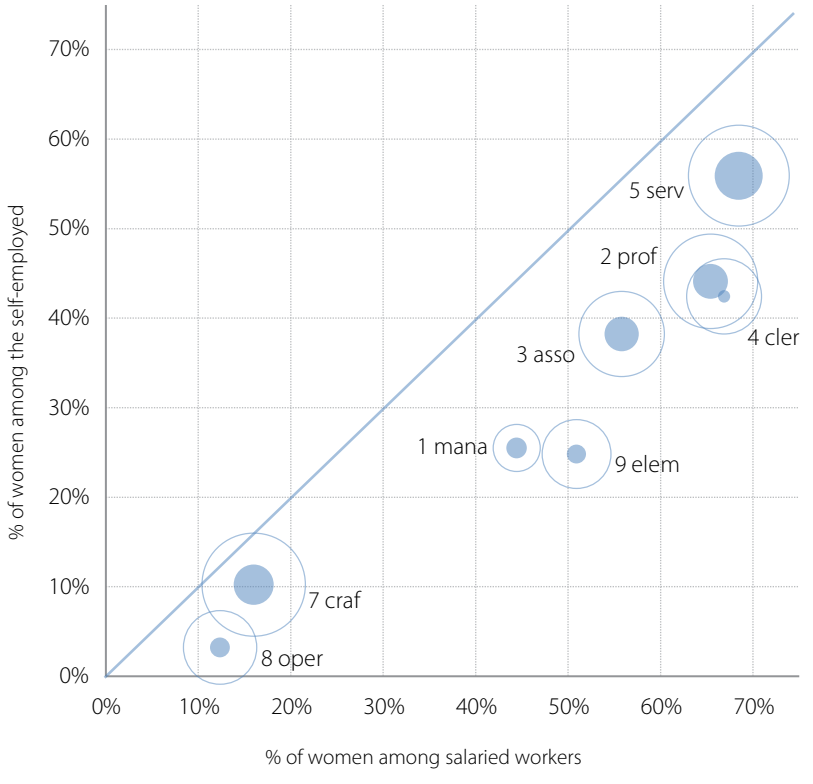
[22] The relationship between the size of the blue circle and the surrounding circumference roughly indicates how many people searching for work in a given occupation there are per one employed person. The job seekers include all those who have made this declaration in the course of the study, regardless of whether they were currently employed and whether they really made any efforts to find work.

A category that characteristically stands out from the visible, linear relationship are workers performing simple jobs (9 elem), where women account for more or less half of employees in this group, but men dominate among people looking for this type of work (75%).

Segregation of the self-employed

As in the case of contract employees, a clear segregation is also found in the case of persons running their own businesses. Also in this case, the dependence between the share of women among contract workers and the self-employed ones is very clear, almost linear (see Figure II.6). The difference lies in the fact that, while women constitute more or less half of all hired workers, their number among entrepreneurs is almost two times smaller than that of men. In consequence, the rate of the feminization of occupations performed in one's own business is lower than the rate of feminization of salaried positions.

Figure II.6. The share of women among contract employees and self-employed



Circumferences represent numbers of hired workers in particular occupations, while inner blue circles represent numbers of self-employed in these occupations[23].

Source: BKL – Population Study 2010–2014.

The most feminized category, both among hired workers and self-employed ones, are the services and trade. In the case of persons running their own businesses, this is also the only one among the 9 major occupational groups where the number of females exceeds that of males.

[23] The relationship between the size of the blue circle and the surrounding circle roughly indicates how many self-employed in a given occupation are there per one contract worker.

Comparison of the levels of segregation among contract workers, job seekers and self-employed

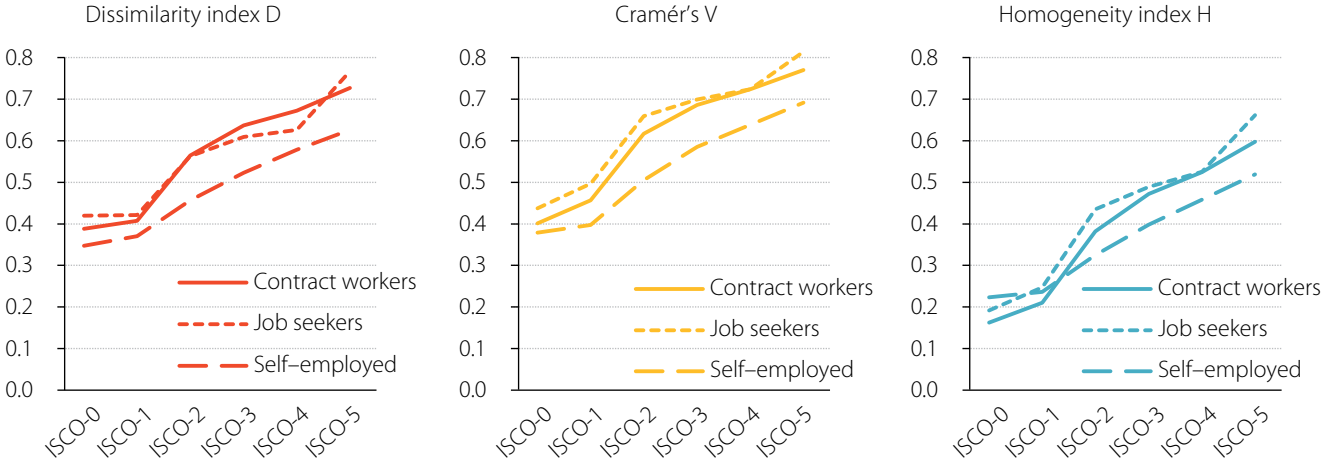
Data presented above, regarding the degree of gender-based occupational segregation of persons working under employment contract, seeking employment, and running their own businesses are gathered in Table II.9 and in Figure II.7.

Table II.9. Segregation among contract workers, job-seekers and self-employed

	Contract workers			Job seekers			Self–employed		
	D	V	H	D	V	H	D	V	H
ISCO–0	0.388	0.401	0.163	0.420	0.437	0.192	0.348	0.379	0.223
ISCO–1	0.407	0.457	0.210	0.422	0.497	0.247	0.371	0.397	0.236
ISCO–2	0.565	0.617	0.382	0.563	0.659	0.435	0.456	0.506	0.325
ISCO–3	0.637	0.687	0.472	0.609	0.699	0.489	0.523	0.585	0.398
ISCO–4	0.673	0.724	0.525	0.626	0.724	0.525	0.578	0.639	0.459
ISCO–5	0.727	0.771	0.598	0.767	0.814	0.662	0.626	0.692	0.519

Source: BKL – Population Study 2010–2014.

Figure II.7. Segregation among contract workers, job-seekers and self-employed



Solid line – contract workers; line of small sections – job-seekers, line of larger sections – self-employed

Source: BKL – Population Study 2010–2014.

In all three groups, a significant level of gender-based segregation is seen. If the occupational categories are defined on the level of detail typical for the third level of ISCO, in order to obtain full desegregation, over half of all women or men would need to undergo retraining (D>0.5 for all groups).

For more precisely defined occupations (ISCO Level 2 or lower), the segregation of self-employed is weaker than that of contract employees. This results from a different structure of occupations performed under self-employment. For example, two occupations with very strong gender typing – teachers and secretaries – are performed much less frequently under self-employment.

Irrespective of the level of precision in defining occupational categories, the degree of segregation among the contract workers is very close to the degree of segregation of job seekers. This similarity is an argument against attributing too much of a role in segregation to employers' recruitment policies.

If their preferences were getting an upper hand against individual preferences of the (potential) employees, segregation should be weaker among the job seekers, because it would be relatively frequent for people to look (unsuccessfully) for jobs in occupations not typical for their gender.[24] The segregation-promoting role of employers is sometimes exaggerated based on circumstantial evidence, such as the use of the masculine or feminine grammatical form when describing a position in a job offer.[25] On such a basis, in the report on the monitoring of job offers, "Equal Chances in Employment: Regulations versus Reality," prepared under the auspices of the Polish Society of Anti-Discrimination Law, the authors denounce "discriminatory requirements tied to the premise of gender" in as many as 86% of the total number of almost 25 thousand of job offers "formulated contrary to the principle of equal treatment in employment" (Kędziora, Śmiszek, Zimny 2009, p. 12). Companies using generic masculine names of positions instead of using both grammatical forms in their job advertisements became the target of written intervention admonishing them that their offer "contains a phrase which may lead to a breach of anti-discrimination laws" (p. 19). The weakness of this evidence for alleged discrimination is best proven[26] by one of the responses to such letters, quoted in the report:

> *(…) the position name "młodszy księgowy" [junior accountant, a masculine form[27]] was in no way meant to suggest that our offer was targeted at males only. I would like to inform the reader that recruitment for this position has been closed. 12 women and 1 man responded to our offer. A woman was hired.*
>
> (Kędziora, Śmiszek, Zimnya 2009, p. 25)

Of course, it would be impossible to deny that employers frequently have defined expectations regarding the gender of employees they seek. We shall now have a closer look at these preferences, which closely mirror the existing employment structure.

Preferences of employers regarding the gender of recruited employees

The BKL Employers Study questionnaire included a number of questions concerning employers' preferences in recruitment, in particular their preferences as to the gender of currently sought employees. Persons representing enterprises that were at that time advertising vacancies were asked to reply to such questions as the following:

> *Whom would you prefer to hire for this position?*
> *Would you very much prefer a woman? Somewhat prefer a woman?*
> *Somewhat prefer a man, or strongly prefer a man?*

It is worth noting that the questions were purposefully formulated in a manner suggesting that the choice had to be limited to one of the options (responses such as "does not matter" and "makes no difference" were not read to the respondents). Despite this trick, one third of all employers did not choose any of the proposed options and spontaneously declared the absence of preferences as to the gender of the potential employee. One in two employers would prefer a male candidate (of this, one in three stressed that they would strongly prefer a man), while one in five (18%) declared that they would prefer to hire a woman (one in ten – strongly so). Data for the occupational categories from the second level of ISCO are presented in Figure II.8.

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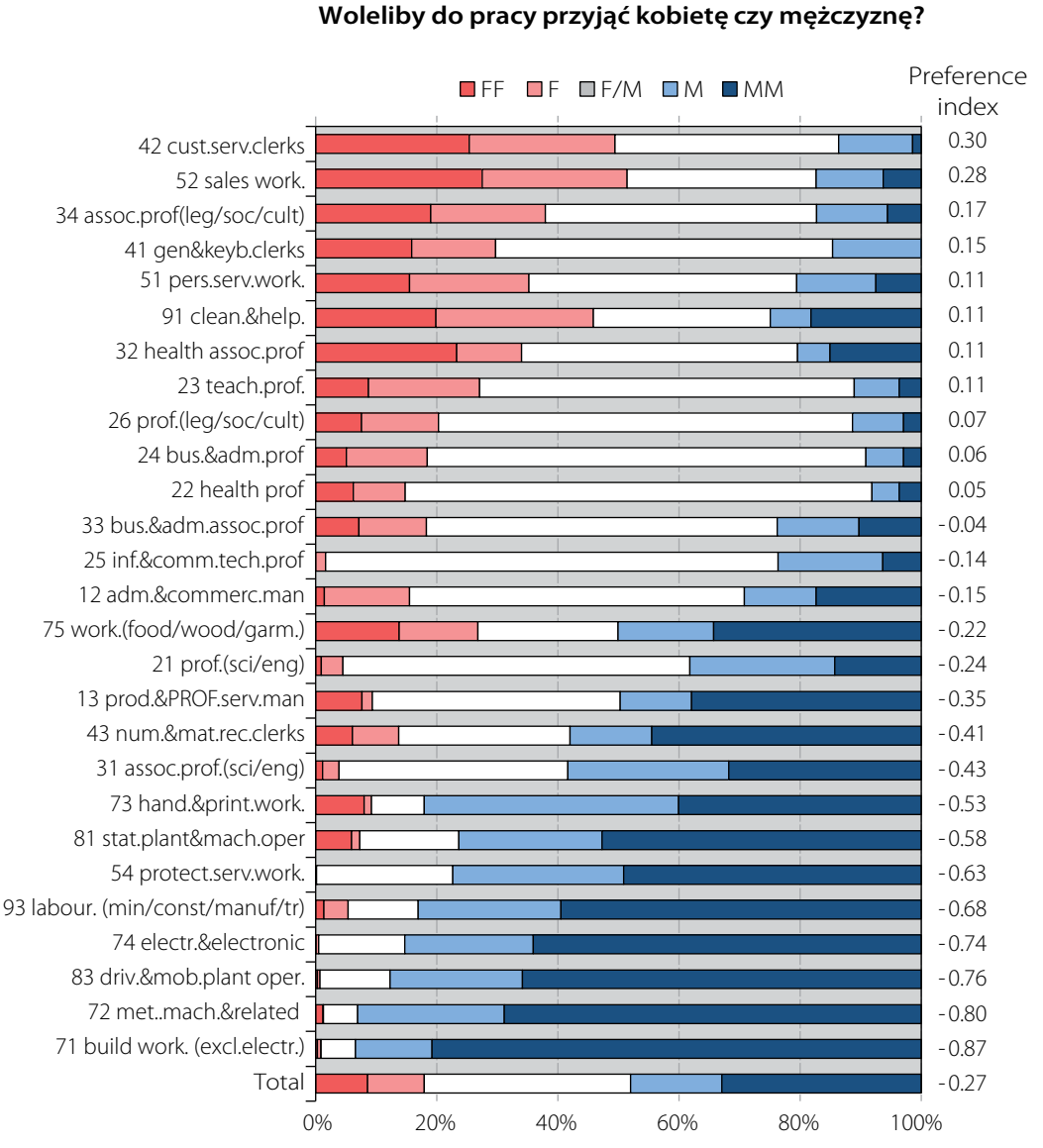
[24] It is of course possible that some women/men do not seek work in their preferred occupations, anticipating the reluctance of employers to hire women/men for these jobs. However, nothing suggests that this phenomenon has a wider reach.

[25] In Polish, names of many occupations may assume both masculine and feminine form (e.g. *nauczyciel/nauczycielka* = teacher (masculine/feminine)], while certain occupations have only a masculine grammatical form (e.g. *kierowca* = driver). A masculine form is used either to indicate a male, or generically to indicate a person of either sex, while the feminine form is used solely to indicate a female.

[26] Probably an even better proof comes from the fact that the female author of the admonishment uses a generic masculine name of an occupation in the very first sentence of her letter: "Ladies and Gentlemen, the Polish Society of Anti-Discrimination Law is a society of **expert lawyers** [underscore added] specializing in domestic and European anti-discrimination law" (p. 20).

[27] A feminine form is "młodsza księgowa."

Figure II.8. Preferences of employers regarding gender of sought employees (N = 36 820)



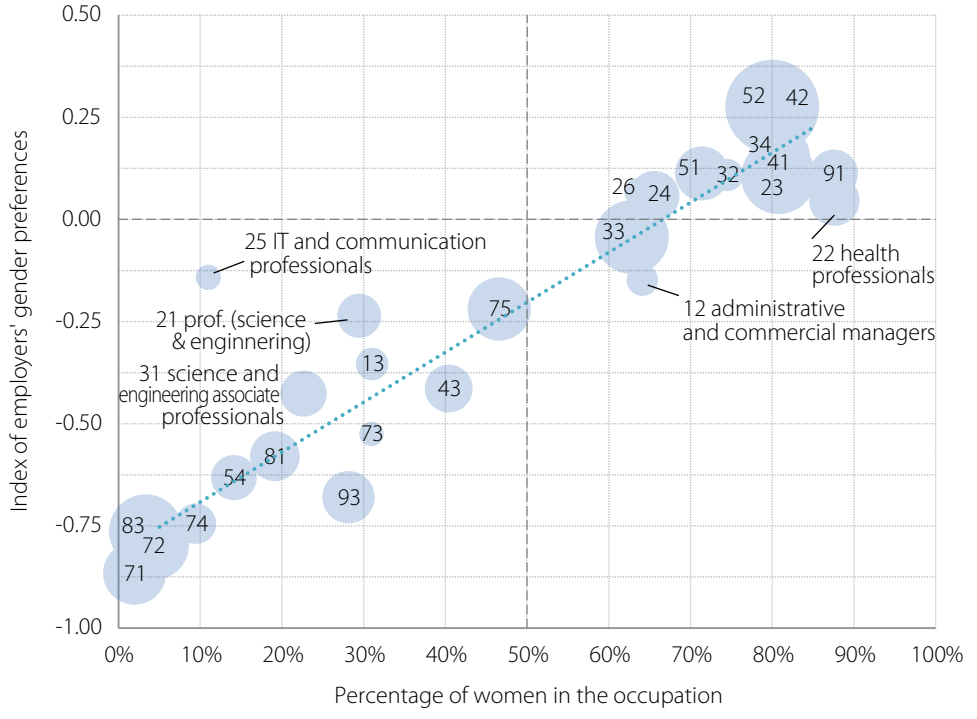
The symbols should be read as follows: FF: strongly prefer a woman, F: somewhat prefer a woman, F/M: gender is irrelevant, M: somewhat prefer a man, MM: strongly prefer a man. The table omits occupational categories that were represented by fewer than 100 persons in the sample.

Source: BKL – Employers' Study 2010–2014.

In order to concisely present preferences of employers, an index was developed, whose values ranged from -1 (if all employers strongly preferred a man for the given position) to +1 (if all employers strongly preferred women); zero means a lack of clear preferences as to the gender of the potential employee.[28] Figure II.9 presents preferences of employers compared against the feminization degree of the individual occupational categories from ISCO-2.

[28] Using notation introduced in Figure II.8, the index is formally calculated according to the formula [FF] + 0.5[F] – 0.5[M] – [MM], where the values in square brackets denote the percentage of employers expressing the given type of preferences.

Figure II.9. Gender preferences of employers vs. the feminization rate of occupations (N = 36 820)



The comparison omits occupational categories that were represented by fewer than 100 persons in the sample. Size of points represents number of contract employees in the given occupational category, from 294 (Information and communications professionals) to 4043 (sales workers). The labels refer to category numbers from the second level of ISCO.

Source: BKL – Employers' Study 2010-2014; BKL – Population Study 2010–2014.

Employers preferring to hire men dominated in 16 out of 27 analysed occupational groups. Definitely, the strongest preferences in that respect were demonstrated by employers looking for construction workers, electricians, mechanics, machine and plant operators (including operators of mining equipment), craft workers, and security personnel. The clear preferences of employers match the percentage of male contract workers in these occupations, since they constitute from 70% to 98% of all employees.

In the case of occupations where the employers would prefer to hire women, the observed strength of preferences is much less pronounced than in the case of the masculine occupations. The maximum index value amounted to only 0.3. Occupational categories listed there included customer service employees, sales personnel, associate personnel in the areas of law, social issues and culture, office workers, personnel services workers, cleaners and helpers, associate health personnel, as well as occupations tied to teaching and education. It is worth pointing out that, with the exception of the cleaning services, all those occupational categories entail intense face-to-face interactions, requiring a higher level of interpersonal skills. Similarly as in the case of the masculine positions, the definite majority of the above named occupations are performed by women, who constitute from 70% to 88% of all employees in these categories.

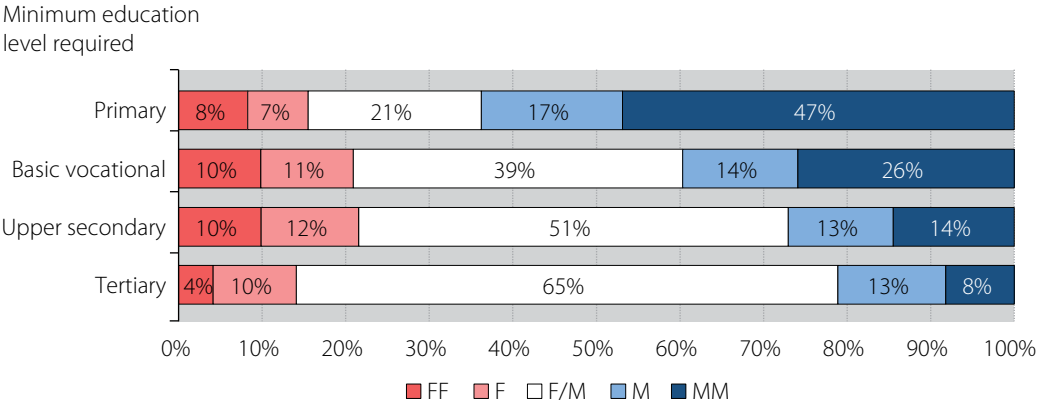
It is worth considering the cases of professions where the employers' preferences regarding gender and the degree of feminization depart from the linear tendency shown in Figure II.8. Employers do not demonstrate a clear preference regarding the gender of healthcare professionals and the information and communication technology professionals; therefore, the visible domination of women in the former category and of men in the latter category could hardly be explained by the discriminatory attitude of employers.[29] A similar situation also applies to the group of administrative and commercial managers; despite relatively stronger preferences of employers to hire men, this group is dominated by women. On the other hand, in the case of science and engineering professionals, similarly as with the information technology professionals, the observed level of male domination is higher than the strength of employers' preferences would suggest.

[29] Of course, it is necessary to keep in mind that the preferences of employers, shown here at the second level of ISCO, are a product of preferences regarding the finely defined job positions. For example, in the case of healthcare professionals, most employers indeed declare the gender of potential employee to be irrelevant; however, women are preferred as nurses (cat. 222, index value = +0.26), and men are preferred as veterinarians (cat. 225, index value = -0.28).

Gender segregation in the Polish labour market

Data presented in Figure II.8 show that most occupations where the employers strongly prefer men belong to the categories of craft workers and elementary labourers. For these positions, the employers require and value primarily the experience and skill in the craft, as well as the stamina of the candidate. This suggests that employers tend to favour men more in those occupations, where the high level of education of potential employees is not the key criterion for hiring. For this purpose, Figure II.10 presents employers' preferences regarding the gender of potential employees in contrast with responses regarding the minimum education level required to perform a given job.

Figure II.10. Preferences of employers regarding the gender of candidates for positions requiring a specific level of education (N = 12 987)



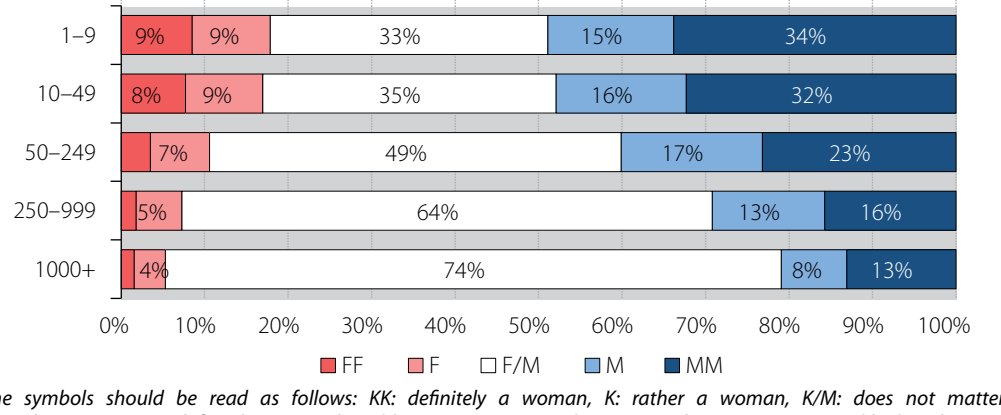
The symbols should be read as follows: FF: strongly prefer a woman, F: somewhat prefer a woman, F/M: gender is irrelevant, M: somewhat prefer a man, MM: strongly prefer a man. The table omits occupational categories that were represented by fewer than 100 persons in the sample.

Source: BKL – Employers' Study 2010–2014.

Employers display the strongest preference for men with respect to those jobs where elementary education is sufficient. The higher the level of education required, the more gender loses its importance – in the case of positions requiring tertiary education, as many as 65% of all employers spontaneously denied gender to have any influence.

As tertiary education is primarily required of employees from the top levels of ISCO (especially professionals), and these are in demand mostly among large companies, it is possible to note that gender preferences also depend upon the size of the company (Figure II.11).[30]

Figure II.11. The size of enterprise and gender preferences of employees with respect to potential employers (N = 12 987)



The symbols should be read as follows: KK: definitely a woman, K: rather a woman, K/M: does not matter, M: rather a man, MM: definitely a man. The table omits occupational categories that were represented by less than 100 persons in the sample.

Source: BKL – Employers' Study 2010–2014.

[30] The lower importance associated with gender in large enterprises may also be tied to the fact that the respondents give more "politically correct" answers.

The juxtaposition of the above facts with trends observed in the education of Poles means that the fundamental gender segregation mechanisms are associated with the education structure of the population, i.e. the domination of women among those with general upper secondary and tertiary education (men more frequently than women choose vocational and technical upper secondary education – see Szczucka and Jelonek, 2011).

Discrepancies in the choice of educational paths

The occupational segregation does not appear all of a sudden at the time when the young people enter the labour market. We witness it much earlier on, at the stage when students make their educational choices after completing lower secondary schools. When looking for differences at the level of upper secondary schools, it is worth repeating that women more frequently than men choose education in general upper secondary school, while men more frequently opt for further learning at upper secondary technical schools and basic vocational schools.

Visible gender segregation trends can be observed in the decisions of students choosing basic vocational schools, upper secondary technical schools, and specialized secondary schools. The value of the dissimilarity index *D* for the choice of education at these schools[31] is at 0.63 (the Cramér's *V* stands at 0.69).

The most feminized upper secondary learning areas include hairdressers, the social profile in specialized secondary schools, salesperson/checkout clerks, and hospitality technicians. The most male-dominated areas of learning include finishing works technicians, vehicle mechanics, electricians, electronics technicians, mechatronics technicians, and IT technicians.[32] It is easy to notice that the popularity of the above learning areas clearly reflects the tendencies for the subsequent gender distribution in actual occupations in the labour market.

Similar conclusions can also be drawn from the analysis of academic majors eliciting interest from graduates of upper secondary schools. In the BKL Study of 2013, the value of the dissimilarity index *D* for the majors preferred by male and female leavers of upper secondary schools reached 0.46. This proves that the preferences for further academic learning among men and women are visibly different already at the upper secondary school level. The data, together with data on actual gender distribution in academic majors, is presented in Figure II.12.

Analysis of data presented in Figure II.12 reveals an interesting phenomenon. In terms of the fields of study, the plans of upper secondary school students display a stronger segregation of girls and boys than their later, actual choices. The value of the dissimilarity index for the choices of secondary school students was 0.46 in 2013, while it stood only at 0.31 for their actual choices.

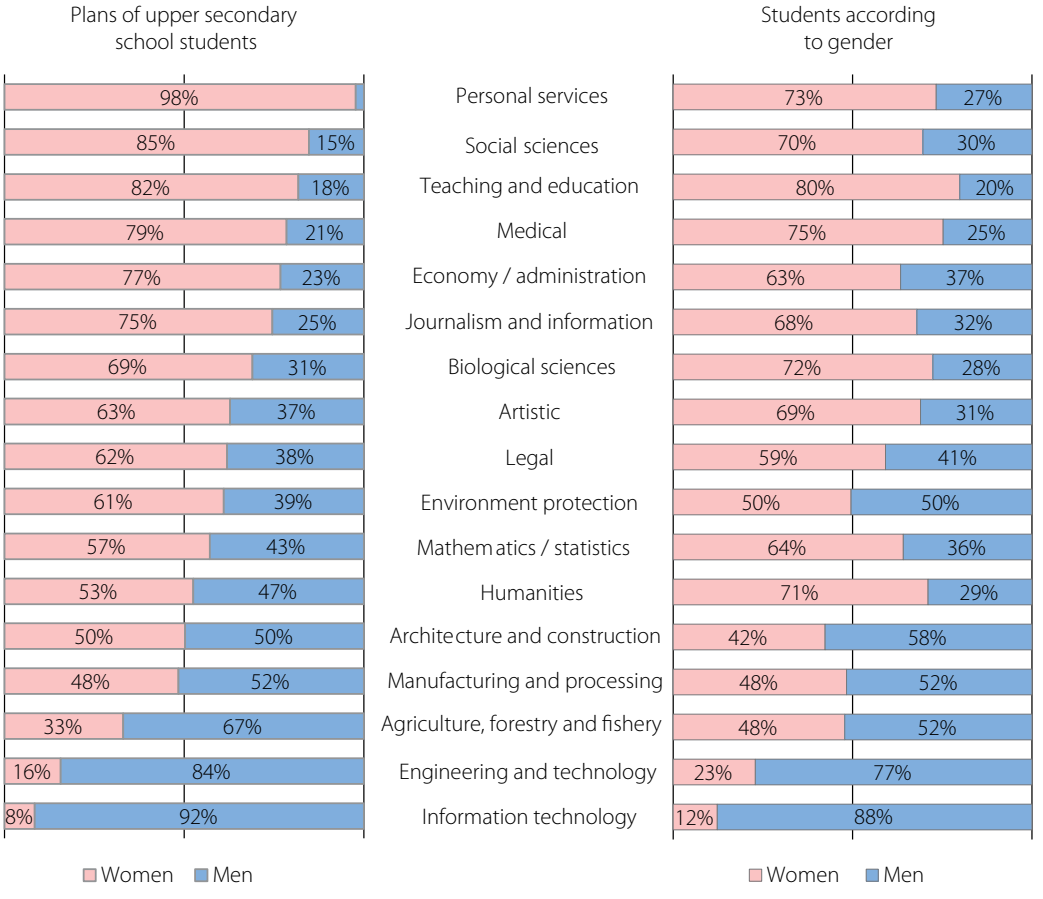
The clearly smaller percentage of women (and the parallel larger percentage of men) who chose given fields of study, as compared to declarations made by upper secondary school students, was seen in the case of studies tied to personal services, social sciences, economics and administration, and environmental protection. Fields of study where the percentage of women was visibly higher (and that of men smaller) than that resulting from the declaration of school leavers included the humanities and those related to agriculture.

[31] Educational paths are coded under the ISCO classification, covering 83 occupational categories.

[32] This issue is discussed in more detail in the publication by Jelonek, Kasparek and Magierowski (2015).

Gender segregation in the Polish labour market

Figure II.12. Fields of tertiary education, planned by students of the last years in general upper secondary school, contrasted with gender percentages in tertiary education institutions in 2013



The figure omits those fields of study which were indicated by fewer than 100 secondary school students

Source: BKL – Study of secondary schools' students 2013; Central Statistical Office – Tertiary education institutions and their finances in 2013.

The fact that a diploma in a specific university major can largely determine its owner's future position in the labour market is obvious. The purpose of the subsequent analysis was to check whether gender segregation is found also among graduates of similar fields of study. Results of this analysis are shown in Table II.10.

Table II.10 presents the differences in the percentages of women and men who have graduated from similar fields of study and work under contract in a given occupation. The most striking fact is that, in the majority of occupations, women clearly more frequently than men work as teaching and education specialists. The largest differences in that respect are visible among graduates of various information technology studies – the difference between the numbers of female and male teachers is as high as 35 percentage points. Women more frequently than men also end up in this occupational group after graduating from the teaching, humanistic, and social science fields. The only analysed groups of study fields where this tendency does not manifest itself include the law, economics and administration, and services.

Another occupation where women are found more frequently than men with similar education is the work of secretary and keyboard clerk. The gender differences are the most visible in this case among graduates of social studies, administration and economics, and information technology studies.

In comparison with men graduating from the same study fields, women clearly less frequently work as professionals (and associate professionals) in IT, and also as science and engineering professionals. Smaller percentages of women are also seen among protective services workers and among managers in production and specialized services. The data quoted above show that gender-based occupational segregation also has other reasons, although they are strongly determined by the education structure of men and women.

Table II.10. Differences between men and women in the percentages of contract employees in occupations typical for graduates of the selected fields of study groups

	TEACH	HUM	SOC	ECON–-ADM	LAW	IT	MEDICAL	MANUF and PROCESS	ARCHI & CONS	SERV	Total
23 Teaching professionals	23.5	26.8	14.8	1.7	–1.6	35.3	6.4	8.8	8.1	0.4	18.0
41 General and keyboard clerks	2.8	3.7	10.0	10.6	–1.3	10.1	1.7	5.2	7.3	4.1	5.7
22 Health professionals	2.2	1.0	–0.4	–1.3	–1.0	0.0	8.3	2.1	0.0	2.7	4.1
24 Business and administration professionals	–1.3	1.6	–1.7	2.5	1.1	2.1	–1.4	11.6	4.3	5.4	1.1
33 Business and administration associate professionals	–7.8	–5.5	–8.4	8.2	2.8	6.7	0.8	10.2	–8.0	4.3	0.7
26 Legal, social and cultural professionals	0.4	–0.2	–2.9	0.4	–0.5	1.8	–0.7	1.0	4.6	12.1	0.4
32 Health associate professionals	0.3	–9.0	10.9	–0.2	5.6	0.0	0.0	0.0	–0.2	1.2	0.2
51 Personal service workers	–0.3	0.5	–0.2	–0.1	0.2	1.4	0.0	0.5	–0.1	6.6	0.2
52 Sales workers	1.0	–1.1	0.5	0.0	–0.6	0.0	–4.5	–1.1	–0.7	0.0	0.1
35 Information and communication technicians	0.0	–1.3	0.0	–0.8	0.0	–8.2	0.0	0.0	0.0	–1.2	–1.9
13 Production and specialized services managers	–6.7	–1.1	–2.8	–2.7	–1.0	0.5	–2.3	–0.8	–0.4	–10.0	–2.8
54 Protective services workers	–1.5	–0.6	–2.3	–4.6	–1.8	–0.7	–0.7	–0.5	–10.0	–3.1	–3.4
21 Science and engineering professionals	–2.1	–2.0	–1.2	–5.3	–3.6	–2.8	–1.9	–12.5	–3.5	–4.3	–6.5
25 Information and communications technology professionals	–0.9	–0.5	–1.8	–1.4	1.0	–34.4	0.0	–1.2	–0.2	0.0	–6.8
N (women + men)	2090	1002	627	3298	356	552	707	266	353	277	8659

The table presents only those fields of study that had at least 100 male and 100 female graduates. Positive values mean that the given occupation is more popular among women, negative values – that it is more popular among men.

Source: BKL – Population Study 2010–2014.

Even when women and men graduate from the same fields of study, it still is possible to indicate those study majors where the occupational paths of men and women diverge. The situation is the clearest in the case of IT studies, architecture and construction, processing and manufacturing, as well as personal services. It is necessary to keep in mind that, just as the broad occupational categories are broken down into smaller, internally varied sub-categories, the more general group of study fields can also vary internally (e.g. "personal services" include majors tied to tourism, cosmetology, and sports). This could mean that women and men who have studied a given group of study fields, despite the apparent similarities, in fact have graduated from different kinds of studies, which has its consequences for their chosen career paths.

Summary

Most women and men work in occupations dominated by their own gender – only one in eleven contract workers in Poland works in an occupation where the gender proportions are more or less balanced. In the most general terms, the segregation boils down to a statistical over-representation of women in white-collar occupations, and in trade and services, and in the statistical over-representation of men in the blue-collar work category. The typical women-dominated occupations involve work with people (sales assistants, teachers, secretaries, health professionals), while the typical male-dominated ones require the operation of machinery (drivers, mechanics, construction workers).

Employers' preferences regarding the gender of recruited employees closely mirror the actual share of women in various occupational categories. These preferences are very clearly evened out with the increase of the education level required for a given position. In point of fact, we also observe that the gender-based occupational segregation is the strongest among people with a vocational or lower education level, and the weakest among university graduates.

Several facts suggest that preferences of employers are the consequence of rather than the reason for occupational segregation. First of all, visible gender segregation is also seen among the self-employed. Secondly, it is possible to indicate occupations dominated by one of the genders despite the absence of clearly defined employers' preferences (healthcare professionals and IT professionals). Thirdly, the degree of segregation of women and men seeking work in specific occupations is at least just as strong as the degree of segregation of people already hired. Finally, we encounter very clear segregation already at the level of prior educational choices, which takes place many years before the individuals enter the labour market.

At each of the stages of formal education, starting from lower secondary schools, we observe significant differences between the choices made by young women and men, which correspond to their subsequent, differing career paths. Nevertheless, even in the case of women and men graduating from similar fields of studies, there are typical differences between the occupational roles they choose after graduation, which are manifested, in particular, in the higher percentage of teachers among women.

The fact of occupational gender segregation must be taken into account to allow proper interpretation of comparative statistics, such as wage gap. Not only women and men work in quite different occupational categories, but also segregation becomes stronger when these categories are defined more precisely. Affiliation with the same, broadly defined occupational category (e.g., healthcare specialists) is definitely not sufficient to declare that two people perform "the same work." Additionally, even when the occupation is defined very precisely, potential differences still remain in terms of concrete responsibilities, the number of working hours, the sector of the economy where the employer operates, its legal form, etc.

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Chapter III

Magdalena Jelonek

Quality of work after graduation treated as return rate[33] on university education

Under the previous rounds of the BKL Study, a lot of attention has been devoted to the occupational situation of graduates of various types of schools. This situation has been analysed in most cases in the context of key, "hard" factors defining the occupational status of the respondent, such as the rate of unemployment or the average salary. Results of these analyses have demonstrated that the fact of holding a diploma from a higher education institution increases the chances for employment, while simultaneously reducing the probability of being occupationally inactive (Jelonek, Szklarczyk 2012, 2013). Moreover, tertiary education guarantees smaller losses at times of economic slow-down, shortens the period of unemployment (Jelonek, Mazur 2014), and ensures a higher average salary.[34]

Conclusions presented above do not provide a full answer to the question on occupational chances for university graduates, as they treat the occupational activity in a dichotomous manner (works / does not work). Thus, they should be supplemented with information on the quality of work performed, which would enable ranking the respondents according to the value continuum of their education.

Most reports on the European labour markets, published in 2014, point out that these markets, in order to raise themselves up from the crisis, need to create both more jobs and ones of better quality. Poland – as suggested in the latest report on employment published by the OECD – unfortunately, finds itself at the end of ranking of countries offering high-quality jobs (see: OECD 2014). Thus, access to attractive professions, which is a resource found relatively rarely in Poland, and for which many graduates of various types of school compete, can be treated as one of the factors differentiating the values of the diplomas they hold.

The OECD report indicates three dimensions of work quality, namely, the level of salary, the stability of employment, and quality of the professional environment. Analyses contained in this chapter were performed under a similar approach; however, they have been supplemented by the stratification perspective. Discussing the quality of jobs, the author evaluates them using two types of scales

[33] Most reports and scientific publications define the rate of return on higher education in monetary categories (see: Mincer 1974, Lauer, Steiner 2000, OECD 2002, Psacharopoulos, Patrinos 2002), while, in this report, this definition is extended to include other elements, described further on in the introduction.

[34] Of course, this is not a local effect, but a universal phenomenon, which has been described, inter alia, in the OECD report. According to it, persons with higher education can expect their average salary to be higher by circa 55% (as compared to persons with lower-level education) (see OECD 2012; p. 28). Moreover, the effect of higher education has been confirmed in numerous publications on other European educational markets (see Harmon, Walker 2000; Dearden, McIntosh, Myck, Vignoles 2002; O'Leary, Sloane 2011).

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widely applied in sociological research: the social prestige scale (the SIOPS – *Standard International Occupational Prestige Scale*) developed by Treiman (Treiman 1997) and the scale of economic status of an occupation, developed by Ganzeboom (the *International Socio-Economic Index of Occupational Status – ISEI*) (Ganzeboom, Treiman 1996).

This chapter consists of two sections. The first focuses on analysis of occupations performed by persons with a specified level of education. This analysis presents the nature of prestige and economic status of a given profession. The reasoning centres on the nature of the first permanent job undertaken by graduates of the various types of schools. Three key questions are posed here:

(1) What level of occupational attractiveness and social respect characterises the first, permanent jobs undertaken by young people[35] and how does the level of their education determine this attractiveness?
(2) What are the chances of the contemporary youths (in comparison with the older generations) to gain their first, attractive job?
(3) Who can expect a rise in social status in the future, and what scale of such rise is the most probable?

The second part supplements analyses of the economic standing and prestige of occupations with their additional, detailed characteristics. These characteristics, in line with the OECD practice, have been divided into three groups referring to the following:

(1) The level of remuneration,
(2) The stability of employment, and
(3) The quality of the occupational environment.

The level of remuneration was converted into hourly wage (average price of one hour of work performed), and supplemented with the information on the respondents' ability to obtain additional income (outside the regular work). Stability of employment was characterised based on two subjective indices of perceived stability – satisfaction with the certainty of employment and prospects for career development in the coming 12 months. With respect to the quality of the occupational environment, subjective assessment of the respondents was again used, and the research analysed their level of satisfaction with conditions for performing work, promotion opportunities, and the possibilities for personal development and training.[36]

Characteristics of the situation of persons holding university diplomas were compared with the status of persons who did not graduate from a higher education institution. The reasoning focuses on the question whether people who have completed tertiary education stand not only better chances for employment (which has been proven during the previous years), but whether they also have easier access to jobs of higher quality.

[35] Young people are defined as persons up to 30 years old.

[36] The questions used in the questionnaire are presented below. Two questions were used to evaluate stability:
(1) *Satisfaction with work can be analysed from several angles. Please say to what degree are you satisfied or dissatisfied with the certainty of your employment* (a 5-point scale).
(2) In your opinion, in the ***coming 12 months***, *you would remain in the same position, be transferred to an equivalent position, or would be promoted or would cease work at the current workplace.*
The following question was used to assess quality of the occupational environment: Satisfaction with work can be analysed from several angles. Please say to what degree are you satisfied or dissatisfied with (1) opportunities for promotion, (2) conditions for performing work, or (3) opportunities for personal development and training (a 5-point scale).

Prestige and economic status of an occupation[37]

Most sociological research analysing the respondent's place in the social structure treats as significant not only purely economic factors, but also the "soft" elements, such as social prestige associated with the performance of a given occupation. Prestige or respect, accorded to persons performing certain professions (e.g. doctors, academic teachers etc.), is the factor which frequently determines the course of social interactions, increasing the chances for converting this asset into other resources, including purely economic ones.

The scale of prestige that is most frequently used in international research, and also widely implemented in Polish research (e.g. PGSS), is the tool developed by Treiman (Treiman 1977), the *Standard International Occupational Prestige Scale – SIOPS* (see Krymkowski 1988).

Further in this chapter, this scale shall be used as one of the elements for assessing the quality of the respondent's position and his/her occupation with respect to the first permanent job and the current one.

As mentioned, prestige is just one of the elements used to assess the quality of work; therefore, it seems justified to interpret the results in the context of wider socio-economic benefits associated with a given profession. The viewpoint that offers a slightly wider reflection of the socio-economic standing of the respondents is the scale of the economic status of occupation, developed by the team led by Ganzeboom (*International Socio-Economic Index of Occupational Status – ISEI*). The first scale focuses on just one dimension of social stratification (the prestige); while the other scale takes into account numerous components of social diversity that can be associated with the profession performed.

First job

To begin with, the chapter analyses profits tied to tertiary education that can be expected in one's first permanent job,[38] undertaken directly after the completion of formal education.

Data presented in Table III.1 clearly indicate that the chances of contemporary youths to find high-quality work are lower, at least with respect to the first permanent (longer than 3 months) employment. Through the analysis of position on the scale of occupations' prestige and of their economic status, we see that the following is indicated:

(1) The scale of social prestige seems to be more meritocratic (if we consider the correlation between social prestige and the level of education as a measure of the meritocracy) than of economic status. In other words, social prestige is currently a more certain reward for the efforts made during the education process than the salary. Simultaneously, the economic status of the job performed is a better measure of the "market value" of the diploma; therefore, it shall be used for further analyses.

[37] Prestige of occupation and its economic status were assessed according to the methodology proposed by D. J. Treiman and H.B.G. Ganzeboom (see Ganzeboom, Treiman 1996). For the purpose of this report, files with conversion of ISCO 08 codes to SIOPS and ISEI, developed by autorstwa Ganzeboom and Treiman, were used (http://www.harryganzeboom.nl/ismf/index.htm. 20.01.2014). For the allocation of the appropriate number of points on the scale of occupations' prestige, the following rules were applied: (1) persons conducting business activity and not having any employees were allocated ISCO codes that best described their work; (2) persons who have employees and for whom business activity is the primary source of income were allocated code 1120 (managing directors and chief executives); (3) persons working under employment contracts were given ISCO codes corresponding to the type of work they perform. In the next step, for each ISCO code values from the SIOPS and ISEI scales were added.

[38] "Permanent job" in that case is understood as work performed for at least 3 months.

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(2) Situation of persons with university diplomas is clearly the most favourable, especially if we consider the prestige of the professions they perform.[39] This is best seen during the analysis of centile distribution, and specifically, the 25% of persons performing the most prestigious occupations in the given group. In this case, a dichotomous division can be observed – into those who do have tertiary education and those who do not (it does not matter whether they completed education on the level of vocational school, general upper secondary school or barely the lower secondary school). The chances for performing occupations which have been "appraised" at 43-44 points[40] at the prestige scale are roughly the same for all educational groups (aside from the tertiary education group) and reach 25% (therefore, we can suspect that in this case the occupational status of respondents is determined by factors other than education level). On the other hand, as many as 75% of persons with university diploma stand a chance to work in an occupation rated on at least 43-44 SIOPS points. Therefore, a job that is a sort of a market distinction for persons without tertiary education becomes completely average for persons with university diplomas.

(3) For each of the groups identified by their level of education, after a move from the older group to the young one, a decline by a few points is visible both in prestige and in economic status of the first profession they perform. The only exceptions are young people with lower secondary education, or lower, and with basic vocational education. (However, this should be interpreted not as much as their good market positions, but the relatively low prestige of their first jobs – these groups simply have nothing to lose.) Thus, it can be said that the contemporary young people usually perform their first jobs (after the completion of formal education) that enjoy lower prestige and offer lower pay-off in economic terms than those of their older colleagues a few or several years earlier.

On the other hand, the present-day youths more frequently start work during their formal education (19% of the young, versus 7.6% of the older ones, work while continuing their formal education), which can increase their future chances in the labour market. The influence of this phenomenon on the quality of work performed after the completion of university education has not been researched, and it would be valuable to undertake such analysis in the future. Several years ago, one's occupational activity usually commenced after the completion of education. At present, work more frequently accompanies the process of gaining qualifications under the formal education system, or fills in the period between the first and the subsequent phase of education. This change is definitely the most visible in the case of university students, where the number of persons who simultaneously study and work has doubled over the past several years.[41]

(4) The higher the level of education, the more pronounced is the stratification of generations. The difference in the prestige of the first occupation among leavers of basic vocational schools under 30 years of age and older stands at barely 1 point (a statistically insignificant difference), while among the graduates of vocational upper secondary schools and tertiary education institutions, it rises to 5-6 points. Given the overall differences in the prestige of performed occupations (with university graduates being in the most advantageous position), we can conclude that the loss of 5-6 points[42] on the SIOPS scale seems much more acute for the leavers of specialized/vocational upper secondary schools than for graduates of tertiary education institutions.[43]

(5) The poorer chances of contemporary university graduates to find a high-prestige first job – as compared to their older colleagues with university diplomas – are basically not surprising, if we consider the rise in the net scholarisation index on the higher level over the past years, and the

[39] To better illustrate the nature of the scale, sample occupations together with the number of SIOPS points allocated to them are given below. The highest values on the SIOPS scale under the BKL Study characterised such occupations as academic teacher – 78.16 points, physician – 78.01 points, judge – 76.11 points or manager in specialist service institutions – 75 points. The lowest point rating was given to farmers producing plants for their own needs – 5 points, street services workers – 12 points, waste sorters – 14 points, sweepers – 14 points.

[40] The value of 42-43 points on the SIOPS scale characterises such occupations as accountant or sales person.

[41] It should be added that the increase of occupational activity is seen primarily among full-time students. This means that we can suspect that, in the future, due to their occupational activity, we can see a change of their expectations towards academic learning, including its forms and intensity, but also changes in their motivation and amount of time they can fully devote to their studies.

[42] A difference of 5-6 points (as an example) differentiates teaching professionals from teachers in lower secondary schools, or officials from middle-level personnel (such as secretaries, assistants, etc.).

[43] This data should be interpreted in the context of the 1999 reform of the education system, which liquidated the vocational upper secondary schools, introducing instead the specialised upper secondary schools, which are currently being gradually closed down.

resulting increase in the numbers of university graduates[44] in the labour market. Assuming that the social structure is relatively stable and the number of attractive jobs limited, we could rather expect a more severe worsening of the market position of some of university graduates, based on the principle of competing for this valuable but rare resource. The relatively good situation in which the graduates of tertiary education find themselves suggests that changes have occurred in the structure of occupations offered in the market, and that the number of attractive and relatively high-prestige jobs grew. Of course, the supply of specialists is so far higher than demand for them in the market. However, given the already observed trends, such as increase in the number of jobs for university graduates and the "decline in the production of specialists" (due to the demographic low, the number of graduates would fall every year), we can expect to see a rise in the competitive advantage of university diploma holders in the coming years.[45]

(6) The statement that contemporary university graduates increasingly and frequently perform very low-prestige jobs could be denounced as a myth. Basically, there is no significant difference at the first quartile of the SIOPS scale between the young and the older people. The fact that some of the graduates start their careers with low-prestige jobs seems less relevant than the direction in which this career progresses (how much do they gain in the subsequent years of work). This issue will be analysed further on. It does not mean that the young university graduates did not suffer any losses over the past years, in comparison to their older colleagues. However, their loss is tied not to the higher growing probability that they would perform very low-prestige jobs, but rather to the reduced chances for performing jobs which enjoy very high prestige (and the loss is the strongest among those who are the worst among the best). Speaking directly, several years ago, it was easier for the university graduates to find their first job that would be rated highly in terms of social respect. At present, such jobs can be found only in the subsequent years of one's career.

(7) Under the analysis of changes of the social status of an occupation, a reverse trend can be observed in the case of university graduates. Once again, the young persons with tertiary education are at a worse position with respect to their colleagues entering the labour market a few or several years ago. However, this time, the loss applied not to the last quartile (a more or less similar percentage stands a chance of finding the best-paid jobs), but the first and second quartile. This could suggest that indeed, for some, the economic profit tied to their tertiary education is rather poor (unless it appears at further stages of their careers). On the other hand, the loss experienced by holders of university diplomas is not as acute for them as the economic and occupational degradation of their peers completing vocational or technical upper secondary schools; primarily, since the university graduates do have something to lose (the economic status of the professions they perform is definitely the highest).

The most interesting group of university graduates are those who did not succeed with their first job. This group shall be characterised through the various types of graduates forming it, which will provide the response to the question on which factors increase and which ones reduce the chance for having the relatively least attractive job. Response to the above question was formulated based on a decision tree, which is included in the annex with tables to this chapter (Figure III.A.1). This tree explains the chance for finding oneself in the first quartile (first 25% of cases) set for university graduates based on information on the economic status of the first job performed. Therefore, it should be stressed that the lowest 25% discussed here does not apply to 25% of all respondents, but only to 25% of people with university degrees who perform occupations the least valued in the market.[46] The factor that best explains the chances for finding a relatively unattractive first job is one's education major (profile of education). This however is not the only factor, because it interacts with additional variables, such as the type of school

[44] This tendency will change systematically due to the demographic low. It should be noted that Poland is named among seven countries in the world that will experience the largest workforce deficit in 2020 in relation to the requirements for maintaining the dynamics of economic growth (see Strack et al., 2014). In 2013, the first significant drop in the value of the index of scholarisation at the tertiary level was seen (it fell below 0.39), which is interpreted by some as the symptom of the increasingly lower assessment of the value of higher education.

[45] Naturally, "graduates" are understood here as persons who have been properly prepared to perform specialist occupations, and not graduates of all tertiary education institutions.

[46] Analysis of 25% of all respondents would be counter-productive, since the first quartile for the whole population contained few university graduates (mainly graduates of technical fields, or architecture and construction, working as physical labourers at construction sites).

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Table III.1. First job – position of respondents on the prestige scale of the given occupation and on the economic status scale of the occupation (based on Ganzeboom, Treiman 1996)[47]

Age category		Scale of prestige						Scale of economic status of the occupation					
					Percentiles						Percentiles		
		N	Average	coefficient of variation	25	50	75	N	Average	coefficient of variation	25	50	75
Older	Lower secondary school and lower	2045	32	0.3	22	32	42	1979	24	0.5	15	21	28
	Basic vocational school	7303	35	0.2	31	35	43	7187	27	0.3	21	27	31
	General upper secondary school	1452	40	0.3	32	42	44	1430	38	0.4	28	33	48
	Technical upper secondary school	3171	39	0.3	32	42	44	3148	36	0.4	25	31	48
	Vocational or specialised upper secondary school	1073	41	0.2	34	43	44	1069	42	0.4	28	39	55
	Tertiary education institution	2510	51	0.2	43	51	58	2502	60	0.3	43	61	76
Young	Lower secondary school and lower	355	33	0.4	22	32	42	343	29	0.5	18	25	33
	Basic vocational school	728	34	0.3	30	33	43	715	27	0.3	23	28	31
	General upper secondary school	483	36	0.3	28	40	43	476	33	0.4	25	28	43
	Technical upper secondary school	699	36	0.3	30	39	43	688	33	0.4	25	28	39
	Vocational or specialised upper secondary school	201	36	0.3	30	36	43	197	32	0.4	24	28	37
	Tertiary education institution	662	47	0.3	42	47	54	662	53	0.4	35	55	74
Young – older	Lower secondary school and lower	2400	1		0	0	0	2322	6		2	4	4
	Basic vocational school	8030	-1		0	-2	0	7902	0		1	1	0
	General upper secondary school	1936	-4		-4	-2	-1	1906	-5		-3	-4	-5
	Technical upper secondary school	3870	-3		-2	-3	-1	3836	-3		-1	-2	-9
	Vocational or specialised upper secondary school	1274	-6		-4	-7	-1	1266	-10		-5	-11	-18
	Tertiary education institution	3172	-5		-1	-4	-4	3164	-6		-8	-6	-3

** Persons not continuing education in the formal system.*
** Young – persons up to 30 years old*

Source: BKL – Population Study 2013–2014.

from which one graduated, and the time of entering the labour market. The simple classification of study specialties (study majors) would consist of four groups:

1. **Study specialties associated with the highest risk of performing unattractive first jobs:** This group includes transport services, personal services, veterinary studies, agricultural, forestry and fishery studies (over 45% of graduates classified in the 25% performing occupations with the lowest rating on the SIOPS scale[48]). In this case, the overall bad situation is seen among both young people (58% in the first quartile) and the older ones (circa 40% in the first quartile).
2. **Study specialties associated with high risk of performing unattractive first job: This group includes** majors in physics, biology, economy, administration, and social sciences (over 36% of graduates classified in the 25% performing occupations with the lowest rating on the SIOPS scale). A significant difference is observed here between graduates of public universities and the private tertiary education institutions to the disadvantage of the latter (32.3% versus 47.9% of the persons in occupations least attractive for university graduates), as well as between persons entering the labour market in the recent years and those who started work a few or several years ago. Definitely

[47] Leavers of post-secondary schools were omitted in this table due to their insignificant number (only 9 cases among the young people).

[48] 25% of the worst rated occupations among all occupations performed by university graduates

the worst situation is seen among young people (up to 30 years old) who graduated from private tertiary education institutions (around 70% in the first quartile).

3. **Study specialties tied to average risk of performing unattractive first job:** This group includes such study fields as environmental protection, architecture and construction, production and processing, engineering, and technical studies, social welfare, law and education (27% of persons in first jobs least attractive for university graduates). Here again a clear advantage of graduates of public universities (around 26%) over those of private institutions is seen (around 46%).
4. **Study specialties associated with relatively low risk of performing unattractive first job:** This group includes information technology, humanities, journalism, and information[49] (around 16% of graduates in the first quartile), medicine, mathematics and statistics, and arts (around 9% of graduates in the first quartile).

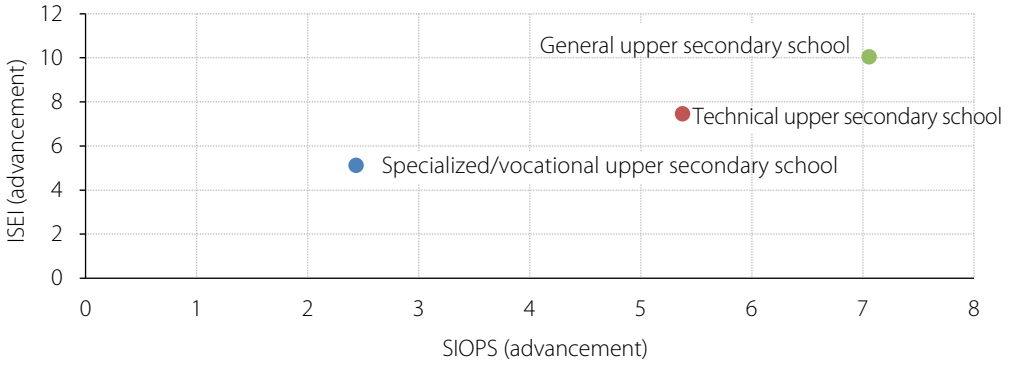
Already at this level, a certain correction should be made, regarding the proposed division into public and private tertiary education institutions. This division, which is the only one possible, based on the database, is rather a simplification of the qualitative differentiation model of Polish higher education institutions. Naturally, entities that stand out either in the positive or the negative sense can be found both among the first and among the second group; however, the averaging of results seems to illustrate well the qualitative division of the Polish academic sector.

Intra-generation mobility, or who profits as time passes?

The first permanent job does not always serve as a good indicator of a graduate's professional success. The profit tied to tertiary education can be instant (better chances of finding a good first job) but also deferred (better chances for faster social and professional promotion after entering the market). The first part of this chapter presented the overall image of the instant profit, while the present one devotes more attention to the deferred kind.

These profits can be characterised in the simplest manner through a comparison of work performed before and after attaining a given level of education, in a situation where these stages are separated by an interruption. The figure below presents the differences, measured in points, on the scale of prestige and economic status of the occupation performed by the respondents before and after completion of tertiary education. A clear social and economic advance is visible upon the completion of tertiary education. The highest profits are experienced by leavers of general upper secondary schools (7 points on the scale of prestige, 10 points on the scale of economic status) and of technical upper secondary schools (more than 5 points in prestige, more than 7 points in economic status) who opt to continue their education in tertiary education institutions.

Figure III.1. The average profit associated with graduation from a tertiary education institution (difference in the scale of prestige and economic status of occupation, measured for positions held before and after graduation)



* *The analysis takes into account persons who have undertaken their first job that lasted for at least uninterrupted 3 months between the two stages of education.* $N_{S/V} = 126$, $Nt_{ech} = 160$, $N_{Gen} = 259$

Source: BKL – Population Study 2013–2014.

[49] Although, in this case, there is a significant threat of unemployment in general

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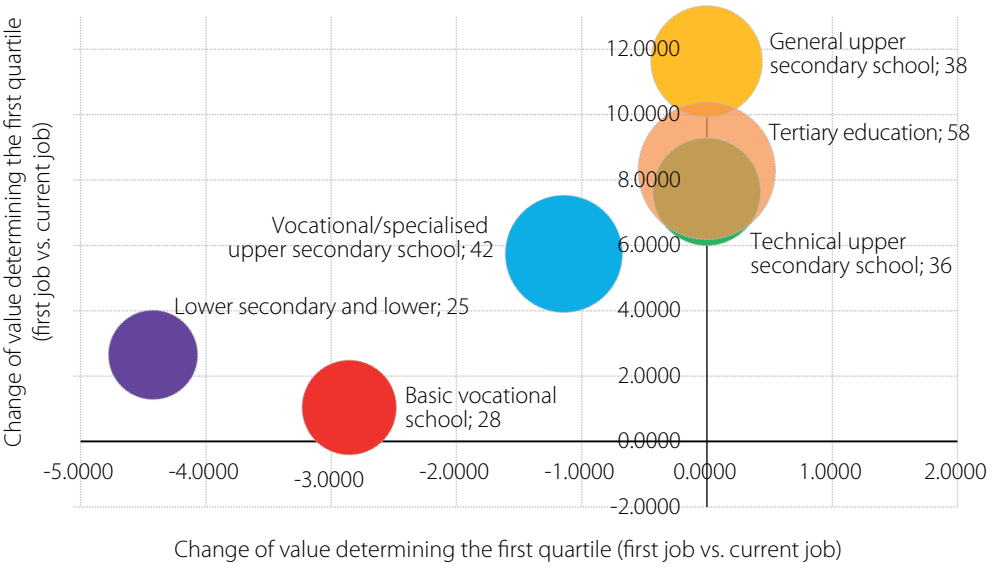
The deferred profit is frequently tied to a faster or more dynamic promotion path, which characterizes persons with a university degree. The figure below shows what level, more or less, of economic advancement can be expected by graduates of the various types of schools who are present in the market for at least 5 years. The juxtaposition of changes in the values determining the first and third quartile allows assessing the process of how the occupational position of graduates of different types of schools varies with time.

A relatively similar trend is observed among persons who graduate from technical upper secondary schools, general upper secondary schools, and tertiary education institutions; around 75% of them gain in the subsequent years of their occupational activity. Around 25% of them move up by some 8-12 points on the SIOPS scale. Therefore, it could be said that, in the case of these schools, differences in the occupational situation of their graduates are tied to a faster promotion of the brightest ones and to stability, with a sometimes-slight degradation of the others. A reverse trend is observed in the case of those leaving lower secondary schools and basic vocational schools. Among some of these graduates, actual occupational degradation is observed (25% of graduates lose in terms of the economic status of their occupation), while the share of those moving up is relatively small (25% are promoted from 2 percentage points upwards).

Figure III.2. Change of the respondent's position on the scale of economic status of occupation (size of the circle indicates average position at the SIOPS at the time of performing first job)



* *The analysis takes into account persons who have undertaken their first job which lasted for at least uninterrupted 3 months, at least 5 years before the study, and persons who did not continua education in the formal system.*

Source: BKL – Population Study 2013–2014.

Moreover, it is worth mentioning that those holders of university diplomas who initially found themselves among the 25% performing the lowest-rated jobs moved up on the SIOPS scale in most cases (around 70%) in the subsequent years. In the case of persons who initially found themselves in 2nd and 3rd quartile, occupational stability prevailed. Typically, the social and economic advancement proceeded faster in the case of university graduates in occupations of lesser prestige, and the differences in the SIOPS scale among university graduates became smaller with the subsequent years of their market presence. This tendency for the evening out of occupational status among university graduates results in part from the nature of the scale selected as the analytical tool. An in-depth analysis of the diversity in occupational situation and quality of work performed by university graduates requires additional characteristics of the occupations.

Quality of work performed

It is worth confronting the above analyses with detailed indices describing three dimensions of employment quality, namely, the level of salary, the stability of employment, and the quality of the professional environment. The level of remuneration was converted into units of time that the respondent devotes to performance of his/her job.

Work intensity vs. income

The salary itself is not always the best indicator of the "profitability" of investment made to attain university degree, because it does not include the "intensity" of one's involvement in work, which may vary across the groups. In other words, only the comparison of time of work with the income allows us to assess whether the profit tied to the specific education is significant, i.e. whether the on the average higher income of university graduates does not result from the fact that they work longer hours.

Who works exceptionally long hours and whose hour of work is appraised below the market average? By comparing the time of work declared by our respondents[50] to the typical 40-hour work week, we reach the conclusion that people with university degrees most rarely work more than this standard (around one third of the respondents). Additionally, only among the university graduates and graduates of general upper secondary school is the percentage of those working more than 40 hours per week the same as among the young ones and the older ones (see Annex, Figure III.A2). As it turned out, the busiest group are the people with the lowest education levels, which are those who completed only basic vocational schools or lower secondary schools, which is similar to young graduates of technical upper secondary schools. In the case of these groups, we clearly see the burden on the young people is larger than on the older ones (more than half of the young people with basic vocational occupation work more than 40 hours per week).

This conclusion is important in the context of issues discussed further on. Here, we can state that the advantage of persons holding university degrees also lies in the fact that they usually work shorter hours and can use their leisure time (outside of work) in any way they want to (including, for example, for further development of their knowledge and skills). In the case of employees, time can be treated as a resource that can be monetised (additional occupational activity) or invested (e.g., in formal or non-formal education). As the further sections of this chapter will show, both strategies are more frequently found among persons with university degrees, which is also because those persons have more time to fill with such activities.

Given the above conclusions, and keeping in mind the data indicating a positive correlation between the level of education and the monthly salary, we can expect an even more explicit correlation between one's education and the market appraisal for one hour of work.

Therefore, it is indeed in reality. The higher the education level, the higher this appraisal. Naturally, the average pay per hour of work is also higher among those who are over 30 years old. It is however interesting to note that the difference between persons with university degrees and the rest is particularly visible among people functioning in the labour market for some time. The young people with university diplomas do not gain as much in comparison with persons graduating from other types of schools. In their case, there is also a large (25%) group for whom the price per hour of work does not differ fundamentally from the price of work of those who have graduated from basic vocational school or various types of upper secondary schools. This data should be interpreted in the context of the already presented conclusions, which indicate that differences in the occupational status of graduates of various types of school become more pronounced only in the subsequent years of their market presence. It is necessary also to keep in mind that this appraisal of work applies to paid employment, including work performed for the employer at one's home, which is not always treated as overtime.

[50] The analysis takes into account persons hired under employment contract. The calculations are based on the sum of hours dedicated for work (taking into account all work performed under contract employment).

Quality of work after graduation treated as return rate on university education

Table III.2. The (net) value of hour of the work of the respondents – basic characteristics

Age category		N	Average	Percentiles		
				25	50	75
Older	Lower secondary school and lower	1350	11	7	9	12
	Basic vocational school	6170	11	8	10	13
	General upper secondary school	1639	13	9	11	14
	Technical upper secondary school	3355	13	9	13	16
	Vocational or specialised upper secondary school	1145	12	9	11	14
	Tertiary education institution	4601	19	13	16	22
Young	Lower secondary school and lower	332	10	7	9	11
	Basic vocational school	929	10	8	9	11
	General upper secondary school	601	11	8	9	12
	Technical upper secondary school	1002	11	8	10	13
	Vocational or specialised upper secondary school	254	12	8	10	13
	Tertiary education institution	1229	14	9	12	16

* *Young – persons up to 30 years old, not continuing formal education.*
*** Time – sum of hours worked under contract employment*

Source: BKL – Population Study 2010–2014.

The better income prospects of people with university education are partly tied to the better opportunities for earning "on the side," outside their primary employment. This is essentially the only group that so widely profits from the additional income opportunities, by simultaneously performing contract work and some additional form of employment (Annex, Table III.A.1).

Finally, it is worth adding who finds themselves among the 25% young university graduates with the lowest income (compared to the time dedicated for work). Contrary to appearances, it is rather difficult to identify a specific group of study fields that increase one's chances to fall within the first quartile. It is definitely easier to name people for whom this probability is rather small, which are those who graduate from such fields of study as technology, industry, construction, and – what appears as rather intriguing – the humanities and arts. A factor which more strongly than the field of study influences the chances of falling into the group with the lowest income is the gender – feminine – of a person holding a university diploma. It increases by almost 1/3 the probability of belonging to the least privileged group.

Stability of employment

The sense of the stability of employment is one of the most important factors that determine the overall satisfaction with the work performed (Holland et al., 2011; Stride, Wall, Catley 2007). The majority of research conducted in Poland suggests a rather high level of satisfaction with certainty of employment (see CBOS – Public Opinion Research Centre - 2013) among the employees. For instance, according to the CBOS, 64% of respondents perceive their work as offering certainty of employment and a sense of stabilization (CBOS 2013, p. 3), while the data gathered in the course of the BKL Study suggest an even larger optimism of respondents (over 71% of satisfied persons). The average assessment of this facet of work is tied to the nature of one's position, which is directly linked to the level of the education of the respondents, their age, and – in certain situations – also with the gender.

More significant differences among respondents can be observed when predictions regarding career development are taken into account (cessation of work, promotion, absence of changes).

The following groups can be identified among the respondents:

1. **Regressive** – those who have the relatively lowest view on the certainty of their employment (although they still see it as positive) and at the same time foresee a cessation of work at the current workplace (mostly young people who have graduated from upper secondary schools – both general and vocational).

In this group, the percentage of persons who foresee leaving work is above average (10% among graduates of general upper secondary schools, 13% - of vocational / specialised upper secondary schools).

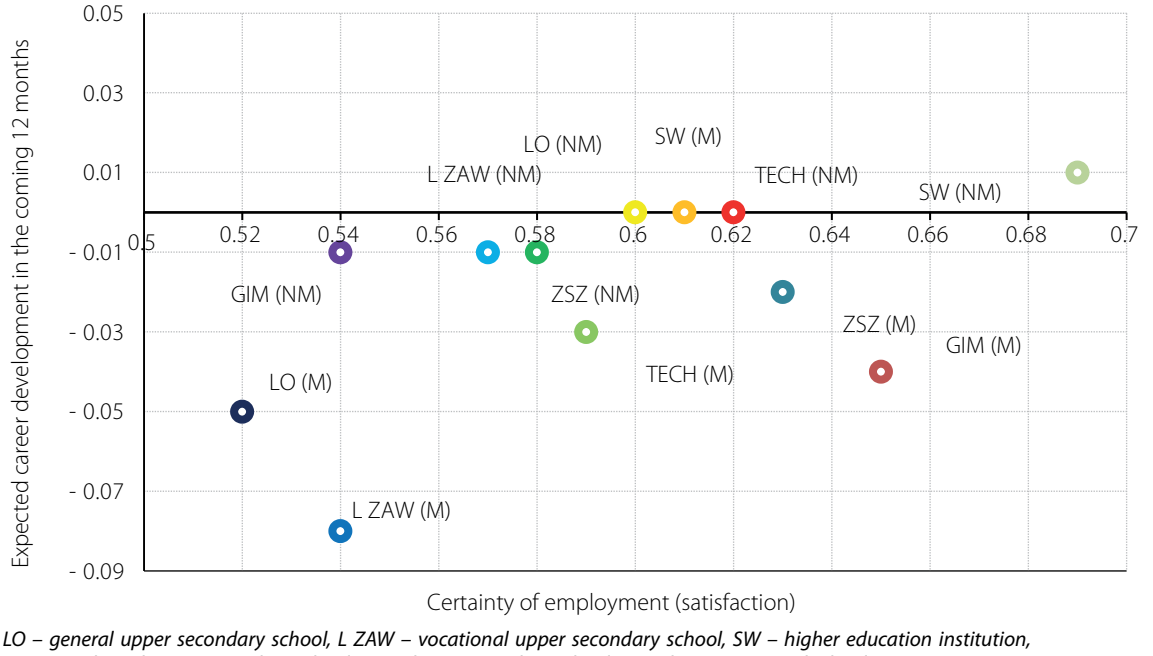
2. **Stable** – those who highly rate the stability of their employment and have a neutral view on prospects for promotion (mainly older persons with technical and general upper secondary school diplomas, and younger persons with tertiary education).
3. **Prospective** – those who have a very high rating of the stability of their employment and simultaneously expect quick promotion (older persons with university education).

In summary, we can add that the lowest certainty of employment among the young people is seen in the case of graduates of general and vocational upper secondary schools, while university graduates do not differ significantly in that respect from persons graduating from other schools. The benefit of tertiary education is visible only in the older group, since they have the highest view of the stability of their employment (Annex, Table III.A.2).

On the other hand, analysis of forecasts for the work performed by young people clearly indicates a rather temporary nature of their employment, i.e. around 10% of the young people suppose they would cease work for their current employer within the coming 12 months. This temporariness results in part from the sense of instability of the current work and in part from the plans to change the current occupation for a better one.

However, this does not mean that the young people do not hope for a promotion more frequently than the older persons predict a positive change of their occupational status in a short period of time. In addition, in this case, those with university education seem to be the most optimistic. It is worth adding that, in the group with university degrees, men expect promotion much more frequently than women do, which only in part results from their occupation. A partial explanation for this phenomenon can lie in the lower expectations towards paid employment seen among women (Annex, Figure III.A.3).

Figure III.3. Expected career development (-1 – will cease work at this workplace, 0- will maintain current status, 1 – will get promoted) and the evaluation of certainty of employment (1 – satisfied, 0 – no opinion, -1 – dissatisfied) – arithmetical averages for groups identified for their education level



LO – general upper secondary school, L ZAW – vocational upper secondary school, SW – higher education institution, TECH – technical upper secondary school, GIM – lower secondary school, ZSZ – basic vocational school

* *includes persons not continuing formal education, M – persons up to 30 years old, NM – persons older than 30 years*
** $N_{lower.sec} = 10705$, $N_{basic.voc.} = 25043$, $N_{gen.up.sec} = 7316$, $N_{tech.up.sec.} = 13427$, $N_{voc.up.sec.} = 4018$, $N_{univ.} = 15219$.

Source: BKL – Population Study 2010–2014.

Quality of work after graduation treated as return rate on university education

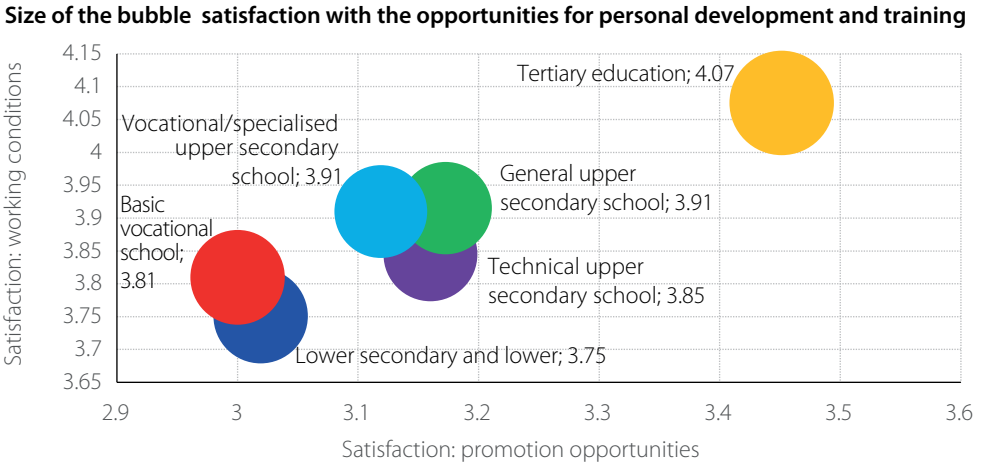
Quality of the occupational environment

In the case of quality of the occupational environment, the assessment was based on three ratios of a subjective nature – opinions. Three questions referred to the level of satisfaction with conditions for performing work, promotion opportunities, and the possibilities for personal development and training. In addition, in this case, the results are not extremely surprising, and they support our belief on the rather privileged situation of persons with university education.

The figure below clearly suggests there are three relatively homogenous clusters as follows:

1. High satisfaction (with working conditions, opportunity for promotion and for personal development) - graduates of basic vocational schools and those who have terminated their education no higher than at the level of lower secondary school;
2. Average satisfaction - persons with basic vocational education and upper secondary education; and,
3. More than average satisfaction with all facets of work – graduates of various tertiary education institutions.

Figure III.4. The level of satisfaction with conditions for performing work, promotion opportunities, and the possibilities for personal development and training – contrasted with the level of respondents' education



* *Persons not continuing formal education were taken into account*
** $N_{lower.sec} = 10705$, $N_{basic.voc.} = 25043$, $N_{gen.up.sec} = 7316$, $N_{tech.up.sec.} = 13427$, $N_{voc.up.sec.} = 4018$, $N_{univ.} = 15219$.

Source: BKL – Population Study 2010–2014.

The pattern of relationship between university-level education and a higher opinion on the quality of performed work is more pronounced in the group of older persons. Among the younger people, there is once again a split between those with university diplomas and those with a lower education level (Annex, Table III.A.3).

Summary

In this chapter, dedicated to the market situation of persons taking their education to the tertiary level, the main focus shifted to the assessment of quality of employment. It should therefore be treated as supplement to the analyses of market situation (unemployment vs. employment), which have been presented in the previous BKL publications.

The quality of employment has been interpreted from two perspectives:

1. Stratification;
2. The three qualitative dimensions proposed by the OECD (salary – stability of employment – quality of work environment)[51].

The chapter's structure has been arranged in line with three key groups of the research questions as follows:

(1) What level of occupational attractiveness and social respect characterizes the first, permanent jobs undertaken by young people; how does the level of their education determine this attractiveness; and what are the chances of the contemporary young people (as compared to the older generations) for finding the first attractive job?
(2) Who can expect a rise in social status in the future, and what scale of such rise is the most probable?
(3) Does the level of education determine the opportunities for access to high-quality professions, i.e. professions associated with relatively high salary (as compared to intensity of work), stability of employment and high quality of the work environment?

Response to the above questions is contained in the publication. This summary cites only the most important, worth recalling, conclusions on the relationship between the level of education and the economic status and prestige of work, opportunities for social advancement, and additional dimensions defining the quality of work.

1. Level of education versus the economic status and prestige of occupation

Both the scale of professional prestige and the economic standing clearly points to the privileged position of persons holding a university degree. The scale of social prestige presently seems to be more content-related (strongly linked to the level of education) than the scale of economic position. It could be said that, currently, the reward for being a university graduate is more probable in the form of prestige of one's profession than of high salary.

Contemporary young people usually perform their first jobs (after the completion of formal education), which are associated with lower prestige and offer lower pay-off in economic terms than those of their older colleagues a few or several years earlier. The higher the level of education, the more pronounced the stratification of generations becomes. It should be added that the loss experienced by the contemporary young people seems more severe for persons with upper secondary education (mainly those from specialised or vocational upper secondary schools) than those with university-level education. Despite the overall decline in the prestige and economic standing of university graduates, they still manage to maintain a substantial, positive distance from the youth graduating from lower-level education.

It is not true that contemporary university graduates increasingly frequently perform very low-prestige jobs; basically, there is no significant difference in that respect between the young and the older persons. The young are at a disadvantage, not because of the growing probability that they would perform the lower-rated jobs, but due to the reduced chances for performing jobs that enjoy very high prestige (and the loss is the strongest among those who are the worst among the best). On the other hand, in terms of economic standing of a profession, the chance of becoming part of the "elite" is the same (the elite does not shrink), but the percentage of those whose economic standing is not satisfactory does grow (again, it should be stressed that the loss suffered by university graduates is not as painful for them as the economic and social degradation for the graduates of vocational or technical upper secondary schools).

Of course, not everybody enjoys equal chances in terms of access to the relatively scarce goods – jobs of good quality. The factors that determine this access include the area of education, the type of tertiary education institution, and the time of entering the job market (periods of crisis vs. those with relative

[51] Indices comprising the measurement models for these dimensions have been slightly modified.

Quality of work after graduation treated as return rate on university education

market stability). In the previous reports from the BKL Study, their authors have proven the relationship between the overall market situation and employment chances of the young people. During periods of economic slump, the employers become more selective and the chances for finding the first jobs by young people worsen significantly (this worsening is disproportionate in relation to losses experienced by groups already present in the labour market).

The present-day youths start work during their formal education definitely more frequently (19% of the young, versus 7.6% of the older group, start work while continuing their formal education). This change is the most pronounced at universities of all kinds, mostly among full-time students. The increase in the occupational activity of students is one of the most important trends observed presently in the market of tertiary education. In the future, it could become the factor determining the career paths of graduates. For this reason, it is worthy of a further analysis.

2. Social advancement

The competitive advantage of persons with university degrees lies not only in their immediate profit (higher chances for finding a good first job), but also the deferred profit (better chances for faster social and professional promotion after entering the market). The pattern for advancement vs. degradation is similar among graduates of technical upper secondary schools, general upper secondary schools, and tertiary education institutions. In the case of these schools, the differentiation of the occupational situation of their graduates is linked with the faster promotion of the brightest ones and with the stability and sometimes-slight degradation of the others. A reverse trend can be observed among the graduates of lower secondary schools and basic vocational schools, i.e. occupational degradation is seen more frequently among them, coupled with a relatively low percentage of those receiving any promotions.

It is also worth mentioning that those holders of university diplomas who initially found themselves performing the lowest-rated jobs moved up on the SIOPS scale in most cases in the subsequent years. The socio-economic advancement was faster among university graduates performing less prestigious professions, which reduced the differences in prestige within the peer group.

3. Additional determinants of quality of work (salary – stability of employment – quality of work environment)

The relative advantage of university graduates over other persons manifests itself also in terms of salary, occupational stability, and the quality of the occupational environment. They most rarely work more than 40 hours per week, they get the highest pay per hour, the environment usually supports their personal development, and they can foresee their promotion more frequently and are increasingly satisfied with stability of employment. Moreover, they have more opportunities for "extra work" aside from their main job (working both as contracted employee and performing additional work).

In summation, it should be added that, at present, a university diploma is not a guarantee of finding high-quality job (overall, the young people presently find it harder to find high-quality employment at the start of their career), although it still increases the chances. It does seem particularly important, however, that university diplomas open the doors to potential professional development that are not available to persons with lower-level educations. Thus, the university diploma (from a renowned institution, it should be added) combined with the individual traits, including high motivation, is one of the factors which will determine occupational stratification among graduates of various schools. This stratification will also be supported by the better access of university graduates to one of the more precious resources, which is leisure time, and it can be "sold" (by engaging in additional work) or invested (by engaging in additional educational activity) at a future time.

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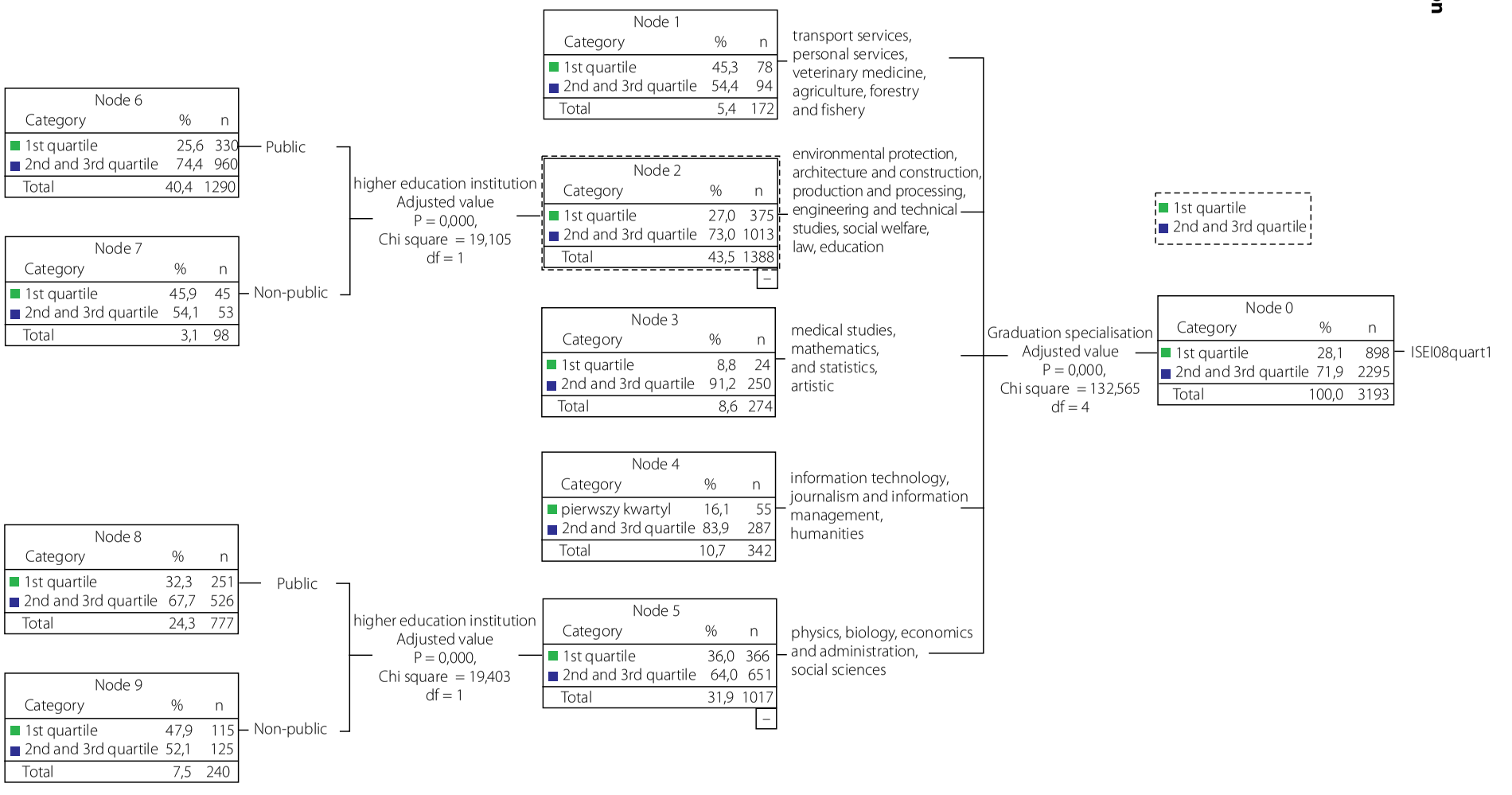
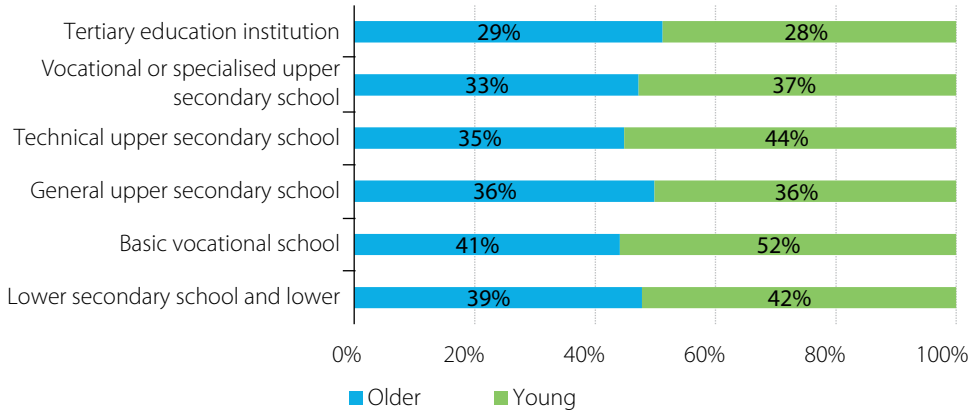
Figure III.A.1. The risk of finding oneself among the 25% of university graduates in occupations rated the lowest on the scale of economic status, versus the field of study and type of tertiary education institution



** based on persons who graduated from one field of study and started their first job after completion of formal education*

Source: BKL – Population Study 2010–2014.

Figure III.A.2. The percentage of respondents declaring that their weekly time of work exceeds 40 hours (sum of contract employment) and their level of education (N_{young} = 28917, N_{older} = 6574)



** Young – persons up to 30 years old, not continuing formal education.*

Source: BKL – Population Study 2010–2014.

Table III.A.1. Form of employment

	(A) Contract work (sum)		(B) Two contract workplaces		(C) Contract work + other		(D) Other	
	Older	Young	Older	Young	Older	Young	Older	Young
Lower secondary school and lower	74%	53%	0.30%	0.40%	2%	3%	26%	47%
Basic vocational school	88%	83%	0.40%	0.10%	2%	3%	12%	17%
General upper secondary school	93%	78%	0.30%	0.20%	3%	5%	7%	22%
Technical upper secondary school	93%	84%	0.80%	0.60%	3%	4%	7%	16%
Vocational or specialised upper secondary school	92%	83%	0.80%	0.00%	4%	3%	8%	17%
Tertiary education institution	97%	87%	1.30%	0.60%	11%	9%	3%	13%
total	91%	80%	0.70%	0.40%	5%	5%	9%	20%
N	26520	5668	223	29	1479	402	2827	1531

** Young – persons up to 30 years old, not continuing formal education.*

*** Percentage of respondents, who: perform work under employment contract, regardless of whether this is one full-time work, two full-time occupations, or whether they simultaneously engage in other work under other form of employment (A), are hired under 2 contracts (B), work simultaneously under employment contract and under additional form(s) of employment (C) or are working under contract other than employment contract (D).*

Source: BKL – Population Study 2010–2014.

Table III.A.2. Satisfaction with the certainty of employment and expected career development versus the level of education

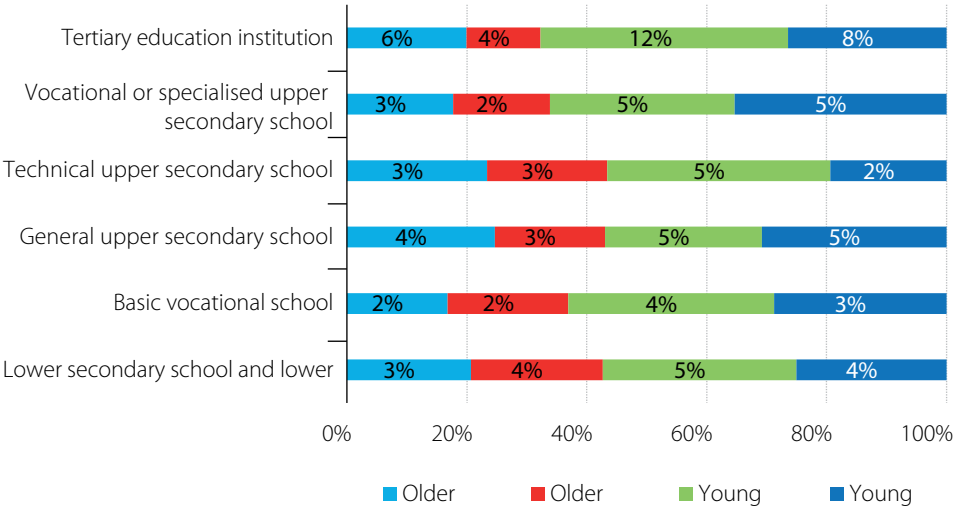
	Satisfaction: certainty of employment				Expected career development in the coming 12 months			
	Dissatisfied		Satisfied		Will cease work		Will be promoted	
	Older	Young	Older	Young	Older	Young	Older	Young
Lower secondary school and lower	12%	8%	66%	73%	5%	9%	4%	5%
Basic vocational school	11%	8%	69%	71%	3%	6%	2%	3%
General upper secondary school	10%	13%	70%	65%	4%	10%	4%	5%
Technical upper secondary school	10%	11%	72%	70%	3%	7%	3%	4%
Vocational or specialised upper secondary school	11%	13%	68%	67%	4%	13%	2%	5%
Tertiary education institution	8%	11%	77%	72%	3%	9%	4%	9%
N	2967	713	21246	4744	1048	567	909	395

** includes persons not continuing formal education, Young – persons up to 30 years old, Older – persons older than 30 years*

Source: BKL – Population Study 2010–2014.

Quality of work after graduation treated as return rate on university education

Figure III.A.3. Percentage of respondents who expect to be promoted in the coming 12 months



* *includes persons not continuing formal education, Young – persons up to 30 years old, Older – persons older than 30 years*

** $N_{ower.sec} = 2486$, $N_{basic.voc.} = 10707$, $N_{gen.up.sec} = 3535$, $N_{tech.up.sec.} = 6912$, $N_{voc.up.sec.} = 2152$, $N_{univ.} = 10574$

Source: BKL – Population Study 2010–2014.

Table III.A.3. The level of satisfaction with conditions for performing work, promotion opportunities, and the possibilities for personal development and training – contrasted with the level of respondents' education and age (average values)

Level of education	Age category	Promotion opportunity	Working conditions	Opportunity for personal development and training	N
Lower secondary school and lower	Older	2.97	3.73	3.19	8409
	Young	3.22	3.83	3.37	2297
Basic vocational school	Older	2.98	3.8	3.23	22107
	Young	3.16	3.86	3.43	2936
General upper secondary school	Older	3.17	3.93	3.44	5041
	Young	3.17	3.87	3.28	2275
Technical upper secondary school	Older	3.16	3.87	3.41	10504
	Young	3.17	3.8	3.35	2924
Vocational or specialised upper secondary school	Older	3.14	3.93	3.44	3261
	Young	3.06	3.82	3.36	756
Tertiary education institution	Older	3.47	4.07	3.84	11698
	Young	3.38	4.05	3.66	3520

Source: BKL – Population Study 2010–2014.

Chapter IV

Barbara Worek

Reasons for and consequences of educational passivity of adult Poles

It can be stated without a moment's hesitation that boosting the educational activity of adult citizens is the challenge for every country that wants to utilise, in an optimum manner, the potential of its human capital. Depending on the advancement of the lifelong learning policy, the model used for its development, the functioning of the formal education system, and the demographic and economic situation, each country has different problems to solve. In countries such as France or Great Britain, where a relatively large percentage of the young people leave the education system prematurely, the challenge lies in the development of the "second chance education," which offers the opportunity to gain basic competences and formal qualifications later in life (CEDEFOP 2014). In Poland, the percentage of young people dropping out from the education system is much smaller than the average for EU countries (ibidem), but a serious problem is the low level of involvement of adult Poles in the development of skills acquired in the system of formal education. This is especially true for persons with the lowest level of education, older ones or in worse standing in the labour market, which are unemployed or occupationally inactive. The patterns of adult educational activity in Poland are similar to those observed in other countries. However, the differences between levels of educational activity displayed by young people who are well-educated and working in specialised occupations and among people who are older with poorer education and in worse occupational situation are much more pronounced in Poland than on the average in the European Union (ibidem). This increases the gap between the levels of competences between better-educated persons and those with poorer education. Higher and regularly updated competences offer better chances for adaptation to the changing situation in the labour market, while the less developed, obsolete ones hinder it. This is especially true for the general competences, such as effective communication, self-organisation, the ability and willingness to learn, because they are the indispensable basis for utilising one's occupational skills.

The conclusions that can be drawn from this fact should be taken into account during the design of solutions forming the basis for the policy of lifelong learning in Poland. These solutions should pay attention to the role of the adult education system in equalising the chances and enabling access to learning and development for those groups that encounter the largest difficulties. In the process of developing rules for supporting adult education, attention must be paid to reducing the "idle gear effect," which significantly reduces the effectiveness of public actions undertaken in that area (OECD 2012, Falch and Oosterbeek 2011). To minimise this risk, the conditions determining educational passivity or activity of adults must be diagnosed well.

These conditions are probably different for various groups whose situation is defined by their position in the labour market. It can be assumed that people who are occupationally passive, unemployed, and those who perform various occupational tasks would encounter different barriers to educational activity. Therefore, these conditions and specific features are presented and analysed in detail in this chapter. To begin with, the description of factors influencing the educational passivity of occupationally inactive persons shall be presented, and following that, of the unemployed. For the employed persons, the difference in levels of educational activity in selected occupational groups shall be presented. The purpose is to strongly underscore the role played by the nature of one's work, as the factor stimulating educational activity. To supplement the profile of people who are educationally active and passive, these two groups shall be compared for their self-assessment of competences, the level of salary, and evaluation of job satisfaction.

Portrait of the educationally passive adult Poles

Results of all the rounds the Study of Human Capital, presented in reports, both focusing on specific themes and the ones describing core conclusions, offered a good description of the patterns of educational activity of adult Poles (Turek and Worek 2015, Szczucka, Turek and Worek 2014a, Szczucka, Turek and Worek 2014b, Szczucka, Turek and Worek 2012). Their typical features include a relatively high educational activity of the younger, well-educated persons, working as professionals and managers and the low learning and development involvement, which are demonstrated by persons with lower education, working in occupations not tied to the need for constant development. Results of the fifth round of the BKL Study show that professionals participate in non-obligatory courses and training six times more frequently than elementary workers and almost four times more frequently than craft workers. Similar differences are seen between the levels of educational activity of persons with higher education versus those with vocational education or primary/lower secondary (Turek and Worek, 2015). It should be kept in mind that, even among the professionals, the majority (63%) did not participate in any course or training over the preceding 12 months. If however all forms of education are considered (formal, non-formal and informal education), the professionals turn out to be the only occupational group which in 2014 had more educationally active members than those educationally passive (in the proportion of 60% vs. 40%).

It is therefore easy to outline the overall characteristics of educationally passive adult Poles, which can be drawn through the reversal of analyses describing educational activity. Educationally passive adults are present mainly among persons who do not work, with education under the level of upper secondary, hired in lower positions, and among the older persons who have not completed tertiary education (Szczucka, Turek and Worek, 2014b). It is worth looking closely at the persons who are educationally active and passive to better capture factors differentiating between these two categories, and through this, to better understand the determinants of passivity. As the factor, which has the strongest differentiating influence on the educational activity of adults, is their status in the labour market, the description of features that can increase educational passivity shall be presented separately for the categories of occupationally inactive, unemployed, and employed.

Educational passivity among economically inactive persons

Economical passivity is a factor that strongly supports educational passivity. As shown in Table IV.1, economically passive persons aged 24+ display the lowest level of educational activity: in comparison to their working and unemployed peers, they less frequently participate in courses and trainings or develop their competences through self-education. Only the level of their participation in formal education is similar, which results from the fact that this group includes persons who are over 24 years old, but continue learning. The group of occupationally inactive persons, constituting 21% of respondents, includes as much as 85% of persons who declared they did not develop their competences in any way. This comes as no surprise, if one considers that the main motives for development of competences are

tied to occupation (Turek and Worek, 2015). The absence of work-related incentive for learning and development leads to very low educational activity among the occupationally passive group.

Educational passivity among economically inactive persons

Table IV.1. The development of competences during the past 12 months among persons aged 25–59/64, being in various occupational situations (in %)

	25–59/64 years old			
	Employed	Unemployed	Inactive	total
Courses and training (all)	25	10	3	19
Courses and training (non-obligatory)	17	9	3	14
Courses and training (only obligatory: health & safety, fire protection & prevention)	8	2	-	6
Self-education	20	14	10	17
Formal education	5	6	5	5
Courses and training (all) or self-education	35	21	12	29
Courses and training (non-obligatory) or self-education or formal education	32	22	15	27
Courses and training (all), self-education or formal education	38	23	15	31
Did not develop competencies in any way	62	77	85	69
Plans to develop competences (in the coming 12 months)	21	36	21	21
N	10180	1534	3097	14811

Source: BKL – Population Study 2014.

The group of occupationally inactive persons is not homogenous, because it includes students, homemakers, retirees, and pensioners. Aside from the students, who by definition demonstrate a high level of educational activity, a relatively large proportion of educationally active[52] persons can be found among those who have temporarily interrupted work (28%), much less among the homemakers, and the least among retirees and pensioners (9%).

During the analysis of reasons for low involvement in learning and development by those occupationally passive, it is worth to pay attention to reasons that make it difficult for them to undertake work. The most frequently named included the following: health condition (indicated by 43% of the occupationally inactive), continuation of education (32%) and lack of job offers in the vicinity (31%). For 24% of the occupationally inactive, their level of education makes it difficult to undertake work, and for 18%, the difficulty is the lack of the appropriate certificates or licenses. One could expect that people whose lack of qualifications poses an obstacle to finding work would participate in courses, trainings, or formal education more frequently than others would. Meanwhile, in reality, only 15% of persons who cannot find work due to their level of education develop their competences in any way. The case is similar to persons for whom problems with finding work come from lack of certificates and licenses – only 17% of them developed their competences.

Another interesting issue is the juxtaposition of reasons that hinder finding work for the occupationally inactive persons with the justification for their non-involvement in training. It is presented in Table IV.2.

[52] An educationally active person is defined as an individual who, during the past 12 months, learned in any of these manners: formal, non-formal and informal. Non-formal learning takes into account only the non-obligatory courses and training, the health & safety and fire prevention training is omitted.

Table IV.2. Selected reasons making it difficult to find work for the occupationally inactive persons and the reasons for their non-participation in courses and training (in %)

	Care for children	Care for another family member	Homemaking	State of health	Age	Lack of certificates and licenses	Level of education	total
Did not need at work	13	15	14	15	16	15	17	19
Did not meet formal requirements	2	3	3	2	3	5	4	2
Courses/ trainings were too expensive	4	6	8	3	4	6	7	3
No support / encouragement from the employer					1	0	1	
Had no time for occupational reasons	1	1	1	1	1	1	1	1
Had no time for personal reasons	42	29	36	10	12	25	22	15
No interesting courses in the vicinity	5	3	7	2	2	9	7	4
No incentive to engage in education	9	13	11	7	12	10	9	8
State of health does not allow it	5	13	9	39	34	17	24	17
At my age, education makes no sense	5	15	9	15	28	11	15	15
So far the training / courses did not give me much	1	1		1	1	1	2	1
Difficult to say	18	19	21	18	16	20	19	22
N	401	176	327	880	388	289	319	1489

Source: BKL – Population Study 2014.

Special attention should be devoted to persons who encounter problems with finding work due to the lack of the appropriate certificates or licenses, as well as due to their level of education. As it turns out, these persons do not develop their qualifications mainly due to such factors that are hard to influence, because they depend on the individual in question and the specifics of his or her situation. Those for whom their level of education was an obstacle to finding work stated that they do not engage in education primarily due to the state of their health (24% of all responses), have no time for it for personal reasons (22%), are unable to indicate specific reasons (19%), or are convinced that courses or trainings are not necessary for their work (or would not be necessary). The case is similar in case of persons for whom the problem with finding work is tied to the lack of certificates and licenses. The main reasons for the lack of their educational activity include primarily lack of time caused by personal reasons (25%), the state of health (17%), and the belief that training is not necessary for their work. Much fewer respondents indicated the costs of training or shortages in the training offer.

In terms of factors influencing the lack of educational activity, there are significant similarities among persons whose difficulties with finding employment are tied to their caretaker (care for child or other dependent persons) or homemaker functions. The main factor limiting their educational activity are these care obligations and time required to fulfil them. The conclusion is rather obvious here, but it makes sense to state it clearly: The factor which influences the level of educational activity is the amount of time an individual has at his/her disposal and which can be invested in training. For this reason, it is justified to treat time as a resource that an individual wishing to develop qualifications needs to have.[53] A hypothesis can be drawn that the factor which lowers educational – and probably also occupational – activity are the poorly developed care services, both with respect to childcare and care for the disabled or the elderly.

However, the correlation between having children and the level of educational activity among occupationally inactive persons is found only in the case of women with children up to 14 years old. Differences between the levels of educational activity of women with children and their childless

[53] Many analyses, whose goal is to assess full cost of training, include both the costs incurred by an employer who delegates an employee to a training course or who grants educational leave, as well as the costs incurred by a person who wants to develop his/her qualifications, but needs to provide care for a dependent family member: a child, a disabled or elderly person, and (see: Thematic Working Group on "Financing Adult Learning" 2013).

counterparts range from 7 to 9 percentage points among groups of women defined based on the age of their children.[54] For occupationally inactive men, both with and without children, these differences are much smaller, from 2 to 3 percentage points.[55]

Educational passivity among economically inactive persons

Table IV.3. Educational activity of occupationally passive women and men vs. having children aged from 0 to 4 years (in %)

	Has children aged up to 3 years				Has children aged 4-6 years				Has children aged 7–14 years			
	Women		Men		Women		Men		Women		Men	
Percentage	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
of educationally active persons	36	28	31	34	36	29	31	32	38	29	32	30

Source: BKL – Population Study 2014.

The overall patterns for educational activity among occupationally passive persons are similar to patterns observed among the working population: The higher level of this activity is supported by higher education level, younger age, and previous employment as professional, manager, technician, or associate personnel (see Table IV.4). Among the occupationally passive persons, differences in the level of educational activity between persons displaying the highest and the lowest levels of this activity are smaller than in the case of the working groups. It seems that the education level exerts a stronger influence on educational activity in one's adult life than the previously performed occupation. Differences between the levels of educational activity of occupationally passive persons with higher education and persons with lower secondary or vocational education in the same occupational situation are much more pronounced than differences in the levels of this activity observed between occupationally inactive professionals and elementary workers (Table IV.4). Age also plays an important role: The difference between activity levels of educationally passive younger and older persons is much larger than among the working respondents. This confirms the strong influence of occupational activity on the educational activity of persons from the older groups, indicated in numerous reports from the BKL Study (Turek and Worek 2015, Szczucka, Turek and Worek 2014b).

Table IV.4. The level of educational activity versus the education level, position held and age among the groups of persons employed, unemployed and inactive (in %)

		Employed	Unemployed	Inactive
Education	Lower secondary and lower	21	13	12
	Basic vocational	17	13	9
	Upper secondary	31	31	18
	Tertiary	53	45	37
Difference between tertiary vs. lower secondary		32 pp	32 pp	25 pp
Position	Did not work		25	19
	MANA	48	26	17
	PROF	58	50	29
	ASSO	46	31	13
	CLER	36	41	24
	SERV	24	27	15
	AGRI	21	14	9
	CRAF	23	16	9
	OPER	25	12	11
	ELEM	15	15	10
difference between professionals vs. elementary workers		34 pp	10 pp	6 pp
Age	25–34	37	34	28
	35–44	33	20	16
	45–54	29	12	12
	55–59/64	26	13	9
Difference between 25–34 y.o. vs. 55–59/64 y.o.		11 pp	20 pp	20 pp

Source: BKL – Population Study 2014.

[54] It should be added that having children up to 14 years old does not differentiate levels of educational activity among employed women.

[55] The correlation between having children and adult educational activity has been noted also by Dębowski, Lis, and Pogorzelski (2010). The model they have presented shows that having children up to 15 years old significantly reduces the rate of participation for all categories of respondents (employed, unemployed and inactive), as well as only among the employed.

Reasons for and consequences of educational passivity of adult Poles

Educational passivity among the unemployed

The unemployed display higher educational activity than the occupationally passive persons, but its level is lower than among the employed. In the unemployed group, the percentage of persons not engaged in any form of educational activity reached 77% in 2014, while among the employed ones, it was lower by 15 percentage points (see Table IV.1).

The level of educational activity decreases with length of period of being without a job or being officially registered as unemployed. Among persons registered as unemployed for more than 3 months, 27% have engaged in some form of educational activity, while among the long-term unemployed (more than 24 months of being registered), this percentage dropped to 17% (Table IV.5).

Table IV.5. Level of educational activity among the unemployed and the duration of unemployment (in %)

Percentage of educationally active persons	Number of months of being registered as unemployed					Number of months since the last job				
	0–3	4–6	7–12	13–24	25+	1–3	4–6	7–12	13–24	25+
	27	26	25	20	17	28	28	26	23	15

Source: BKL – Population Study 2014.

A relatively large proportion – as much as 38% of the unemployed – stated the lack of appropriate certificates or licenses as the factor making finding employment difficult, and 29% claim the problem is tied to lack of required education. Again, as in the case of the occupationally inactive persons, one could expect that people who notice such shortages would be willing to fill the gaps. In reality, only 22% from among those unable to find work due to lack of certificates have demonstrated any kind of educational activity, 8% participated in courses and trainings, 13% engaged in self-education, and 42% of such persons declared they would develop their qualifications in the coming year. The educational involvement of persons for whom the lack of required education was the obstacle to finding work was very similar (see Table IV.6).

The relatively highest educational activity was seen among those unemployed for whom the problem with finding work was linked to the need to care for a child or to insufficient experience. Age is another factor that plays a role here, and such reasons were usually given by the younger people. The lowest activity was displayed by persons for whom age was the obstacle to finding employment – the older ones.

The unemployed declared a willingness to educate themselves in the coming year more frequently than those who were employed or occupationally inactive. The persons caring for children stand out among this group: more than half of them (57%) declared they would like to attend a course or training during the coming year. The lowest interest in education was displayed by persons for whom age was the main obstacle to finding work.

The reasons for the unemployed persons not engaging in education were slightly different from the reasons named by occupationally inactive persons. Those occupationally inactive usually indicated the lack of time caused by home and care duties, and the state of their health, while the unemployed usually stated that training is not required for their work, or they were not able to justify lack of education at all (the response "difficult to say"). However, the third most frequent response was the lack of interesting courses in the vicinity (column "total" in Table IV.7).

Table IV.6. The level of educational activity of the unemployed and the obstacles to taking up work (in %)

	Selected reasons making it difficult to take up work (unemployed persons aged 25–59/64)								
	Care for children	Care for another family member	Homemaking	State of health	Age	Lack of certificates and licenses	Level of education	Insufficient experience	total
Non-obligatory courses and training, formal education and self-education	31	25	26	24	12	22	20	32	23
Courses and training (non-obligatory)	13	9	11	9	6	8	10	10	9
Self-education	20	17	18	17	10	13	11	22	14
Willingness to educate oneself	57	47	46	36	24	42	39	45	38
N	111	54	68	134	159	369	293	270	943

Source: BKL – Population Study 2014.

Table IV.7. The level of educational activity of the unemployed and the obstacles to taking up work (in %)

	Selected reasons making it difficult to take up work (unemployed persons aged 25–59/64)								
	Care for children	Care for another family member	Homemaking	State of health	Age	Lack of certificates and licenses	Level of education	Insufficient experience	total
Did not need at work	19	15	18	22	16	19	19	17	22
Did not meet formal requirements	6	4	7	6	9	9	10	9	7
Courses/ trainings were too expensive	11	18	13	10	11	12	10	14	11
No support / encouragement from the employer		5	3	4	6	3	4	4	3
Had no time for occupational reasons	2	0	1	1	2	1	1	2	1
Had no time for personal reasons	28	21	16	11	5	11	9	14	10
No interesting courses in the vicinity	17	22	15	14	13	19	20	20	18
No incentive to educate oneself	11	14	9	11	16	11	11	14	11
State of health does not allow it	1	4	2	12	5	1	1	1	2
At my age, education makes no sense	1	5	7	10	17	6	6	3	5
So far the training / courses did not give me much	3	8	8	4	5	3	2	4	3
Difficult to say	15	20	25	18	21	20	21	23	21
N	111	54	68	134	159	369	293	270	943

Source: BKL – Population Study 2014.

Reasons for and consequences of educational passivity of adult Poles

Persons who do not undertake work for various reasons offer similar explanations for their lack of educational activity. The only groups standing out are those who take care of children or other family members, and those for whom age is the obstacle to finding work. The unemployed persons from the first group do not engage in education mostly because their care duties do not leave them time for it, which is understandable. Persons who care for family members other than children more frequently than others indicated that there are no interesting courses in their vicinity. The lack of appropriate educational offer was also indicated by those who have problems with finding work due to the lack of the appropriate certificates or licenses, education, or experience. Unfortunately, the collected data does not allow one to state what subjects of training/courses these persons would be interested in and did not find it in the current offer.

The unemployed for whom age forms the biggest obstacle to finding work do not engage in education, because they are convinced such training is not necessary for work, have no incentive to learn and believe that, at their age, further education makes no sense. Strong psychological barriers manifest themselves here, but they are largely due to prior experiences tied to searching for work.

The cost of training was a factor limiting educational activity more among the unemployed than among other groups. This reason, as the main barrier to participation in training, was indicated by 11% of the unemployed, while its percentage among the employed and the inactive amounted to only 3%. From the standpoint of the possibility to influence the level of educational activity, the unemployed can be seen as more susceptible to financial incentives that facilitate access to training and to the broadening of the educational offer with courses and trainings that would enable them to acquire licenses or certificates that they need.

Educationally passive persons in selected occupational groups

The working persons, in comparison to occupationally inactive and the unemployed, show the highest level of educational activity; although, even among this group, the vast majority (62%) are persons who, in 2014, did not develop their competences in any way. Moreover, only 21% of the working respondents were planning to participate in courses or trainings in the coming year. Thus, the interest in the development of competences should also be seen as low in this group.

The fundamental factor that should be taken into account during the analysis of conditions determining the educational activity or passivity of the employed respondents is the nature of work they perform, reported in the BKL Study as their occupation or position held. The higher level of educational activity is seen among persons whose work is more complex and requires more independence, is less standardised, and requires them to supplement their knowledge due to the development of science, technology, and work organisation methods. The highest educational activity is displayed by specialists, and the lowest by elementary workers (see Table IV.8).

Table IV.8. The educational activity of the employed persons and their position (in %)

	Employed persons aged 25–59/64								
	mana	prof	asso	cler	serv	agri	craf	oper	elem
Courses and training (all)	35	44	35	32	16	11	21	27	12
Non-obligatory courses and training	29	38	28	23	11	9	11	14	6
Obligatory courses and training	18	15	15	16	9	4	15	20	8
Self-education	31	43	29	21	14	14	13	12	8
Formal education	6	7	6	5	6	2	4	5	4
Courses and training (all) or self-education	51	60	48	41	25	22	28	34	17
Courses and training (non-obligatory) or self-education or formal education	48	58	46	36	24	21	23	25	15
Courses and training, self-education or formal education	53	62	50	42	28	23	31	36	20
Did not develop competencies in any way	47	38	50	58	72	77	69	64	80
Plans to develop competences (in the coming 12 months)	32	36	24	24	16	19	16	16	15
N	1029	4620	3456	2344	4905	2475	4912	2887	2320

Source: BKL – Population Study 2014.

Although the general regularities tied to influence of the job held on adult learning have already been described (Turek and Worek 2015, Szczucka, Turek and Worek 2014b) and are not a purely Polish feature, a more detailed characteristic of the educationally active or passive employees from various occupational groups deserves to be presented. The broad occupational groups, such as professionals, managers, employees of the service sector or workers are internally diverse, to a larger or smaller degree, in terms of the educational activity or their members. This internal diversity shall be presented based on the example of five selected occupational categories, which display the highest and the lowest levels of educational activity, namely, managers, health professionals, education professionals, as well as the craft workers and elementary workers.[56] Examination of these internal differences of the occupational groups is meant primarily to draw attention to the fact that the factors that make the working people either active or passive as regards their education should be sought in the nature of their work. When this nature is known, the answer to the question on the reasons for the low level of educational activity of Poles will be more pertinent.

Educational activity and passivity among the managers and professionals

The highest involvement in education is displayed by professionals (56% declare they participate in learning) and managers (48%). However, the degree of educational involvement among representatives of these groups is diversified, which shall be presented on the example of managers and professionals in health and teaching.

Managers

In the case of managers, diversity already manifests itself on the level of the major group of the ISCO classification. The highest level of educational activity was seen in the group of administrative and commercial managers (56%), while the lowest among managers in hospitality, retail, and other services (40%). The differences become even more pronounced when detailed categories are analysed, and the highest activity is seen among sales, marketing and development managers (63%), other services managers (61%) and professional services managers (59%). The lowest level of educational activity was seen among retail and wholesale trade managers (31%) (see Figure IV.1). To explain these differences, one needs to examine the nature of work performed by the individual categories of managers, the complexity of their tasks, and the nature of the field in which they operate. The work of marketing managers requires the acquisition of new skills to a larger extent than work of manager in retail trade. Using the nature of work and whether it is conductive or unfavourable to learning as the factor explaining the differences in educational activity is a universal solution, because it applies to all occupational groups. Another factor that explains the differences is the level of the education of managers in various sectors and different fields of business. Among the retail and wholesale trade managers, the dominant level of education is upper secondary education (63% of respondents in this occupational category), while the sales, marketing, and development managers usually have completed higher education (69% of respondents in this category). Yet another factor, which may have a strong influence on the level of educational activity, is the need to obtain certificates and licenses necessary to practice the given profession or to become promoted.

[56] According to data of the BKL Study, for the major occupational groups, the lowest level of educational activity (defined as participation in non-obligatory courses and training, formal education and self-education) was found among the elementary workers (15%) and agricultural workers (21%). This latter group is not analysed, due to insufficient numbers of respondents in the detailed occupational categories. A similar level of educational activity is also displayed by the employees of the service sector and by machine operators.

Figure IV.1. Percentages of educationally active persons among managers, employed persons aged 25–59/64 (in %)

* *Managers N = 1029, chief executives/senior officials N = 174, administrative and commercial managers N + 280, production and specialised services managers N = 390, hospitality, retail and other services managers N = 175.*

Source: BKL – Population Study 2012–2014

The reasons for lack of educational activity, given by managers, were similar to reasons cited by employees from other occupational categories. The most frequently given reason was the statement that training was not required at work (63% of respondents), and the second most popular – "difficult to say" (17%). Other reasons were selected much less frequently: 8% of managers said they do not engage in training because they do not have the time for it for occupational reasons, 6% claim training is made difficult by their private life obligations, and only 2% of respondents from this group stated the training offer is insufficient.

Educational activity among this group is supported by combining contract employment with employment under civil law contract. Managers working simultaneously under both these types of contracts have displayed much higher level of educational activity than those hired only under employment contracts (difference of 40 percentage points) (see Figure IV.2). An explanation of this phenomenon lies in the fact that both types of contracts are usually used with respect to professional services managers, marketing, sales, and development managers as well as to managing directors and chief executives, who display the highest level of educational activity. Managers in manufacturing, mining, construction and distribution, as well as retail and wholesale trade managers, usually work only based on regular employment contracts, and they display the lowest levels of educational activity.

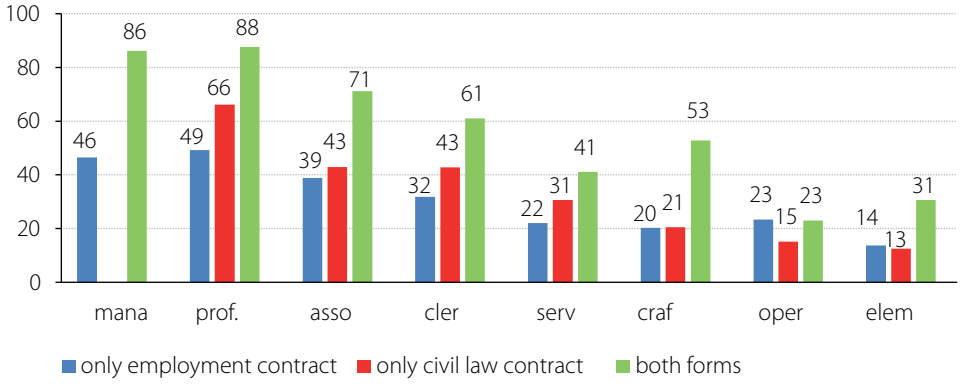
The higher activity of employees hired simultaneously under employment contract and civil law contract, in comparison with their peers working based on employment contract only, is not specific for the managers, because it applies to all occupational groups. Interestingly, in the case of professionals, technicians and associate professionals, clerical support workers and services workers, employment under a civil law contract is more conductive to educational activity than under standard employment contract.[57] One explanation of this situation could be linked to the fact that the younger and more educationally active persons are more frequently hired only under civil law contracts. Data does not confirm this theory; however, it is true that the age group 25–34 includes slightly more persons working

[57] It should be added that this conclusion is surprising in the context of theories explaining the educational and training activity of adults. In light of these theories, the stability of employment and clear prospects for occupational development are a factor favourable for educational activity (Becker 1964, Bishop 1991).

under civil law contracts than the other age brackets, but these differences are insignificant. This regularity cannot be explained unambiguously based on the available data, especially since it is contrary to the claim that the certainties of employment and clear career development prospects support educational activity (Field 2012, Evans et al. 2012).

Educational activity and passivity among the managers and professionals

Figure IV.2. The percentages of educationally active persons among the various occupational groups and the form of employment, employed persons aged 25–59/64 (in %)[58]



Source: BKL – Population Study 2012–2014.

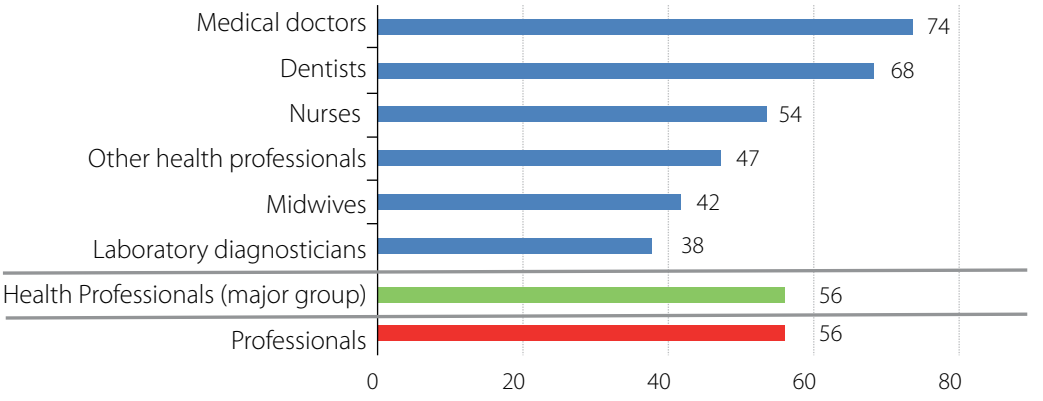
Age is not a factor that would determine the levels of educational activity among managers. Based on the data, it even increases slightly among the oldest age groups: 47% of managers aged 25–34 and 35–44 were involved in education, 49% from the 45–54 age group, and 51% from the group aged 55–59/64. The factor which strongly influences level of this activity is the education level: Only 32% of managers with vocational education developed their competences (and the proportion of managers with this education level can be found amount managers in mining, manufacturing, construction and distribution), 40% of those with upper secondary education, and 54% of managers with higher education diplomas.

Health professionals

In the group of health professionals, the ratio of educational activity amounted to 56% and was the same as for all the professionals. This group is again very diversified internally. The largest proportion of educationally active persons can be found among doctors of medicine (74%) and dentists (68%), and the smallest is among midwives (42%) and laboratory diagnosticians (38%) (see Figure IV.3). These differences appear as obvious and understandable in the context of the nature of the work and occupational duties of representatives of these professions. Another explanation can be tied to differences in the levels of education between persons performing different occupations within the same category, such as medical doctors, nurses, and midwives. Lower educational involvement of the latter group could be explained by the fact that most nurses and midwives have upper secondary education (around 60% in both groups), while all the doctors hold university diplomas. The level of education does not explain, however, the differences in educational activity levels of nurses and midwives, and even more so the low educational involvement of laboratory diagnosticians, among whom 80% hold university degrees.

[58] The figure does not present agricultural workers, since the numbers of this occupational category are too small.

Figure IV.3. Level of educational activity among health professionals,employed persons aged 25–59/64 (in %)[59]



** Professionals N = 4620, health professionals N = 817.*

Source: BKL – Population Study 2012–2014.

Looking for explanation, one can of course refer to the reasons for the absence of educational activity stated by the respondents themselves, but it is difficult to accept them as satisfactory. The most frequently named reason for non-participation in courses and trainings was the response that they are not required at work (66%). The second most frequently given response was "difficult to say," which proves the respondents find it difficult to clearly pinpoint reasons for the lack of their activity. It should be added that lack of time due to occupational duties was cited by only 5% of those educationally inactive, while only 3% indicated lack of time tied to family and personal duties. Moreover, these reasons apply only to the absence of educational activity, while educational passivity is also present in this group, in the form of lack of informal education, understood as self-education.

The degree of educational involvement among health professionals is not age-dependent: In all age categories, the percentages of educationally active persons are similar and range from 52% to 57%.

Teaching professionals

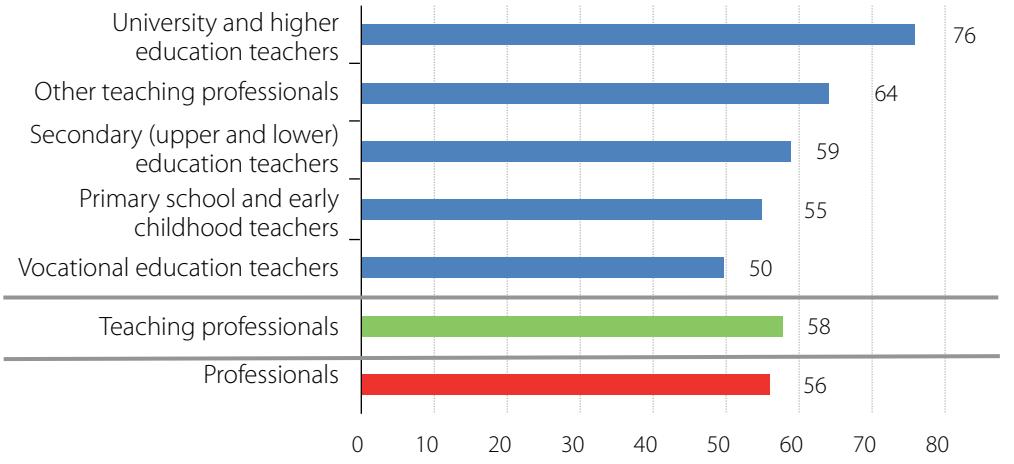
Slightly smaller diversity in the educational activity levels was found in the group of teaching professionals. For the whole group, the level of this activity amounted to 58%. University and higher education teachers stood out, with 76% of this group declaring involvement in educational activity,[60] and the second most active group were other teaching professionals (64%). The smallest proportion of persons developing their competences was seen in the group of vocational education teachers, which was only 50% of them. These results may seem disturbing given the role that the teachers should play in the forming of attitudes tied to lifelong learning. Meanwhile, 45% of primary school and early education teachers have not developed their competences in any way over the 12 months prior to the date of the study. The situation as very similar among secondary education teachers, and the level of their educational activity was higher by barely 4 percentage points from those of the primary school teachers (see Figure IV.4).

Reasons for the non-participation of this group in training are similar as in the case of the health professionals: The most frequently cited reason was that training is not necessary for their work (59%), and the second most popular reason was "difficult to say" (25% of all responses). Only 6% of the education-eluding respondents from this group said they do not have the time for it for occupational reasons; 4% do not have time for personal reasons, 3% claim there are no interesting courses in their

[59] The analysis omits veterinarians and paramedics due to their too small number in the sample.

[60] The university and higher education teachers are the group with the highest rate of educational activity. The second place belongs to medical doctors, the third to artists.

Figure IV.4. Level of educational activity among teaching professionals,employed persons aged 25–59/64 (in %)



** Professionals N = 4620, teaching professionals N = 1579.*

Source: BKL – Population Study 2012–2014.

vicinity, and the cost of training poses a barrier for 2% of respondents. Therefore, it can be said that factors such as time needed for training, costs of training, or the training offer play a marginal role for this group, which is similar to the case of employed persons from other occupational groups. The key issue is the lack of work-related incentive for learning, which is very surprising with respect to the group whose advancement and professional development is largely tied to the need for development and constant learning. Although we have only explanations regarding the absence of training activity, one can suppose that reasons influencing the lack of participation in formal and informal education would be similar.

Similarly as in the case of health managers and professionals, the level of educational commitment among the teaching professionals was not significantly differentiated by their age. The largest share of educationally active teachers was seen among those aged 45–54 (62% respondents are active), but this result does not differ significantly from persons from other age groups. Among persons aged 25–34 and 55–59/64, this proportion amounted to 54%, and in the 35–44 age group – 57%.

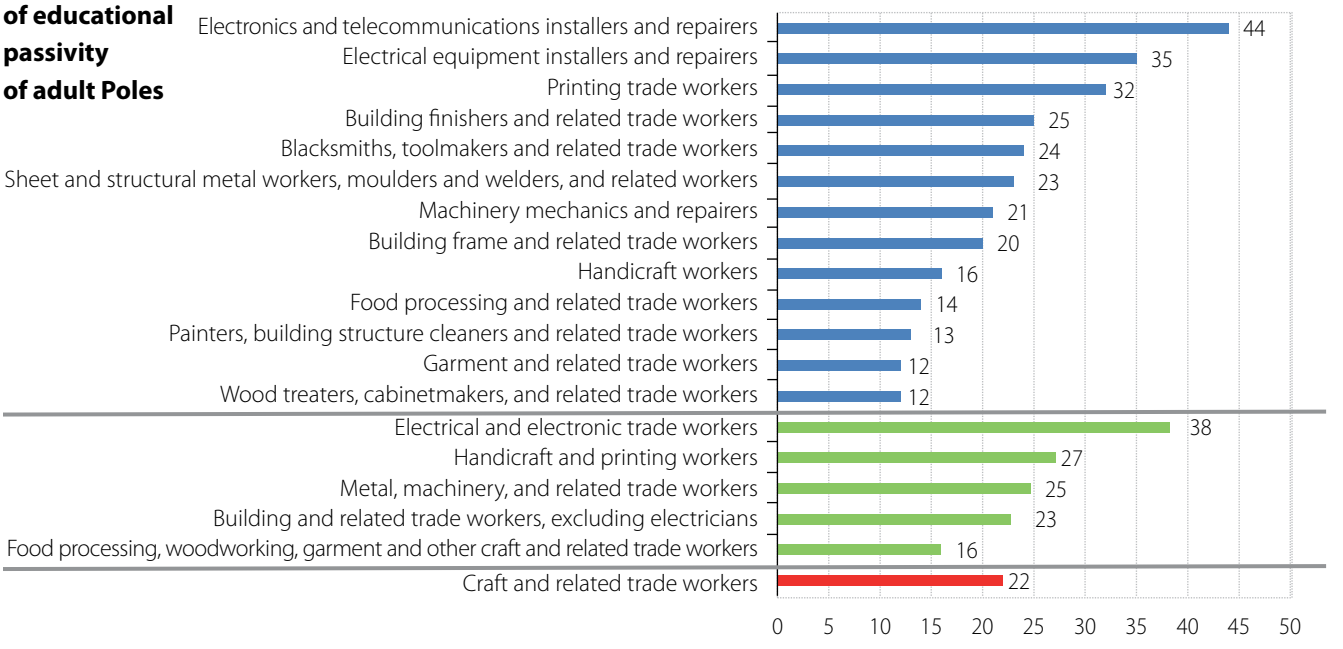
Educational activity and passivity among craft workers and elementary workers

Craft and related trades workers

The skilled craft workers are among the several groups that display a low level of educational activity. Their dedication to learning and development is similar to that of operators and service workers, but higher than among agricultural workers and elementary workers.

Similarly as in the case of managers and professionals, this occupational category also shows significant diversity of the educational activity levels, which is already visible on the level of major occupational groups (Figure IV.5). Electrical and electronic trade workers demonstrate the highest level of educational activity, while the food processing, woodworking, and garment trades workers demonstrate the lowest. The differences become even more pronounced in the sub-major groups of blue-collar occupations. Over 40% of electronics and telecommunications installers and repairers are educationally active, and among the electrical equipment installers and repairers this proportion reaches 35%. Slightly over 10% of persons developing their qualifications can be found among wood treaters, cabinetmakers, and related trade workers (12%) and among garment and related trade workers (12%).

Figure IV.5. The level of educational activity among the craft workers, employed persons aged 25–59/64 (in %)

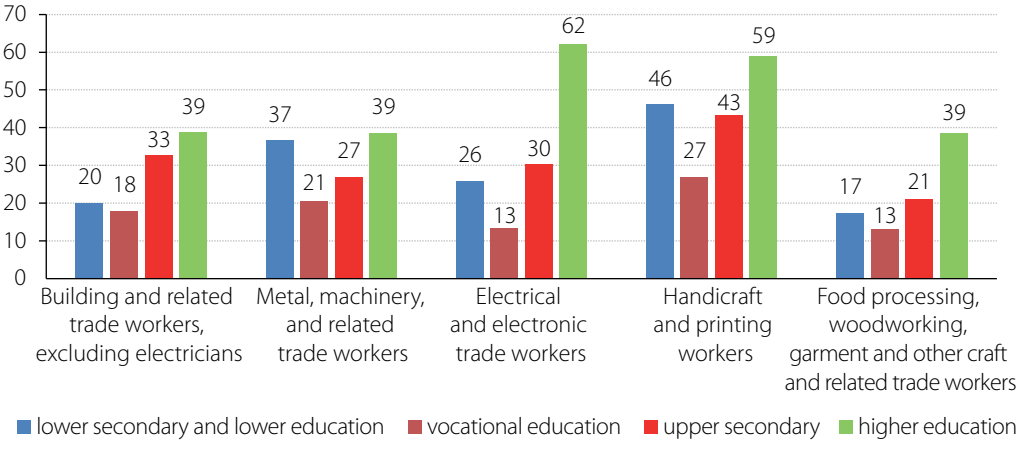


* *Craft workers N = 4912, food processing, woodworking and garment trades workers N = 1216, building workers (excluding electricians) N = 1383, metal, machinery and related trades workers = 1523, handicraft and printing workers N = 185, electrical and electronic trade workers N – 596.*

Source: BKL – Population Study 2012–2014

The explanation for the differences in the educational activity levels among representatives of various occupations of this group lies primarily in the characteristics of work in each of them, and the resulting incentive to learn new things – or larger scope of routine actions.[61] In addition, in the case of the electrical and electronic trade workers, education plays an important role. In this occupational group – similarly as among the handicraft and printing workers – there are more persons with higher and upper secondary education than among other occupations, and there are fewer persons with vocational and lower secondary education. As workers with secondary and higher education more frequently develop their competences, the higher share of such persons among the total number of employees in a given category contributes to the increase of the educational activity ratio. The relationship with the level of education of workers from the various categories is shown in Figure IV.6.

Figure IV.6. Level of educational activity among the craft workers and the level of their education, employed persons aged 25–59/64 (in %)



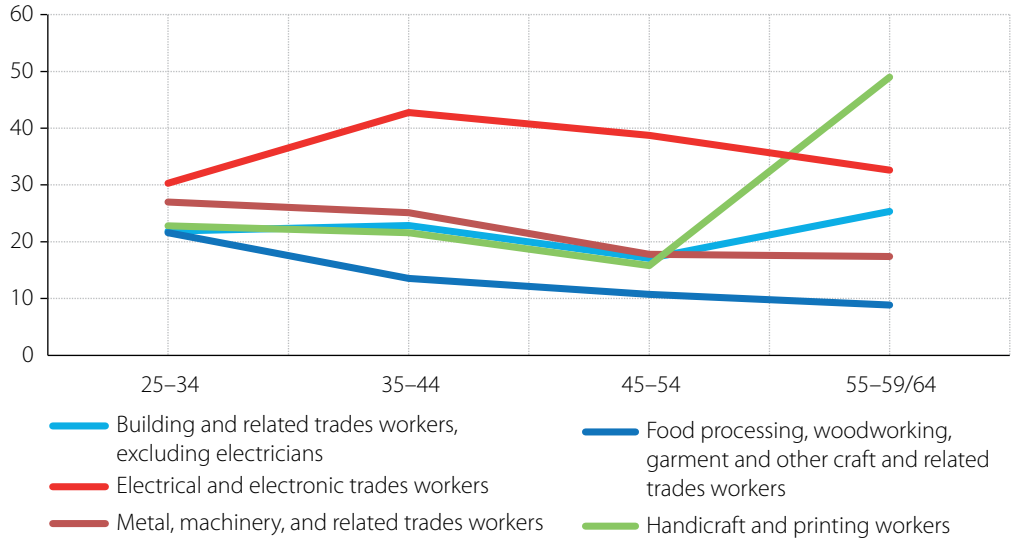
Source: BKL – Population Study 2012–2014.

[61] The stronger inclination to educational activity, observed among the electrical and electronic trade workers, could be explained with the need to obtain licenses required to work in a given profession – in this particular case, for example, the licenses granted by the Polish Electricians' Association.

Educational activity and passivity among craft workers and elementary workers

Age was a less important factor determining educational involvement of craft workers; however, for this group, it plays a larger role than in the case of professionals or managers. As shown in Figure IV.7, among the food processing, woodworking and garment trade workers, educational activity clearly diminishes with age. Among the building trade workers, it remains on a similar level from 25 to 54 years of age, and even increases slightly above that level. A spectacular increase in educational activity in the oldest age group was seen in the group of handicraft and printing workers.

Figure IV.7. Level of educational activity among the craft workers and their age, employed persons aged 25–59/64 (in %)



Source: BKL – Population Study 2012–2014.

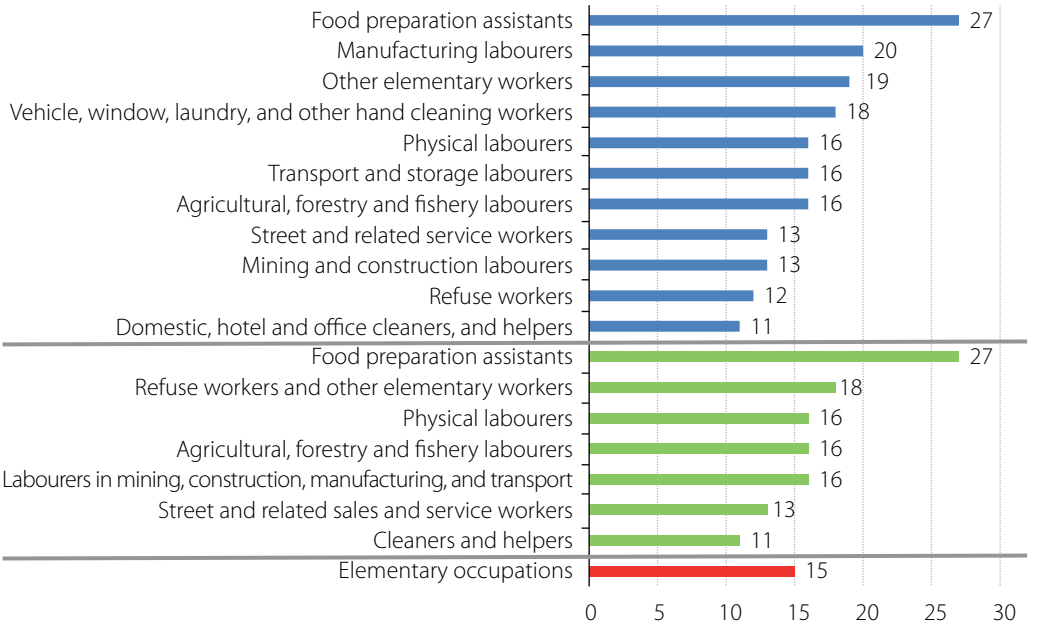
Reasons for the lack of participation in training cited by this occupational group are the same as in the case of other groups. The main reason is the lack of need for training at work (indicated by 83% of the craft workers not participating in training), and the lack of time plays a much smaller role – both caused by occupational (8%) and personal duties (4%). The costs of training (4%) nor the shortcomings of the training offer (4%) do not constitute a significant barrier to training.

Elementary workers

Although elementary workers are the group displaying the lowest overall level of educational activity, even here there are occupations that stand out from the others with their level of activity. In this case, these are the food preparation assistants, among whom 27% were developing their qualifications. On one hand, this can be explained by the nature of work that requires up-to-date competences, on the other hand, a higher proportion of persons with upper secondary education than among other occupations are in this category. The lowest level of educational activity was displayed by cleaners and helpers.

In this occupational group – similarly as among the craft workers – there is a visible correlation between the employee's education and the level of his/her educational activity. Much higher activity is seen among people in the same position, but with upper secondary education as compared to their peers with vocational education. The group of food preparation assistants is the exception, and here much higher activity is demonstrated by persons with vocational education.

Figure IV.8. The level of educational activity among elementary workers, employed persons aged 25–59/64 (in %)

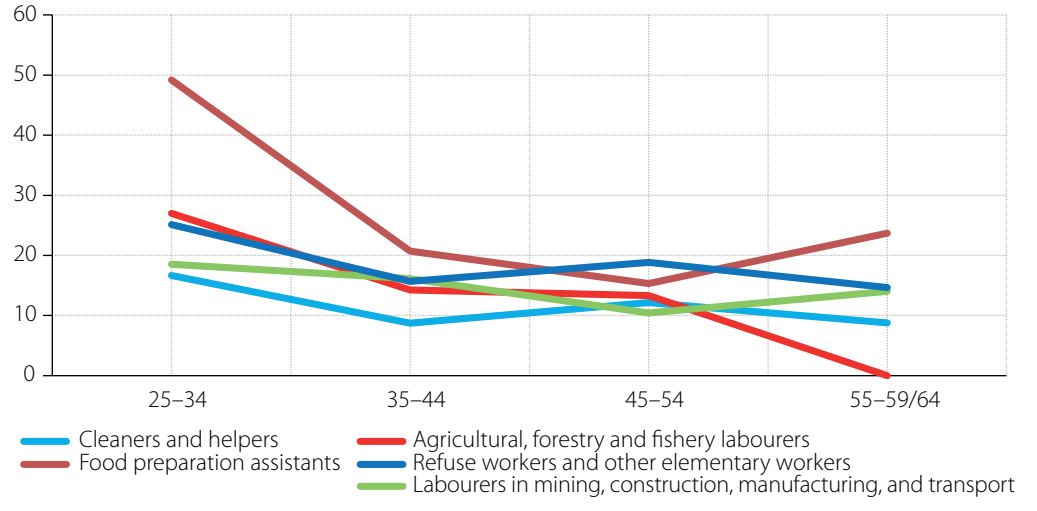


* *Elementary workers N – 2320, cleaners and helpers N = 664, street and related sales and service workers N = 20, mining, construction, manufacturing and transport labourers N =1018, agricultural, forestry and fishery labourers N = 138, other elementary workers N = 178, refuse workers and other elementary workers N =230, food preparation assistants N = 72.*

Source: BKL – Population Study 2012–2014.

In most occupations in this group, there is a clear relation between age and educational activity. In each of these occupations, the highest level of educational activity is seen in the youngest age category (Figure IV.9).

Figure IV.9. Level of educational activity among the elementary and their age, employed persons aged 25–59/64 (in %)



Source: BKL – Population Study 2012–2014.

The reasons for non-participation in courses and trainings in this group are very similar to the reasons given by craft workers. The only reasons named more frequently than in the other groups are the costs of training as barrier to participation (5%), no motivation for training (7%), and the belief that at one's age, development of skills makes no sense (5%). In terms of the lack of justification for the absence of competence development through courses and training, the group of elementary workers is very similar to agricultural labourers.

Educational activity and passivity among craft workers and elementary workers

In summary of this detailed, fact-based description of educational activity among selected occupational groups, it is worth presenting the most important conclusions. This review has shown that among the employed, the nature of job-related duties, the complexity of work and its non-routine nature are the factors that motivate to develop competences, learn new things, and update one's knowledge. At the same time, even among the professions, where development seems to be the inherent element (doctors, teachers), a relatively large number of people do not improve their competences, not even through self-education. Based on the available data, it is difficult to pinpoint the factors that determine educational activity or its absence in the case of persons working in the same positions, with the same level of education and are of the same age. To fully explain this, it would be necessary to obtain individual characteristics of these persons, get to know the nature of their work environment, its organisational culture, development opportunities, and the manner for stimulating development. A significant role of this latter factor is indicated by the respondents themselves, since the majority of them associated the sources of their educational passivity with the lack of job-related motivation for development.

The concept of cultural capital may be useful in explaining these differences. One of its elements can include the transfer of patterns of educational activity in the family environment, or instilling the need for learning and development. In the relevant literature on the subject, the family environment – next to the nature of performed work – is seen as one of the two key factors determining educational activity of adults (Saha, 1997). The importance of this factor was indicated by the qualitative study of the educational activity of the adult inhabitants of the Małopolskie administrative region conducted under commission from the Regional Labour Office in Krakow. As underscored in conclusions from this study, the family exerts a clear influence on one's training and educational activity (Górniak et al., 2007: 6). The role of family and of the models it imparts grows when the return on the investment in education becomes uncertain. As stated in the report, *"In those families where education is perceived as a value in itself, and development as the overriding value, there is strong pressure on the education and development of family members. In the absence of such traditions, solutions are chosen which allow one to attain fast gratification in the form of improvement of one's financial situation in an easier and faster manner"* (ibidem).

The results of the BKL Study seem to confirm the importance of cultural capital as the factor significantly influencing educational activity or passivity. Data collected in the course of this research shows that the level of educational activity of working adults is to a large extent determined by the level of education of their parents or guardians (Table IV.9). Among those whose mother or father had completed higher or upper secondary education, the values of educational activity rates are visibly higher. This correlation is not always clear: however, the average values of educational activity rates of persons from the same occupational group, whose parents had completed higher or upper secondary education, are higher than the average values of educational activity rates of persons whose parents had only vocational, lower secondary, or lower education.

Table IV.9. Educational activity of employed persons aged 25–59.64 and the education level of their parents or guardians

	Percentage of educationally active persons, working in a given position, with a given education level of mother or female guardian									Percentage of educationally active persons, working in a given position, with a given education level of father or male guardian								
	mana	prof	asso	cler	serv	agri	craf	oper	elem	mana	prof	asso	cler	serv	agri	craf	oper	elem
Lower secondary or lower	41	56	41	37	23	17	18	23	10	42	52	41	36	18	16	17	20	10
Vocational	50	53	40	31	20	22	22	21	17	44	56	42	34	24	21	23	26	18
Upper secondary	50	54	44	37	31	30	28	35	23	48	57	42	38	31	31	32	26	22
Higher education	56	65	57	47	37	23	45	26	14	64	68	57	45	32	25	28	28	13

Source: BKL – Population Study 2012–2014.

In the case of craft and elementary workers, the factor that explains differences of educational involvement within these categories is the age and education level. Better-educated persons, even those in lower positions, develop their competences more frequently than do persons with lower education levels employed in the same position. Thus, education appears to be the factor that exerts a permanent influence on the readiness to learn. It is worth adding that a similar regularity was also observed among the unemployed and occupationally inactive.

What are the differences between those educationally active and passive?

The analyses presented so far have shown that the finding of factors that would fully explain one's engagement in educational activity, or remaining passive, is a huge challenge. Although the general determinants of educational activity are well known, even in groups with relatively high level of this activity, some people remain passive. A full explanation of the reasons for educational passivity – if possible at all – would require rather in-depth qualitative research that would assume the form of case studies, enabling the reconstruction of behaviour patterns tied to learning and development in different occupational groups or circles.

However, it does make sense to try to find response to the question of whether there are any additional – aside from those discussed earlier – factors defining differences between educationally active and passive persons. Under the BKL Study, such factors could include self-assessment of competences, the level of salary, satisfaction with one's job and the development opportunities it offers.

Self-assessment of competences

Comparison between the self-assessment of educationally active and passive adults was conducted separately for the employed, the unemployed, and the inactive, taking into account the different levels of education in each of these groups. Educational activity is understood as participation in non-obligatory courses and trainings, in formal education, or as self-education. An educationally active person is an individual who during the past 12 months learned in any of these manners.

As illustrated in Tables IV.10–IV.12, in each of the identified groups: the employed, the unemployed and the occupationally passive, the educationally active persons usually had a slightly higher view of their competences. Differences in self-assessment are more pronounced among holders of lower secondary, vocational, and upper secondary education, while among respondents with higher education, they are smaller, sometimes statistically insignificant.

Among the employed persons, the largest differences between the educationally active and inactive persons are seen in the self-assessment of their computer and Internet skills (Table IV.10). For those with lower secondary education, the difference amounts to 0.9 points, with vocational education – 0.4 points, and with upper secondary education – 0.3 points. The higher self-assessments of educationally active persons among the groups with lower secondary and vocational education are seen for each competence. This generalised, non-selective rise in self-assessment among persons with lower secondary and vocational education could be suggestive of the multi-directional influence of educational activity. It does not involve only the improvement of skills in a single area, but has an overall influence, changing the perception of oneself and one's capabilities or actually changing these capabilities.

In the case of persons with higher education, the differences between educationally active and inactive persons apply more to selected areas than the overall improvement of self-assessment. These differences are not as pronounced as among the persons with lower levels of education. They are not found in the case of assessment of such competences as performing calculations, managerial skills, and organisation of work, creative and artistic talents, and the ability to organise and perform office work.

Table IV.10. Self-assessment of competences vs. educational activity, rated on a 1–5 scale, employed persons aged 25–59.64*

	Lower secondary and lower			Vocational			Upper secondary			Higher education		
	Inactive	Active	Difference	Inactive	Active	Difference	Inactive	Active	Difference	Inactive	Active	Difference
Fluency in Polish	2.9	3.4	0.5	3.2	3.5	0.2	3.7	4.0	0.3	4.2	4.4	0.2
Availability	3.4	3.6	0.2	3.6	3.8	0.2	3.8	4.0	0.2	4.0	4.1	0.1
Contacts with others	3.5	3.8	0.3	3.7	4.0	0.2	4.0	4.2	0.2	4.2	4.4	0.2
Working with computers and using the Internet	2.1	3.0	0.8	2.5	2.9	0.5	3.4	3.7	0.4	4.1	4.3	0.2
Handling, assembling and repairing equipment;	2.8	3.3	0.5	3.1	3.5	0.3	3.1	3.3	0.1	3.2	3.0	-0.1
Organisation and execution of office work	2.1	2.7	0.6	2.4	2.6	0.2	3.2	3.5	0.2	3.9	3.9	0.0
Self-organisation of work and initiative, timely completion of actions	3.0	3.5	0.5	3.3	3.7	0.4	3.7	4.0	0.3	4.1	4.3	0.2
Physical fitness	3.4	3.5	0.2	3.5	3.7	0.1	3.6	3.7	0.1	3.8	3.7	-0.1
Performing calculations	2.6	3.1	0.5	3.0	3.2	0.2	3.5	3.6	0.2	3.9	3.9	0.0
Finding and analysing information, drawing conclusions	2.6	3.1	0.5	3.0	3.2	0.2	3.5	3.7	0.2	4.1	4.2	0.2
Artistic and creative abilities	2.1	2.6	0.5	2.3	2.4	0.1	2.7	2.7	0.0	3.1	3.1	-0.1
Managerial skills, organising work of others	2.4	3.0	0.6	2.7	3.1	0.4	3.3	3.5	0.2	3.9	3.8	0.0

* *Grey denotes items where the differences between groups were not statistically significant, red background marks the largest differences in the self-assessment of competences in the group with the given level of education, blue – the smallest differences.*

Source: BKL – Population Study 2012–2014.

The manner in which educational activity differentiates the self-assessment of competences among the unemployed is similar to its influence seen among the employed individuals. The largest differences in self-assessment are seen among persons with lower secondary or lower education, vocational and upper secondary education (Table IV.11). Among persons with higher education, the differences are either

Table IV.11. Self-assessment of competences vs. educational activity,rated on a 1–5 scale, unemployed persons aged 25–59.64*

	Lower secondary and lower			Vocational			Upper secondary			Higher education		
	Inactive	Active	Difference	Inactive	Active	Difference	Inactive	Active	Difference	Inactive	Active	Difference
Fluency in Polish	2.7	3.3	0.5	3.1	3.4	0.3	3.6	4.0	0.4	4.2	4.2	0.0
Availability	3.6	3.9	0.3	3.6	3.8	0.2	3.8	4.0	0.2	4.0	4.1	0.0
Contacts with others	3.4	3.7	0.4	3.6	3.9	0.3	3.9	4.0	0.2	4.2	4.3	0.1
Working with computers and using the Internet	1.9	3.0	1.1	2.2	2.7	0.6	3.1	3.7	0.6	4.1	4.3	0.2
Handling, assembling and repairing equipment;	2.5	2.8	0.2	2.9	2.8	0.0	2.9	2.8	0.0	2.8	2.6	-0.1
Organisation and execution of office work	1.7	2.3	0.6	2.1	2.5	0.3	2.9	3.3	0.4	3.8	3.8	0.0
Self-organisation of work and initiative, timely completion of actions;	2.7	3.3	0.7	3.1	3.4	0.3	3.4	3.7	0.3	4.0	4.1	0.1
Physical fitness	3.5	3.6	0.1	3.5	3.6	0.1	3.6	3.6	0.1	3.7	3.7	0.0
Performing calculations	2.3	2.8	0.5	2.7	3.1	0.3	3.3	3.4	0.1	3.9	3.7	-0.2
Finding and analysing information, drawing conclusions	2.4	3.0	0.6	2.7	3.0	0.2	3.3	3.4	0.1	3.9	4.0	0.1
Artistic and creative abilities	1.9	2.4	0.5	2.2	2.5	0.4	2.5	2.8	0.3	3.0	3.0	0.0
Managerial skills, organising work of others	1.9	2.5	0.6	2.4	2.9	0.5	3.0	3.3	0.3	3.6	3.5	-0.1

* *Grey denotes items where the differences between groups were not statistically significant, red background marks the largest differences in the self-assessment of competences in the group with the given level of education, blue – the smallest differences*

Source: BKL – Population Study 2012–2014.

small or non-existent, and for such competences as mathematical, managerial and technical, the self-assessment of educationally inactive persons is higher than of the active ones. The biggest differences between the self-assessments of active and inactive persons with upper secondary and lower education levels were noted in the case of IT, managerial and artistic competences. In each of the education groups, educational activity did not have a significant influence on the self-assessment of technical competences.

Analysis of differences in the self-assessment of occupationally passive persons, involved and non-involved in learning, shows regularities similar to those observed in the employed and unemployed groups. The biggest differences are seen among persons with lower secondary, vocational, and upper secondary education. Among those with higher education, the differences between the self-assessment of educationally active and inactive persons are slight and statistically insignificant. In all groups of education, the differences in assessment of IT competences are pronounced and significant. The largest differences in the self-assessment of competences were seen among persons with lower secondary education. Educationally active persons representing this level of education had a much higher self-assessment of their managerial, self-organisational, mathematical, office, and artistic competences. However, for each of the competences, the self-assessment of educationally active persons was higher by 0.05 point from that of the educationally passive. Among persons with vocational education, the differences are also large, but aside from the IT competences, they are higher on average only by 0.02 points. The differences in self-assessment of persons with upper secondary education amount usually to 0.4 points, which makes them higher than among persons with vocational education, but they are lower than in the case of those with lower secondary education.

Table IV.12. Self-assessment of competences vs. educational activity, rated on a 1–5 scale, occupationally inactive persons aged 25–59.64*

	Lower secondary and lower			Vocational			Upper secondary			Higher education		
	Inactive	Active	Difference	Inactive	Active	Difference	Inactive	Active	Difference	Inactive	Active	Difference
Fluency in Polish	2.4	3.1	0.6	2.9	3.1	0.2	3.5	3.9	0.4	4.1	4.4	0.2
Availability	2.5	3.0	0.5	2.8	3.1	0.2	3.2	3.6	0.4	3.5	3.7	0.1
Contacts with others	2.8	3.3	0.5	3.3	3.4	0.2	3.7	4.1	0.4	4.1	4.2	0.2
Working with computers and using the Internet	1.6	2.6	1.0	1.9	2.4	0.5	2.8	3.5	0.7	3.6	4.1	0.5
Handling, assembling and repairing equipment;	2.1	2.6	0.5	2.6	3.1	0.4	2.6	2.8	0.1	2.8	2.8	-0.1
Organisation and execution of office work	1.8	2.3	0.6	2.1	2.3	0.1	3.0	3.3	0.3	3.7	3.7	0.1
Self-organisation of work and initiative, timely completion of actions	2.3	2.8	0.6	2.8	3.2	0.4	3.3	3.7	0.4	3.8	4.0	0.2
Physical fitness	2.4	2.9	0.5	2.6	2.8	0.2	3.0	3.4	0.4	3.4	3.6	0.1
Performing calculations	2.2	2.8	0.6	2.7	2.9	0.2	3.2	3.5	0.3	3.7	3.8	0.2
Finding and analysing information, drawing conclusions	2.3	2.8	0.5	2.7	2.8	0.1	3.2	3.6	0.3	3.9	4.0	0.1
Artistic and creative abilities	1.8	2.4	0.6	2.1	2.4	0.2	2.6	3.0	0.4	3.1	3.2	0.1
Managerial skills, organising work of others	1.9	2.6	0.7	2.3	2.7	0.3	3.0	3.4	0.3	3.6	3.6	-0.1

* *Grey denotes items where the differences between groups were not statistically significant, red background marks the largest differences in the self-assessment of competences in the group with the given level of education, blue – the smallest differences*

Source: BKL – Population Study 2012–2014.

Explicit interpretation of the observed differences is difficult, because they can signify different correlations between competences and educational activity. Firstly, they can suggest an increase of competences in the group of educationally active persons caused by this activity. Secondly, they may be the consequence of a better perception of one's skills and improved self-assessment not coupled with an actual increase of competences. Thirdly, higher competences can be the reason for educational activity, and not its consequence. The possibility of such correlation has been indicated many times, especially with respect to the correlation between an increase in salary and educational activity (Heckman 2000, Leuven and Oosterbeek 2008, Görlitz 2011, CEEDEFOP 2013). A similar correlation can occur in the case of assessment of competences. The essence of the problem lies in the fact that the actual results of training or broader educational activity are difficult to assess, because the phenomenon of self-selection is also at play here. Learning and development is practiced by the more motivated persons, and this motivation, and not the training itself, contributes to their professional advancement, promotion, and increase of salary. The same regularity can apply to competences. Involvement in learning is shown by people whose level of competences was already high before commencement of educational activity, hence the higher self-assessment of competences in these groups. However, to verify the actual direction of these correlations would require a study of panel or quasi-experimental type to be conducted.

Salary and satisfaction with work

The differences between the educationally active and inactive persons are seen when the level of salary in both groups is compared. The comparison was made for groups identified for their level of education and jobs held. In the case of specific jobs, salaries were compared in the major (9 categories)[62] and sub-major (38 categories) occupational groups. Results of these comparisons are presented in Tables IV.13–IV.15.

In each of these comparisons, earnings of adults who continue learning are significantly higher than those of adults who represent the same level of education or belong to the same occupational category, but do not develop their competences. Exceptions from this rule were found only in the case of administrative and commercial managers, legal, social and cultural professionals, information and communication technicians, other clerical support workers, and personal care workers.

In groups identified by their level of education, the largest differences in the level of salaries between the active and inactive members were seen in the higher education category – they amounted to almost 300.00 PLN. Significant differences were seen also in the group lower secondary or lower and with vocational education. The salary differences were relatively the smallest among persons with upper secondary education, although still noticeable and significant (181 PLN).

Table IV.13. The level of salary versus the education level and educational activity, employed persons aged 25–59.64

	Employed persons, aged 25–59/64, 5% trimmed mean		
	Inactive	Active	Difference (active – inactive)
Lower secondary and lower	1 547 PLN	1 796 PLN	249 PLN
Vocational	1 814 PLN	2 042 PLN	229 PLN
Upper secondary	2 005 PLN	2 186 PLN	181 PLN
Higher education	2 465 PLN	2 762 PLN	297 PLN

Source: BKL – Population Study 2012–2014.

In the major occupational groups, covering 9 general categories, the largest differences in salary levels between the educationally active and inactive were seen among managers (difference of 478 PLN), professionals, service workers, elementary workers, and craft workers (Table IV.14).

[62] The comparison does not include agricultural workers, due to significant shortages of data in the declarations regarding salaries, and in consequence, the small number of responses in this category.

Table IV.14. Level of remuneration vs. occupation (9 occupational groups) and educational activity

	Employed persons, aged 25–59/64, 5% trimmed mean		
	Inactive	Active	Difference (active – inactive)
Managers	3 018 PLN	3 496 PLN	478 PLN
Professionals	2 455 PLN	2 758 PLN	303 PLN
Associate professionals	2 276 PLN	2 427 PLN	151 PLN
Clerical support workers	1 965 PLN	2 061 PLN	96 PLN
Service workers	1 657 PLN	1 949 PLN	291 PLN
Craft and related trades workers	2 052 PLN	2 260 PLN	208 PLN
Plant and machine operators	2 176 PLN	2 309 PLN	133 PLN
Elementary workers	1 539 PLN	1 798 PLN	259 PLN

Source: BKL – Population Study 2012–2014.

It should, however, be kept in mind that comparisons of the major occupational groups are burdened with the risk of not taking into consideration the fact that the distribution of educational activity within a given category is not homogenous for all occupational groups comprising it.[63] To minimise this risk, a comparison of salaries was made for the 38 sub-major occupational groups (Table IV.15). Results of this comparison

Table IV.15. Level of remuneration vs. occupation (38 occupational groups) and educational activity

	Employed persons, aged 25–59/64, 5% trimmed mean						
	Inactive	Active	Difference		Inactive	Active	Difference
Administrative and commercial managers	3 415 PLN	3 325 PLN	- 90 PLN	Sales workers	1 583 PLN	1 810 PLN	227 PLN
Production and specialized services managers	264 PLN	3 463 PLN	198 PLN	Personal care workers	1 398 PLN	1 369 PLN	- 29 PLN
Hospitality, retail and other services managers	2 477 PLN	2 908 PLN	431 PLN	Protective services workers	1 833 PLN	2 342 PLN	508 PLN
Science and engineering professionals	2 666 PLN	2 947 PLN	282 PLN	Market-oriented skilled agricultural workers	1 464 PLN	1 971 PLN	507 PLN
Health professionals	2 130 PLN	2 533 PLN	403 PLN	forestry and fishery workers	-	-	-
Teaching professionals	2 307 PLN	2 541 PLN	233 PLN	Building and related trade workers (excluding electricians)	2 173 PLN	2 458 PLN	286 PLN
Business and administration professionals	2 440 PLN	2 843 PLN	403 PLN	Metal, machinery and related trades workers	2 214 PLN	2 283 PLN	70 PLN
Information and communications technology professionals	3 480 PLN	3 805 PLN	325 PLN	Handicraft and printing workers	1 959 PLN	2 891 PLN	932 PLN
Legal, social and cultural professionals	3 383 PLN	3 331 PLN	-52 PLN	Electrical and electronic trades workers	2 282 PLN	2 333 PLN	51 PLN
Science and engineering associate professionals	2 304 PLN	2 653 PLN	348 PLN	Food processing, wood working, garment and related trades workers	1 711 PLN	1 853 PLN	142 PLN
Health associate professionals	1 848 PLN	1 936 PLN	88 PLN	Plant and machine operators in mining and processing	2 050 PLN	2 242 PLN	192 PLN
Business and administration associate professionals	2 428 PLN	2 577 PLN	149 PLN	Assemblers	1 767 PLN	2 087 PLN	321 PLN
Legal, social, cultural and related associate professionals	1 668 PLN	1 787 PLN	119 PLN	Drivers and mobile plant operators	2 327 PLN	2 412 PLN	85 PLN
Information and communication technicians	2 886 PLN	2 674 PLN	- 212 PLN	Cleaners and helpers	1 256 PLN	1 434 PLN	177 PLN
General and keyboard clerks	1 978 PLN	2 110 PLN	132 PLN	Agricultural, forestry and fishery labourers	1 595 PLN	2 005 PLN	409 PLN
Customer services clerks	1 795 PLN	1 905 PLN	110 PLN	Labourers in mining, construction, manufacturing and transport	1 870 PLN	2 018 PLN	149 PLN
Numerical and material recording clerks	1 940 PLN	2 123 PLN	183 PLN	Food preparation assistants	1 322 PLN	1 618 PLN	296 PLN
Other clerical support workers	2 222 PLN	1 982 PLN	- 239 PLN	Street and related sales and service workers	-	-	-
personal care workers	1 812 PLN	2 069 PLN	257 PLN	Refuse workers and other elementary workers	1 405 PLN	1 520 PLN	115 PLN

Source: BKL – Population Study 2012–2014.

[63] To further reduce the possible loads caused by the non-homogeneity of major occupational groups (as in the case, for instance, of health professionals who include both doctors and nurses, with varying levels of salary and of educational activity), the comparison would have to be made for specific occupations. However, for many occupations, this is difficult due to the insufficient numbers of respondents.

corroborate the conclusions presented earlier. As already mentioned, only in the case of administrative and commercial managers, legal, social, and cultural professionals, information and communication technicians, other clerical support workers, and personal care workers were the salaries of persons educationally inactive higher than of their active counterparts. In the other occupational categories, those educationally active earned at least 51 PLN more than the inactive people. The highest differences in the level of remuneration were found among the handicraft and printing workers (932 PLN).

The comparison presented here should be treated rather as an attempt to examine the possible scope of differences between the educationally active and inactive adults, not as proof of the influence of educational activity on the level of salaries.[64] Numerous reasons are at play here. The most important is the difficulty in determining a causal relationship between training (education) and the level of salary, mentioned earlier. In reality, both these phenomena may be influenced by another variable, such as the motivation cited by Hecmkan (2000). Another source of load can be tied to the absence of the homogeneity of the occupational groups, as it is for example in the case of health professionals, which includes both the better earning and more educationally active doctors, and the nurses and midwives who less active and with lower salaries. Yet another issue is the overall indicator of educational activity, which is applied here for simplification, purposes and encompassing all forms of learning: formal, non-formal, and informal education. It does facilitate analyses, allowing one to distinguish persons displaying any form of activity from those who do not engage in learning, but it can also blur the possible differing influences of various forms of education. For example, a bigger influence on salary may be exerted by courses and training that result in licenses required to perform an occupation or to become promoted, and a smaller influence is exerted by training which does develop one's skills, but does not fundamentally change the situation of person participating in the training. Yet other issues are the varied subject matter of training or the number of hours devoted to learning. The issue of the relationship between educational activity and the level of salary certainly requires further, more systematic analysis. Thus, the results presented above should be considered a preliminary exploration, which subsequently should be widened and deepened.

Comparing the educationally active and inactive employed adult persons, researchers also paid attention to the relations among learning and satisfaction with work, which would include such aspects as the level of remuneration, promotion opportunities, the certainty of employment, working conditions, and the opportunity for development. As it turned out, educational activity has almost no influence on satisfaction with work (Table IV.16). The situation does not change when the occupation and salary of the respondents are factored in. Very small differences can be seen only in the case of satisfaction with promotional opportunities, because persons who are educationally active have a slightly worse view on their work in that regard. These differences are slight, but this can suggest that investment in one's development leads to the growth of occupational ambitions, which seems justified.

Table IV.16. Level of remuneration vs. occupation (38 occupational groups) and educational activity

	Inactive	Active
Satisfaction with salary	3.8	3.8
Satisfaction with promotion opportunities	3.7	3.5
Satisfaction with working conditions	4.1	4.2
Satisfaction with certainty of employment	4.0	4.0
Satisfaction with opportunity for development	3.9	3.9
Satisfaction with work in itself	4.2	4.2

Source: BKL – Population Study 2012–2014.

It should, however, be added that the same ratings of satisfaction with salary among educationally active and inactive employees can suggest that those who develop their competences have slightly higher salary aspirations. As indicated earlier, salaries of such persons are higher than of their peers who do not

[64] It should be added that the correlation between educational activity and the level of salary was confirmed by regression analyses and analysis with the PSM method made by Dębowski, Lis, and Pogorzelski (2010), conducted on data gathered in the Labour Force Survey. According to these authors, educational activity among the employed influences the level of their salaries, and for the unemployed ones, it increases their probability for finding employment.

develop their competences across almost all occupational groups. This could mean that, with the growth of salary, expectations for financial rewards become higher among the learning employees, which causes their satisfaction with salary not to increase. This statement should be treated as an unverified hypothesis, because, as underscored earlier, the confirmation of the existence of salary differences between the educationally active and inactive persons is not tantamount to the statement that the educational activity is the reason for these differences.

Neither does educational activity significantly differentiate significantly the opinions on the expected development of the respondents' career. The percentages of persons, who declare they plan to remain in the same position, expect a promotion, want to change their job or the employer, are almost the same among the educationally active and inactive. 91% of educationally inactive and 89% of active persons state they would remain in the same position, 3% of the active and 4% of the active ones expect a horizontal move to an equivalent position, 2% of respondents in both groups expect a promotion, while 4% of the educationally inactive and 5% of active declare they would cease work at the current workplace. If the declarations given by respondents reflect their actual intention, this would suggest that participation in training and development of competences in another manner does not increase the intention to change work.

Summary

The purpose of this chapter was to supplement the previous analyses, regarding the conditions for and consequences of the educational activity of adults. Special attention was devoted to identify factors that differentiate between the educationally active and inactive persons, but the search for them was conducted among features more detailed than are those employed earlier on. To this end, researchers analysed the reasons for the absence of educational activity among occupationally passive persons, and the obstacles to undertaking work by the unemployed. Next, an attempt was made to link these factors with the reasons for the lack of educational activity given by the respondents. With respect to the employed persons, more narrowly defined occupational categories were analysed to gain better insight into the factors that determine educational activity or passivity in such major occupational groups as professionals, craft workers, and elementary workers. Finally, a comparison was performed of educationally active and inactive representatives of three groups isolated for their position in the labour market in terms of their self-assessment of competences, level of salary, and assessment of work satisfaction.

These analyses can be used to formulate numerous conclusions that could be relevant for the development of the lifelong learning policy in Poland. First of all, when shaping this policy, one needs to keep in mind its close ties to actions meant to increase the economic activity of Poles and to maintain it at an older age. As the motivation to learn and to develop is mostly of occupation related in nature, and early occupational inactivity is conductive to educational passivity. However, this correlation can be reversed, i.e. educational activity could help to maintain economic activity. Among the older persons with lower education levels who believe their age prohibits them from undertaking work, a strong barrier for their educational activity is the conviction that it makes no sense to learn at their age.

Another issue that draws attention among the results of analyses is the willingness to develop competences displayed by the unemployed and economically inactive persons for whom the difficulty with finding employment is tied to their care duties, primarily care for children. As shown here, having a child clearly lowers the educational activity of economically passive women, while it does not influence its level among men. Based on the analysed data, it is not possible to state whether women caring for children would consider a return to the labour market if someone would relieve them of their duties. However, it does seem that part of the barriers reducing the educational activity of this group is tied to the insufficient offer of affordable childcare services.

Summary

The data demonstrating a relatively low level of educational activity among teachers is particularly disturbing. Teachers should play the fundamental role in shaping motivation for lifelong learning among young people. However, the presented data suggest that only slightly over half of all teachers develop their competences, and the reason for this educational inactivity is not the lack of time, nor the lack of resources, but the fact that such activity is not required to perform their duties. In this context, it seems overly optimistic to expect that the school, whose quality is defined primarily by the teachers who work there, would play well its role in shaping openness to lifelong learning among children and young people.

The analyses also indicate the significant role of education as the factor stimulating educational activity. This is seen not only among the occupationally inactive or unemployed persons with university degrees, who through their stronger dedication in learning and development stand out from their less-educated peers in the same position. This is also confirmed by the differences in the degree of educational activity among labourers working in the same positions but having different education levels. The durability and strength of the influence exerted by this factor is also suggested by the differences in educational activity of persons working in the same positions whose parents had different education levels. It can be concluded that education is a factor that strongly influences not only one's own educational activity during the later years, but also a cultural asset, which includes shaping openness to learning among children. It is hard to determine whether popularization of higher education would directly translate into an increase of educational activity and contribute to boosting positive attitudes towards learning in the family environment.

Persons who are educationally passive do not engage in training mostly because their occupation does not require that activity of them. This justification is cited with almost the same frequency by representatives of all professional groups: managers, specialists, labourers, and operators. Despite the fact that this is only a declaration of the respondents, and not an actual assessment of competence match in the labour market, it can be seen as an indicator of how the respondents perceive their own competences versus the competences they need to fulfil their job-related duties. It should be stressed that the views of employees are consistent with the assessment of employers who do not invest in the development of their personnel, because they believe the persons they hired have the competences required to perform their work (Turek and Worek, 2015). This is also in line with the results of the European Working Conditions Surveys, under which only 14% of employed Poles said they need training to perform their duties well, and 26% were convinced that their competences would allow them to perform more demanding tasks (OECD 2012). These results could suggest that the work environment stimulates adult Poles to develop their competences only to a very small extent. As simultaneously the culture of learning to foster one's own development is poorly developed, this results in this a very low level of educational activity among adult Poles.

From the perspective of shaping the development directions for the lifelong learning system, very important and significant are the conclusions drawn from the comparison of competence self-assessment among the educationally active and inactive adults. Among persons with primary and vocational education, this comparison shows significantly higher self-assessment on all or the majority of competences. Although it cannot be stated clearly that educational activity is the reason for higher self-assessment, it is certainly necessary to take into account its influence on the shaping of general competences among persons with lower education levels. This influence is not as strong in the case of persons with tertiary education; however, in this group, both the educationally passive and active ones have a high opinion of their general competences. It cannot be stated clearly that educational activity is the reason for higher self-assessment, it is certainly necessary to take into account its influence on the shaping of general competences among persons with lower education levels. Thus, this activity becomes a way to reduce differences in competences between persons with lower and higher levels of education.

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Chapter V

Mateusz Magierowski, Anna Strzebońska

Specifics of the situation of occupationally active disabled persons in the polish labour market

Introduction

The statement that work enables a person to function properly both as an individual and a member of society is an obvious one, because it allows one to obtain the means to fulfil one's own needs and those of family members, supports the establishment of relationships with others, offers a sense of development and becomes the source of identity (see: Frieszke, Poławski 1996, Neska 2003, Wiatrowski 2004, Czerw 2013). Occupational activity plays a special role for persons with disabilities, becoming the fundamental means for their integration with the society, preventing their isolation and social exclusion (Miłek, 2009). This rehabilitative function of work causes the status of the disabled in the Polish labour market to be the object of numerous analyses performed by state institutions – primarily the Central Statistical Office (see: GUS 20002 and 2011), as well as by non-government organizations, including, among others, the Polska Organizacja Pracodawców Osób Niepełnosprawnych (POPON – Polish Organisation of Employers of the Disabled, see: Czapliński 2010). The purpose of this chapter is to present the specifics of the market situation of the occupationally active disabled persons in Poland, based on data collected under two modules of the Study of Human Capital, i.e. The study of the working-age population and the study of job offers. The use of both of these sources will offer a comprehensive perspective, especially the search for employment by unemployed persons, by showing both the demand (unemployed seeking jobs) and the supply (job offers) sides of the problem. Data collected in the course of the BKL Study allows broadening the empirical perspective used so far to analyse this issue by adding numerous variables making possible a more detailed diagnosis of the situation of disabled persons in the Polish labour market. Analyses presented in this chapter focus on occupationally active persons (the employed and the unemployed),[65] while the issues of occupationally inactive persons remain on the peripheries of the discussion. Although, under the BKL Study, the occupationally inactive persons account for 81% of all working-age disabled persons (while their share among all other working-age people is at 24%), the issue of the economic activation of the disabled who remain outside the labour market has already been

[65] The definitions of the "employed" and the "unemployed" used in the BKL Study correspond to the definitions used in the Labour Force Survey (*Pojęcie stosowane w badaniach statystyki publicznej. Bezrobotni według BAEL i NSP 2002, Pojęcie stosowane w badaniach statystyki publicznej. Pracujący według BAEL i NSP 2002*).

Specifics of the situation of occupationally active disabled persons in the polish labour market

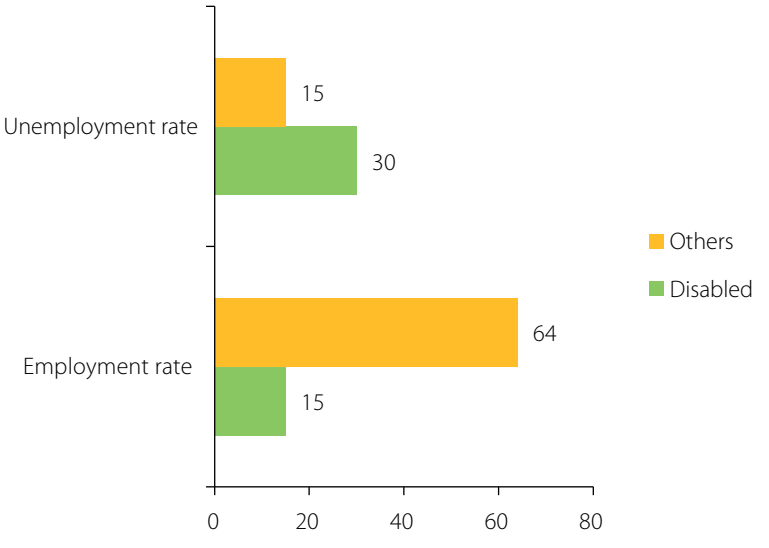
presented in other Polish publications on this subject (see: Giermanowska 2007, Gąciarz et al. 2007). In our attempt to capture the specific situation of the occupationally active disabled persons, we have compared them to the able-bodied employed and unemployed persons.

The chief limitation of the presented analyses rests in the small numbers of unemployed disabled (N = 112) and employed disabled (N = 175) covered by the two most recent rounds of the BKL Study, during which the respondents were asked an additional question on their legal status – holding a disability certificate. The limited quantitative data prevented in-depth analyses in groups of disabled persons identified through the values of socio-demographic variables. Therefore, its interpretation was enriched with qualitative analysis, done mainly through the inclusion of the element of job offers. We hope that the presentation of the proportions of similarities and differences found in the situation of persons belonging to the analysed groups present in the Polish labour market would allow asking apt research questions and also seeking explanations for the identified problems during future research covering the issues of the occupational activity of disabled persons.

Form and conditions for hiring disabled employees

The values of the fundamental market indices allow one to establish that the overall market situation of the disabled is clearly worse than of the non-disabled. Among the persons with disability certificates, the employment rate was less than 25% of the non-disabled, and the unemployment rate was 50% of the non-disabled.

Figure V.1. Employment rate and unemployment rate among the disabled and non-disabled persons



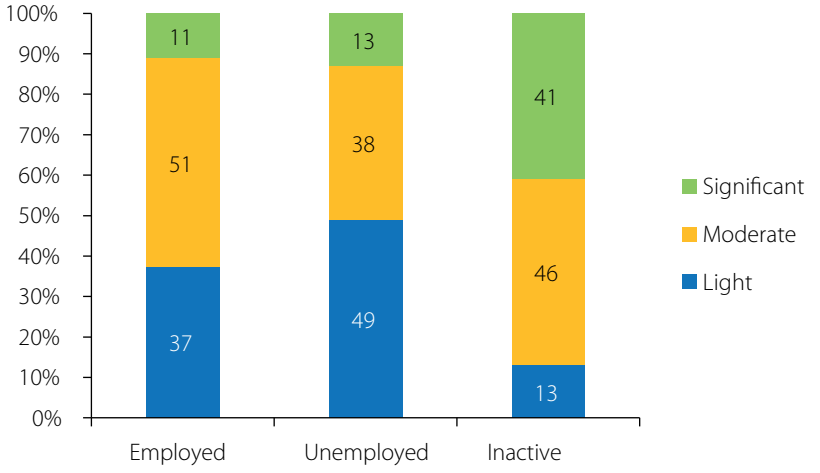
Source: BKL – Population Study 2013–2014.

To correctly understand the background of the situation of disabled persons (those who gave positive answers on question regarding disability certificates)[66] in the Polish market, , it is useful to examine the structure of the three groups of the disabled persons (employed, unemployed and occupationally inactive)[67] based on their degree of disability before commencing the proper analysis of their specific occupational situation.

[66] This question was asked in the fourth and fifth rounds of the study - the comparisons of the "disabled" and "others" cover data from these rounds only.

[67] The definitions of the "employed" and the "unemployed" used in the BKL Study correspond to the definitions used in the Labour Force Survey (*Pojęcie stosowane w badaniach statystyki publicznej. Bezrobotni według BAEL i NSP 2002, Pojęcie stosowane w badaniach statystyki publicznej. Pracujący według BAEL i NSP 2002).*

Figure V.2. Employed, unemployed and occupationally inactive disabled persons presented according to their degree of disability (in %)



Source: BKL – Population Study 2013–2014.

Almost 90% of the occupationally inactive disabled are persons with moderate (46%) or significant (41%) degree of disability, in other words persons who, under doctor's recommendation, could work under reduced time standards (up to 35 hours per week). Among the occupationally active unemployed, the share of these groups is lower by about 30%, which is compensated by much higher percentage of persons with a certified light disability. After the last amendment to the Act on the occupational and social rehabilitation and on employment of the disabled, starting in January 2012, these persons are able to work full time – 8 hours per day, 40 days per week.[68] They accounted for almost half of all unemployed disabled and for over one-third of all employed.

Table V.1. Reasons for search for employment among the unemployed

	Disabled	Others
Need to earn additional money	28	14
Desire to return to work after a break	27	25
Being fired from previous work	19	31
Desire to find the first-ever job	15	20
Other reason	8	4
Expected redundancy	1	3
Desire to change current work	1	4
Move	0	1
N	112	3897

Source: BKL – Population Study 2013–2014.

Since one of the determinants for being classified as unemployed under the BKL Study was the search for employment, it is useful to look at the reasons that motivate the unemployed – both the disabled and the non-disabled persons – to seek work. In the case of the disabled, the most frequently cited reasons included the "desire to return to work after a longer break" and the "need to earn additional money"

[68] According to the verdict of the Constitutional Tribunal, Article 15 (2) of the Act of 27 August 1997 on the occupational and social rehabilitation and on employment of the disabled, in its wording amended by Article 1 (4) (a) of the Act of 29 October 2010 on amending the Act on occupational and social rehabilitation and on employment of the disabled, and certain other Acts, in the scope in which it conditions the application of shortened work time standards for a disabled person with significant or moderate disability upon the relevant medical certificate, justifying the application of these time standards, was declared as contrary to the Constitution of the Republic of Poland and became invalid upon the lapse of 12 months from the publication of the verdict - that is, on 9 July 2014. Disabled persons who were included in the research sample in the 4th and 5th rounds - the two most recent rounds of the BKL Study, during which the question on disability certificate was asked - were still subject to provisions contained in the 2010 amendment to the act. These provisions allowed persons with light disability to work 8 hours per day, 40 hours per week - and not 7 hours per day and 35 hours per week, which is the requirement after the verdict of the Constitutional Tribunal became valid.

(Table V.2). In the case of the first response, the reason for this "longer break" was probably frequently due to the disability itself, which forced the person in question to quit his or her former job. The response "the desire to earn additional money" can in turn be attributed to persons who, despite collecting their disability allowance, want to increase their contribution to the household budget.[69]

Table V.2. The channels that the unemployed used to search for work during the month preceding the study (in %)

	Disabled	Others
Family or friends	78	77
Labour Office	68	66
Direct contact with the employer	58	56
Responding to press advertisements	36	42
Responding to Internet advertisements	31	40
Publishing own advertisements on the Internet	12	15
Publishing own advertisements in the press	10	10
Job fairs	5	6
Other ways	1	4
N	112	3897

Source: BKL – Population Study 2013–2014.

The disabled people do not limit themselves to "stationary" forms of looking for work to any larger degree than their non-disabled counterparts, which could be expected due to the hindrances tied to their health condition. An almost identical percentage of persons representing both groups declare they are looking for work through direct contact with the potential employer. Among both groups, the search for work through family or friends and the use of Labour Office services were even more popular. The only significant difference applied to responding to advertisements placed on the Internet and in the press, which was more frequently undertaken by the unemployed without a certified degree of disability.

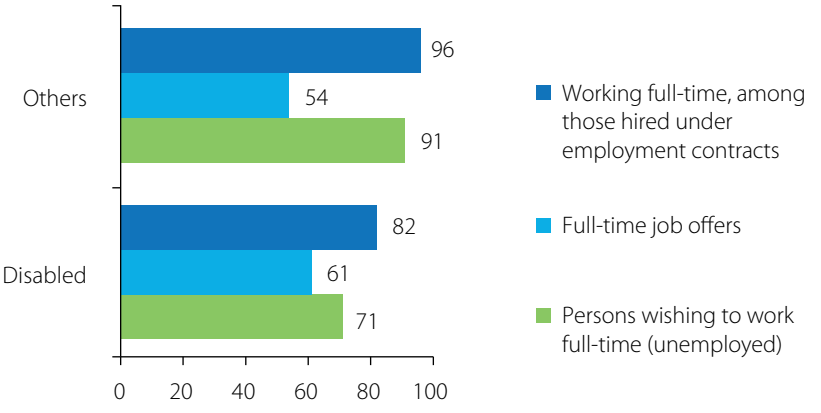
Regarding the form of hiring the disabled persons, it should be noted that full-time work (defined as 35 hours per week in the case of persons with moderate or significant disability, and 40 hours for persons with light disability) was undertaken by 82% of all persons hired under employment contracts,[70] which is several percentage points less than among all others working full time, where persons hired under employed contracts amounted to 96% of the whole group (Figure V.2). Due to the legislation regulating duration of the work of the disabled, persons from this group under full-time employment worked, on average, 4.5 hours per week less than did the able-bodied employees. According to the data from the BKL Study, the discrepancy between the demand (the unemployed) and the supply (job offers) sides, seen only from the full-time work dimension, was much smaller for disabled persons than for the non-disabled ones. The disproportion between the percentage of full-time job offers among all job offers addressed to disabled persons (61%) and the percentage of disabled unemployed willing to work under such formula (71%) amounted to 10%. However, the same juxtaposition for all other unemployed persons results in 37%, which is due primarily to the 20% higher proportion of persons willing to work full-time.[71]

[69] A disabled person who receives a disability pension may, under the Polish law, work in a situation when this work is "adequate for the health condition."

[70] The analyses do not cover persons working under employment contracts, who did not perform work for more than 3 months.

[71] The proportion of the unemployed in both job-seeking groups was very similar: amounted to 65% among the disabled and to 63% among the non-disabled persons.

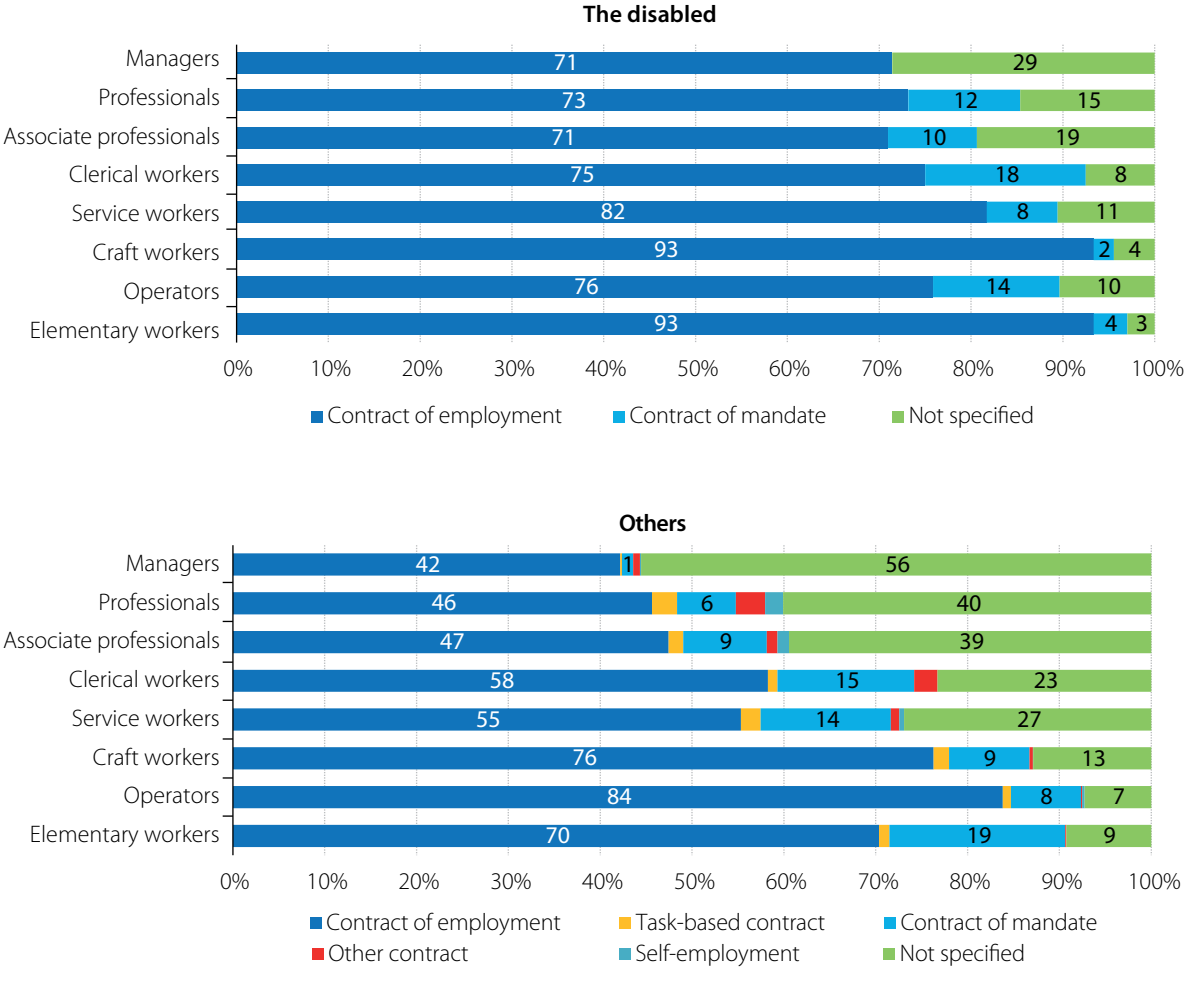
Figure V.3. Comparison of disabled persons and the others regarding the percentage of full-time employees among people hired under employment contracts, the percentage of full-time job offers, and the percentage of the unemployed willing to work full-time



Source: BKL – Population Study and Job Offers Study, 2013–2014.

The percentage of offers for jobs based on employment contracts (full-time or part-time) was clearly higher among offers addressed to persons with a certified degree of disability than among those meant for persons not holding such certificates (Figure V.3). This regularity, which is found in almost each of the

Figure V.4. Type of contract offered in job vacancy advertisements to candidates with certified disability and to non-disabled persons, broken down per major occupational groups (in %)

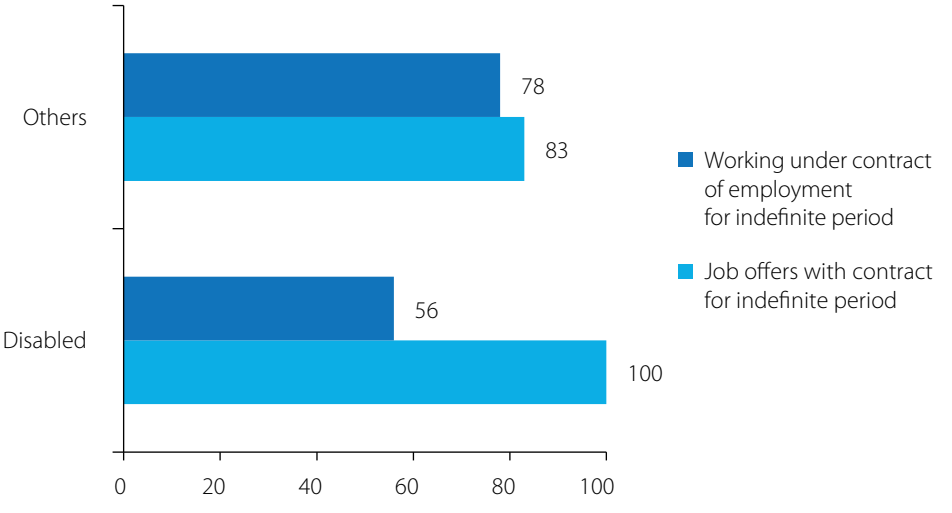


Source: Job Offers Study 2013–2014.

major occupational groups, can be explained by the legislation on subsidies for hiring disabled workers. Under the current legal status, an employer is entitled to such a subsidy only if he hires someone under employment contract, which can explain the increased tendency to offer contract-based employment to the disabled persons, rather than to able-bodied people. In reality, the share of disabled persons among all persons hired under employment contracts was smaller by a few percentage points (66%) than of the able-bodied persons (73%).

All of the offers for jobs based on regular employment contracts addressed to the disabled persons spoke of employment for indefinite period of time, while 20% of those addressed to other job seekers offered employment for a defined time period. Juxtaposition of this data with the information on the percentage of disabled persons actually working under this form of contract (56%) allows one to believe that some employers, who offer work under a contract for indefinite period of time, in reality, hire the new employee for a defined period. This formula is linked to a notice period shorter than in the case of a contract for indefinite period, as well as to lack of obligation to justify the termination, thus making it easier for the employer. It should be pointed out that this divergence is typical for the situation of the disabled persons, and this practice is not encountered by the non-disabled persons.

Figure V.5. Percentage of job offers for indefinite period of time and percentage of persons actually hired under that formula among all the persons working under employment contracts, broken down into disabled and the others



Source: BKL – Population Study and Job Offers Study, 2013-2014.

Occupational structure of disabled persons: actual, expected, and offered by the employers

The larger frequency of fixed-term employment contracts among disabled persons hired under regular employment contracts (facilitating and accelerating the termination procedure) was coupled with reduced satisfaction with the certainty of employment.[72] Despite these differences, there was an identical percentage of the disabled employees and of the remaining contract employees (77% in both groups) declaring that the work they perform (including working conditions and salary) suits them.[73] Perhaps this response is determined by the awareness of their own limitations, which are tied directly to the disability and to the level of education (which frequently is the result of barriers with which disabled persons grapple[74]).

[72] Total percentage of persons selecting responses "rather satisfied" and "very satisfied."
[73] Total percentage of persons selecting responses "rather satisfied" and "very satisfied."
[74] Educational barriers in the context of disabled persons are described, among others, in the publication by Gajdzica, 2011.

Table V.3. Selected features of persons working under employment contracts

	Disabled	Others
Average age	49.1	39.8
% of women	41	48
% of respondents satisfied with salary	40	57
% of respondents satisfied with certainty of employment	56	71
% of respondents whom the work suits	77	77
% of respondents wishing to quit	7	4
Average monthly net salary (5% trimmed mean)	1634	2067
N	176	15778

Source: BKL – Population Study 2013–2014.

The disabled hired under employment contracts expressed satisfaction with their salaries much less frequently (a difference of 17%) than the others working under employment contracts.[75] This corresponded with the fact that salaries in this group were lower by 433 Polish zloty, on the average. This was, in turn, a product of the differences in occupational structures between these groups. In the group of employed disabled persons, the percentage of the major occupational group with the lowest average salary – the elementary workers (9 – ELEM) – is almost three times higher than among other persons working under employment contracts (Table V.4). This matches the percentage of persons with the lowest (lower secondary or lower) level of education in the disabled group, which is three times higher than among non-disabled persons. It should be interpreted, at least in part, as the consequence of educational barriers encountered by the disabled people. Among the non-disabled employees, there is a visibly higher share of technicians and other associate professionals (3 – ASSO).

Table V.4. Occupational structure of persons working under employment contracts, broken down per major occupational groups (in %)

	Disabled			Others		
	W	M	Total	W	M	Total
1 MANA	5	1	3	4	4	4
2 PROF	25	7	15	24	12	18
3 ASSO	3	5	4	15	10	13
4 CLER	6	13	10	14	6	10
5 SERV	14	29	23	25	10	17
6 AGRI	0	0	0	0	1	1
7 CRAF	13	16	15	6	29	18
8 OPER	3	12	8	3	20	11
9 ELEM	30	16	22	9	8	8
N	73	102	175	7463	8122	15585

Source: BKL – Population Study 2013–2014.

Among the disabled, aside from differences discussed above, an interesting element is the percentage of persons working as professionals under employment contracts, which is very similar to the one recorded for "others." As in the case of "other" professionals, the share of women in this group is visibly higher among the disabled persons, this disproportion was even higher than among non-disabled people. This result is especially worth noting, because the percentage of disabled persons hired under employment

[75] Total percentage of persons selecting responses "rather satisfied" and "very satisfied."

contracts who graduated from a higher education institutions is half as much as among the non-disabled persons (14% versus 29% in the "others" group).

The differences between the occupational structure of the disabled and non-disabled persons, observed among those working under employment contracts, do not influence the disproportions in preferences regarding the occupations that unemployed persons from both groups would like to perform. Among the identified groups of unemployed persons, there is a high level of convergence regarding the declared occupation in which they seek employment. Much like their counterparts not holding disability certificates, the disabled unemployed persons most frequently seek work in elementary occupations (one-third of responses), craft occupations (one-fifth of responses), and service employees (around one-fourth of responses) (Table V.5). These choices seem justified, because the structure of workers sought in these occupations through job vacancy advertisements largely corresponds to these preferences, although this is not a perfect match. Disabled persons in service occupations have the largest chances of finding employment (the over-supply of advertised vacancies compared to reported demands is at 20%). A reverse situation applies to blue-collar positions, where there is a shortage of job offers, where the largest is among craft workers (shortage of offers versus the reported demands amounts to 12% and is higher by 7% than among the other unemployed), and the smallest is among elementary workers (the shortage is at 9%, which is 20% less than among the able-bodied employees).

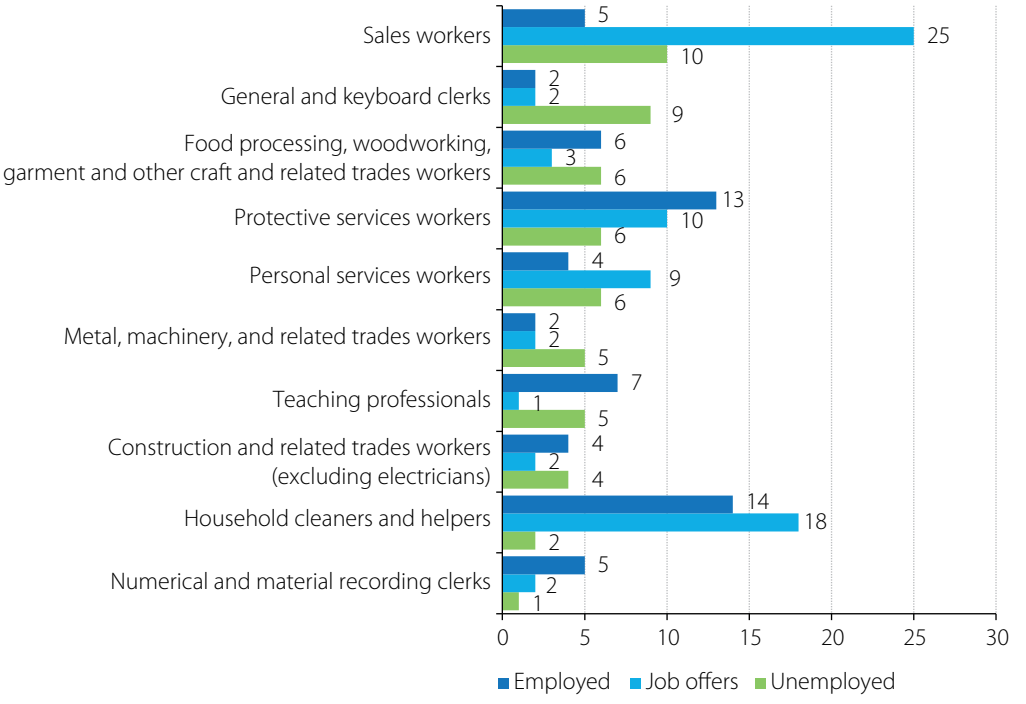
Table V.5. Major occupational groups in which the unemployed seek employment, together with distribution of job offers dedicated for them (in %)

	Disabled			Others		
Occupation	Unemployed (U)	Offers (O)	O-U	Unemployed (U)	Offers (O)	O-U
1 MANA	1	1	0	0	6	6
2 PROF	6	7	1	7	23	16
3 ASSO	6	5	-1	8	18	10
4 CLER	10	7	-3	7	7	0
5 SERV	23	43	20	19	23	4
7 CRAF	20	8	-12	18	13	-5
8 OPER	1	5	4	6	6	0
9 ELEM	33	24	-9	34	4	-30
N	109	600		3763	40603	

Source: BKL – Population Study and Job Offers Study, 2013–2014.

A more detailed diagnosis of divergences between the occupational preferences of unemployed disabled persons and the structure of job offers addressed to them is made possible by analysis conducted on the level of major occupational groups. Unemployed persons holding a disability certificate most frequently expressed the will to work as salespersons or in similar occupations (10%). One-fourth of all job offers for the disabled advertised these types of positions, which matched the tendency for over-supply of offers regarding service occupations in the wider meaning. One in 20 of the disabled hired under employment contracts declared work in such occupations. The percentage of offers for these types of occupations, which is visibly higher when compared to the number of people who want to work and who actually work in these occupations, may be tied to the nature of the sales work, which is tied to a significant susceptibility to the burnout syndrome, and to the almost permanent recruitment for such positions conducted by the employers. A clear disproportion between the percentages of the unemployed versus the number of job offers is also seen among cleaners and domestic help, with only 2% of the unemployed disabled persons declaring their will to work in such occupations, while job offers accounted for 18% of all offers available. It is worth noting that, as in the above-described case of salespersons, the analysed job offers were addressed to both the unemployed to persons already hired in this occupation. A marked "under-supply" of offers was observed in the occupational group of clerical support workers, keyboard clerks, and related occupations.

Figure V.6. The most popular occupations in which the disabled work or seek employment, together of job offers dedicated for them (sub-major occupational groups - in %)



Source: BKL – Population Study and Job Offers Study, 2013–2014.

Occupational structure of disabled persons: actual, expected, and offered by the employers

Disability is seen as factor increasing the risk of long-term unemployment in studies on both the Polish and foreign labour markets (see: Dolny 2014). This is confirmed by the data collected during the two most recent rounds of the BKL Population Study. Among the disabled unemployed, the share of long-term unemployed persons (ineffectively looking for work for over a year) [76] is higher by 7% than among their non-disabled counterparts (Table V.6). The average age, which is higher by 7.5 years among the disabled unemployed, leads to the conclusion that, for many of the disabled unemployed, two factors that impede finding employment overlap – their disability and their age. This is further confirmed by the fact that 40% of the disabled unemployed, asked to name reasons that make finding employment difficult for them, cited their age (among the non-disabled unemployed, this response was selected by 13%).

Just as the differences in occupational structure reflected the marked differences in the average effective salaries between the employed disabled and non-disabled persons, the absence of significant disproportions in the structure of occupational preferences, in the context of the type of sought employment, translated into a lack of significant differences regarding salary expectations: The average salary that would be satisfactory for the disabled unemployed amounted to 95% of average salary satisfactory for the other unemployed. The unemployed from both groups did not differ, in practice, in terms of their willingness to learn a new profession, since four-fifths of both the disabled and other unemployed persons declaring that they were willing to learn a new occupation.

Table V.6. Selected characteristics of the unemployed

	Disabled	Others
Average age	43,8	36,3
% willing to retrain	81	79
% of long-term unemployed	55	48
Factors hindering finding a job: age (%)	40	13
Salary that is considered satisfactory	1958	2061
N	112	3897

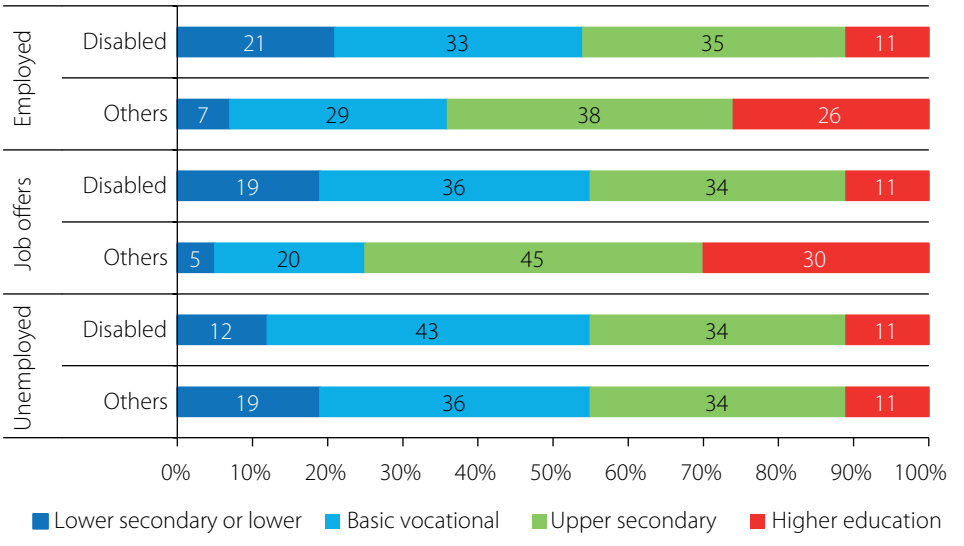
Source: BKL – Population Study 2013–2014.

[76] Definitions of long-term unemployment, see Dolny (2014) and Wojdyło-Preisner (2009).

Education structure of disabled persons – actual and expected by the employers

On the general level, the education structure of disabled persons, both employed and unemployed, and the education structure sought by the employers in job offers appears highly convergent (Table V.7). An almost identical education structure is seen among disabled and non-disabled unemployed. In all these groups, the shares of higher education graduates (11%) and of persons with upper secondary education (34%) are identical. Slight differences are seen on the lowest levels of education: basic vocational, lower secondary and primary. For example, among disabled persons, the share of respondents with lower secondary or lower education is smaller by 7% than among other unemployed persons, which is offset by the higher share of persons with basic vocational education in this group by the same proportion.

Figure V.7. Education structure in the occupational groups of the employed and the unemployed, according to requirements contained in job offers, broken down per persons with certified disability and others (data in %)



Source: BKL – Population Study 2013–2014, Job Offers Study, 2013-2014.

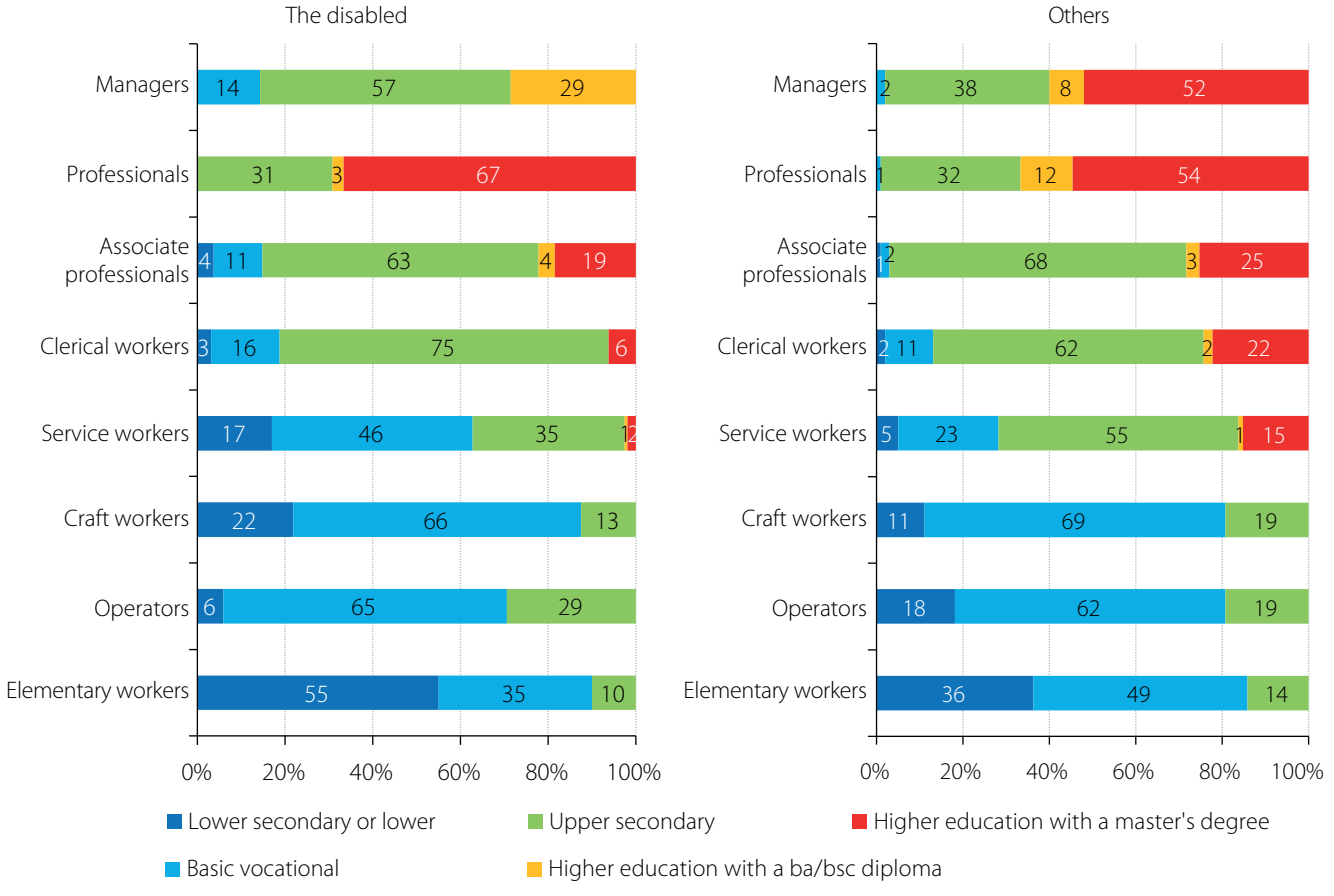
However, the analysis of the education distribution within the identified groups reveals disproportions in the qualifications of the disabled persons when compared to the able-bodied persons. The scale of constraints tied to one's educational level is much higher among the disabled than among the other employed and the requirements posed by potential employers for the healthy candidates. In both groups, the proportion of disabled higher education graduates is less than half compared to other employees, while the proportion of persons with only lower secondary or lower education is three times higher in comparison to the non-disabled employed persons. The visibly higher share of the less-educated persons among the disabled is, in consequence, the reason for the much higher proportion of elementary workers in the disabled group versus the other employed persons.

Analysis of similarities between the occupational structure and the structure of education expected by employers, as shown in the advertised vacancies, partially explains the observed divergences (Figure V.8).

In the case of blue-collar occupations (from craft workers to elementary workers), the differences in the levels of education expected from candidates with certified disability versus the able-bodied ones are slight, because the requirements for primary and basic vocational education prevail for both groups.

Education structure of disabled persons – actual and expected by the employers

Figure V.8. The level of education required in job vacancy advertisements from candidates with certified disability and from others, broken down per occupational groups (in %)



Source: Job Offers Study 2013–2014.

Much larger differences are seen in the groups of white-collar occupations. Generally speaking, the potential employers expected higher education with a master's degree from candidates in managerial and professional occupations, and they expect upper secondary education from associate professionals, and clerical and sales personnel (including service personnel). In the case of candidates with certified disability, the potential employers lower the requirements regarding their level of education, as compared to the qualifications of other persons seeking employment in the given occupational group. This fact is particularly visible in the case of offers regarding service occupations and managers. For managerial and professional occupations, the requirement for completed upper secondary education eliminated the need for a master's degree, and it was even frequently replaced by the requirement for basic vocational qualifications (increase by 23%). (This occupational category is very popular both among disabled unemployed and among the employers seeking employees for positions of that type.) Among service occupations, it is worth noting that the percentage of jobs where the employers would be willing to accept only primary education also grew (from 5% to 17%). The largest decrease in expectations of employers is seen in job vacancies addressed to managers (executives and managers) with certified disability, where the requirements regarding higher education have been almost completely abandoned in favour of upper secondary education.

However, there is an occupational group where the employers do not reduce requirements, even if their future employee is disabled – the professionals. Invariably since 2012, in the case of the recruitment of highly specialised employees, their potential employers demand a master's degree, regardless of the candidate's health condition.

In summary, despite the inter-group differences in its structure, the acquisition of knowledge and skills in the form of courses, training, and informal education have a similar popularity among all the employed. This activity has been undertaken during the 12 months preceding the study by one-third of each of the respondent groups (Table V.7). The formula most frequently selected both by the disabled and by the other employed were obligatory courses, such as health and safety or fire prevention courses (11% among the disabled employed, 13% among the rest).

Table V.7. Continued education among disabled and non-disabled employed (in %)

	Disabled			Others		
	W	M	Total	W	M	Total
Did not develop competencies in any way	65	67	66	65	65	65
Yes (only courses and trainings)	17	12	15	15	16	16
Yes (only self-education)	13	8	11	10	10	10
Yes (self-education + courses, trainings)	6	13	8	11	9	10
N	99	168	267	9893	11520	21412

Source: BKL – Population Study 2013–2014.

Competences of disabled persons – self-assessment versus expectations of the employers

The almost identical structure of replies to questions on the occupations that the unemployed would like to perform and the relatively similar structure of education inclined the researchers to examine the detailed self-assessments of specific categories of skills sought by the employers in the labour market[77] (Table V.8). In most of the competence categories, the average values of self-assessments in the group of disabled unemployed were very similar to those found among other unemployed persons. The more pronounced areas of differences,[78] reaching approximately 0.25 points on the scale, in favour of non-disabled persons can be classified in three categories:

- The largest – resulting from constraints tied directly to the physical limitations of disabled persons (physical competences, the "physical fitness" dimension), which lead to limited mobility (availability competences, the dimensions of "frequent travels" and "availability");
- Differences which are the consequence of the marginalisation of disabled persons (interpersonal competences, dimension "social relationships" - in this context, attention should be paid also to the differences of approx. 0.25 in the dimensions "ease of establishing contacts with co-workers" and "cooperation within a group");
- Differences in the levels of computer skills, tied to the higher average age of disabled unemployed (computer competences, dimensions such as "operating the computer and using the Internet" and "basic MS Office skills"). Interestingly, the self-assessment of computer skills is even lower among the employed disabled persons.

[77] Due to the relatively small number of the group of disabled unemployed, only a global analysis was performed - without comparisons of average self-assessments based on occupation in which the given person was looking for work.

[78] Differences disabled - non-disabled in the group of unemployed.

Table V.8. Self-assessment of competences[79] of the employed and unemployed (average values)

	Employed			Unemployed			Difference
	Disabled	Others	Difference D-O	Disabled	Others	Difference D-O	U-E .
PER	3.70	3.99	-0.30	3.49	3.76	-0.27	-0.21
AVL	3.57	3.82	-0.25	3.44	3.81	-0.37	-0.13
LANG	3.32	3.76	-0.45	3.42	3.47	-0.05	0.10
SLF	3.28	3.74	-0.46	3.15	3.34	-0.19	-0.13
COG	3.10	3.54	-0.44	3.00	3.12	-0.12	-0.10
MAT	3.05	3.47	-0.42	2.97	3.07	-0.10	-0.08
TEC	2.90	3.19	-0.29	2.80	2.83	-0.03	-0.10
MNG	2.70	3.28	-0.58	2.83	2.73	0.10	0.13
OFF	2.66	3.14	-0.48	2.43	2.63	-0.20	-0.23
PHY	2.57	3.68	-1.11	2.55	3.66	-1.11	-0.02
COM	2.50	3.40	-0.91	2.73	2.98	-0.25	0.23
ART	2.37	2.72	-0.35	2.48	2.44	0.04	0.11
N	267	21412		112	3897		

Note: The table cells marked as "difference D-O" present the difference between the values of average competence self-assessment of disabled persons (D) and the able-bodied other persons (O), for the groups of the employed and the unemployed, respectively. Positive value for the comparison D-O means that disabled persons had a higher average self-assessment of the given competence than their able-bodied counterparts, and a negative value denotes lower self-assessment. The table cells marked as "difference U-E" (the far right column of the table) present the difference between the values of average competence self-assessment among the disabled persons: the unemployed (U) and the employed (E). Positive value for the comparison U-E means that the unemployed disabled persons had a higher average self-assessment of the given competence than the employed disabled persons, while a negative value denotes lower self-assessment.

Source: BKL – Population Study 2013–2014, Job Offers Study, 2013–2014.

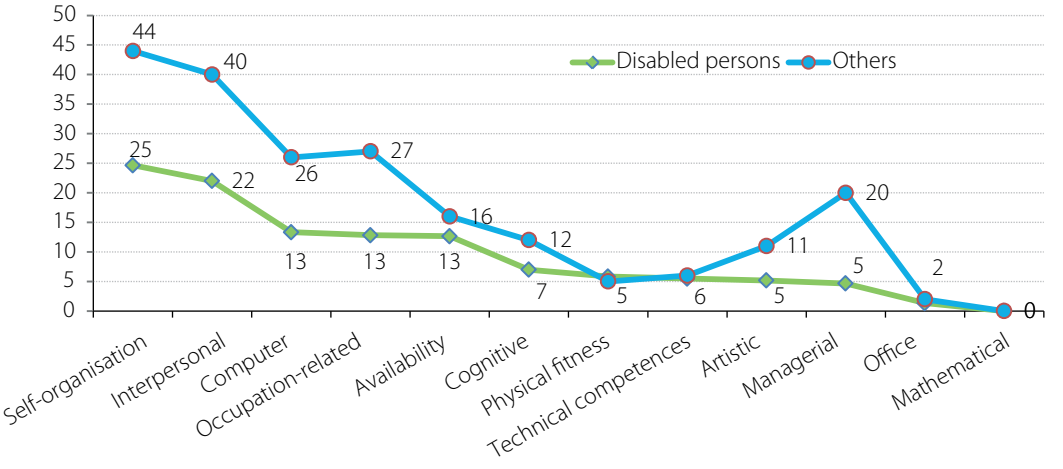
Competences of disabled persons – self-assessment versus expectations of the employers

The awareness of limitations caused by one's deficits is much higher among the employed disabled persons than among the other employed persons, since they rate themselves lower than the able-bodied persons in all competence dimensions. Their self-assessment of competences is slightly higher in comparison with the unemployed persons with certified disability (the exceptions are the computer, managerial, artistic, and language competences), but their value, verified through the labour market, falls below the competences of the other employed persons. The question is "Are the employers, in the process of selecting candidates for jobs, aware of the limitations of persons from whom they demand the certificate on disability?"

Looking at the distribution of competence requirements from the perspective of an employer recruiting through vacancy advertisements, we can see that the expectations towards disabled candidates were significantly lower than those set for able-bodied ones (Figure V.9).

[79] The table uses abbreviations of the main groups of competences, developed and used in the Study of Human Capital. Their full names are as follows: PER - interpersonal competences, AVL - avaialability, LANG - language competences, SLF - self-organisation, COG - cognitive, MAT - mathematical, TEC - technical, MNG - managerial, OFF - office competences, PHY - physical fitness, COM - computer skills, ART - - artistic competences.

Figure V.9. Competence requirements published in vacancy advertisements for persons with certified disabilities and for the able-bodied candidates (N of disabled = 600, N of others = 40603).



Source: BKL - Job Offers Study 2013–2014.

Analysis of the distribution of competences across the various occupational groups shows that, both among the disabled and among the non-disabled persons, there is a polarisation of occupational groups, identified based on the number and categories of competences published in the job offers (Table V.9). It should be noted that the distribution described below has been in place since 2011.[80]

Employment offers, in terms of competence requirements, can be divided into the following:

- *Exhaustive* refers to offers, in which the employers specify numerous expectations regarding competences of candidates in the areas of self-organisation, interpersonal contacts, occupation-related skills, and computer and cognitive skills. Such offers are directed at white-collar workers, from managers to sales and service personnel. It is worth noting the significant degree of matching of the competence requirements to the work profile of their recipients, which is also proven by the very slight interest of prospective employers in the physical abilities and technical competences.
- *Non-Exhaustive* refers to offers in which the employers sporadically define specific competences. These offers are meant for blue-collar workers, namely craft workers, elementary workers, operators of machinery and equipment). Here, the employers primarily require job-related and self-organisation competences tied to the preparation and operation of one's workstation. This set of competences is supplemented by the requirement of good physical fitness, especially for candidates who are meant to perform elementary work. It is similarly rational to expect technical competences from craft workers.
- The disproportion of competence requirements posed for persons with certified disability and for non-disabled persons is the product of two facts – the occupational structure of disabled persons and the dominant source where job offers addressed to them can be found. As previously indicated, disabled persons are recruited primarily for blue-collar jobs and for service positions via the public employment services.
- The small scale of hiring disabled persons in positions ranked high in the classification of occupations results in the smaller share of job offers in the whole pool of job ads addressed to the disabled that would contain an exhaustive description of requirements regarding competences of the applicants. In addition, the domination of job offers distributed by the District Labour Offices (which specialise in search for blue-collar and service workers) results in a much-reduced precision of defining competence requirements, as compared with the offers published on the Internet recruitment sites[81].

[80] M Kocór., A. Strzebońska, M. Dawid-Sawicka 2014.

[81] Ibidem

However, the reduction of competence requirements in the group of persons with certified disability does not influence the structure of employers' preferences regarding skills that the candidates should have (also Table V.9).

Table V.9. Requirements regarding competences of candidates - disabled and able-bodied - defined by employers recruiting via job offers, broken down per occupational groups (data in %)

Disabled

	MANA	PROF	ASSO	CLER	SERV	CRAF	OPER	ELEM	total
SLF		23	28	17	32	13	20	18	25
PER		30	41	24	33	6	10	3	22
COM		53	44	40	7	2	10	0	13
OCC		26	31	12	11	15	10	7	13
AVL		9	13	5	20	9	13	4	13
COG		7	3	0	13	0	7	1	7
PHY		5	6	7	4	9	13	6	6
TEC		9	0	5	9	0	7	1	6
ART		7	0	12	6	2	7	2	5
MNG		9	13	7	5	0	3	0	5
OFF		2	0	12	1	0	0	0	1
MAT		0	0	0	0	0	0	0	0
N	8 *	43	32	42	257	47	30	141	600

Others

	MANA	PROF	ASSO	CLER	SERV	CRAF	OPER	ELEM	total
SLF	60	57	63	44	48	15	12	16	44
PER	43	54	64	38	44	5	5	5	40
OCC	48	40	27	15	21	19	12	9	27
COM	31	46	28	42	21	5	13	3	26
MNG	54	26	24	14	20	2	1	1	20
AVL	22	17	20	18	18	9	8	8	16
COG	24	22	16	12	13	3	2	2	12
ART	6	13	13	14	14	3	3	2	11
TEC	3	5	3	3	6	14	7	2	6
PHY	2	4	8	7	7	4	6	8	5
OFF	3	3	2	7	2	0	0	0	2
MAT	0	0	0	0	0	0	0	0	0
N	2399	9511	7440	2694	9461	5079	2319	1700	40603

** The numbers were too small to allow presentation of percentages for this occupational category.*

Source: BKL - Job Offers Study 2013–2014.

According to the employers, the most useful competences (irrespective of occupation for which they are recruiting and irrespective of the disability certificate held by candidates) include the following:

- Self-organisation competences - tied to time management, independence, decision-making and demonstrating initiative, resistance to stress and will to work;
- Interpersonal competences – the ability to establish contact with others, communication, cooperation within a group and problem-solving abilities;

- Occupational competences - specific skills required to perform tasks appropriate for the given position; and,
- Computer competences required primarily from professionals and associate professionals.

Comparing employers' preferences with the self-assessment of competences of disabled persons (see Table V.9), we can repeat the conclusion formulated above. In terms of the skills they possess, the situation of this occupational group in the labour market is not favourable. Certainly, this situation is a product of different barriers, for example, in education, encountered by persons with disabilities.[82] Perhaps the removal of these limitations would allow increasing the education level of disabled persons (e.g., through growing the share of persons with higher education), or would allow them to acquire qualifications under the informal and non-formal education systems. This could result in a change in the occupational structure leading to increased representation of disabled persons in positions from the upper levels of occupational classification. On the other hand, disabled persons can possess certain skills of which they are unaware, due to their non-participation in different occupational situations that require the use of specific skills (hence the low ratings in the self-assessment process).

Occupational experience of disabled persons and expectations of employers

The employers, recruiting via job advertisements, do realise the information deficiency of formal education, because this requirement usually does not reflect the level of knowledge and skills acquired in the course of work. Therefore, during the selection of candidates, they treat their experience as important in performing duties associated with the proposed position (Table V.10).

Table V.10. Share of occupational experience among requirements contained in job offers and among the unemployed, broken down per occupational groups (data in %)

Occupations	Job offers				Unemployed			
	Disabled		Others		Disabled		Others	
	N total	% of offers with required experience	N total	% of offers with required experience	N total	% of persons with experience	N total	% of persons with experience
MANA	8	88	2399	83			11	100
PROF	43	73	9511	70	7	100	270	98
ASSO	32	47	7440	68	7	100	307	94
CLER	42	36	2694	49	11	73	258	97
SERV	257	50	9461	59	25	92	697	95
CRAF	47	51	5079	53	22	100	689	95
OPER	30	38	2319	44			210	97
ELEM	141	34	1700	36	36	89	1297	93
total	600	47	40603	60	109	91	3763	94

Source: BKL – Population Study 2013-2014, Job Offers Study, 2013–2014.

In roughly half of the cases, the employers are looking for the "ready employee," who would be able to work without extensive training. The largest number of offers containing such requirements is addressed to higher-level clerks and managers (over 80% of offers addressed to disabled and able-bodied job-seekers), professionals (70% of offers in both analysed groups), and associate personnel (68% of offers for

[82] Educational barriers in the context of disabled persons are described, among others, in the publication by Gajdzic, 2011.

able-bodied candidates and about half of offers for persons with certified disability), while their smallest number is meant for craft workers (approx. one-third of offers in both groups). In general, the more complex are the duties associated with the given position, the higher are the requirements regarding prior experience of the candidates. This regularity is independent of the disability or non-disability of persons responding to the job offers.

A comparison of the employers' expectations regarding experience with the percentage of the unemployed with prior work experience clearly shows that on the general level the persons looking for employment meet the requirements posed for them in the job offers. This applies both to the disabled job seekers and to the others. Nevertheless, the way in which the experience is documented is also important during the selection process.

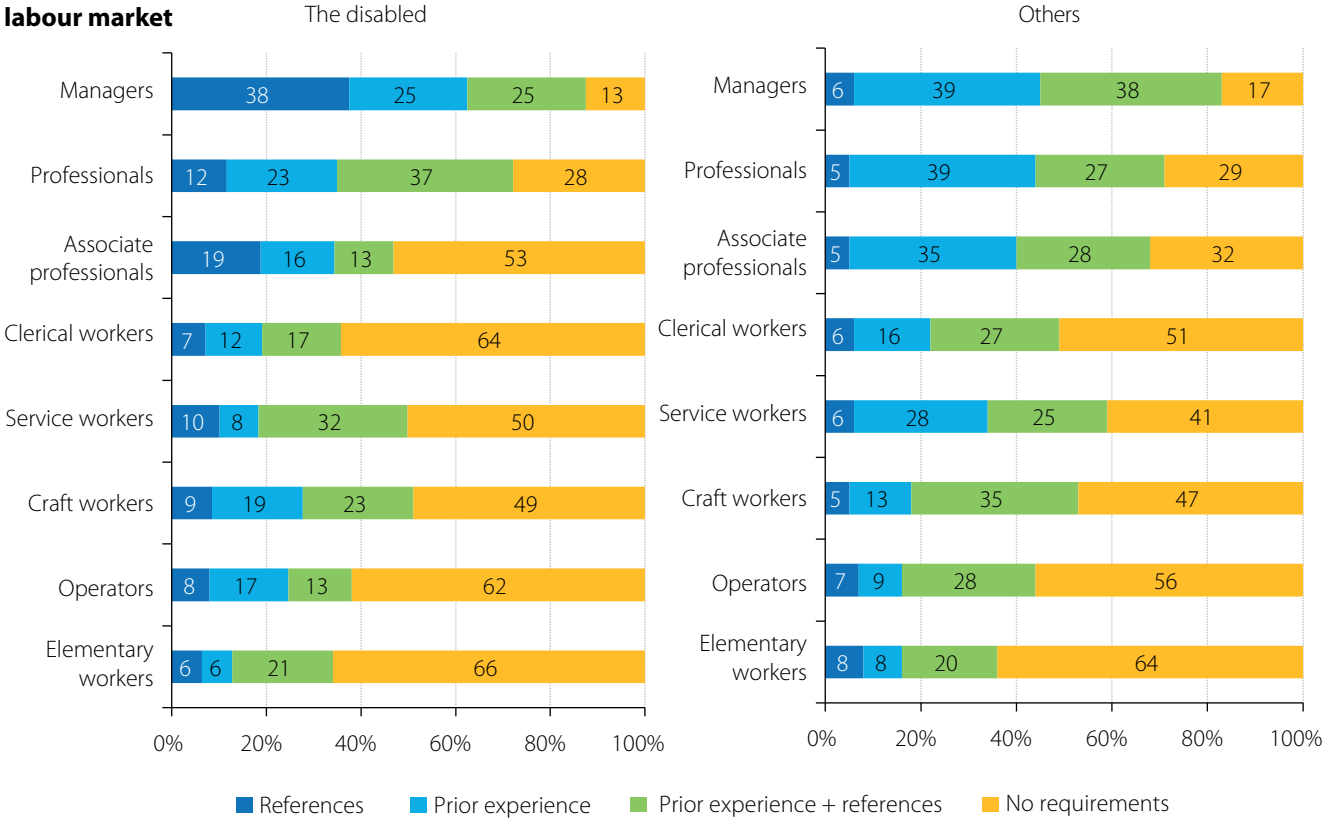
- In job offers, the employers specify their preferences in three ways, demanding from the candidates the following:
- The delivery of documents confirming prior work experience at the offered position (27% of all offers);
- The provision of references from previous workplaces (6% of all offers); and,
- Simultaneous delivery of documents confirming prior work experience at the offered position and references from previous workplace (28% of all offers).

Analysis of the manner in which the employers state their expectations regarding the experience of candidates with certified disability allows one to formulate the conclusion that candidates for white-collar jobs are required to demonstrate prior experience confirmed by references (Figure V.10). Positive references, which are documents in which the previous employer recommends the person to future employers, are particularly necessary in the process of applying for managerial, professional, and service jobs (references increase access to over 40% of job offers). In the case of the other occupational groups, references enable their holders to apply for an additional 30% of jobs addressed to them, but if the previous work experience is not confirmed, the proportion of jobs drops by about 20%.

During the discussion of features typical for disabled persons, it is worth noting that, during the recruitment process, the employers slightly more frequently require them to provide only references (a difference of 4%) than in the case of able-bodied candidates. This group of job seekers is more frequently required to demonstrate only prior work experience (applies to one-fourth of the offers). However, these differences do not change the fact that the most popular way of documenting experience was to simultaneously present documents confirming prior work experience at the offered position and references from previous workplace (applies to slightly under one-third of all offers) for both analysed groups. It is difficult not to concur with such a rational approach by the employers. An opinion on the candidate given by people who worked with him or her earlier allows the prospective employer to verify the truthfulness of information and documents presented in response to the advertisement. For the potential employer, references are a source of extremely valuable knowledge on the manner in which the candidate performed his or her duties, the reason for termination, and the difficulties that may arise in the course of cooperation with the applicant. Especially this latter factor seems important from the standpoint of disabled persons in the labour market, whereas the requirement regarding the length of previous experience depends on the complexity of position for which recruitment is conducted. In the case of disabled candidates, the selection criterion of the required prior experience is set slightly below the values recorded for persons without a disability certificate (see Table V.11). It is worth stressing that the identified discrepancies apply to one calendar year at most.

Differences in the length of work experience, identified based on the analysis of job offers, become even more irrelevant in comparison with the average length of occupational experience of the employed and unemployed persons. In each of the analysed groups - regardless of the degree of the physical ability of their members - the length of prior work experience significantly exceeds the requirements of the employers. In the case of the disabled persons, the high average values can be explained by their age, which is directly linked to the length of their presence in the labour market. The average age of employed disabled persons is 49 years, and the average age of unemployed disabled persons is 44 years.

Figure V.10. Manners for documenting prior experience by persons with certified disability and by the others



Source: BKL - Job Offers Study 2013–2014.

Table V.11. The length of occupational experience among persons working under employment contract and the unemployed, specified in requirements in job offers, broken down per occupational groups (average in years)

occupations	Working under employment contracts				Job offers				Unemployed			
	Disabled		Others		Disabled		Others		Disabled		Others	
	Average	N	Average	N	Average	N	Average	N	Average	N	Average	N
MANA	23.6	5	17.9	605	3	4	2.8	1847			11.3	11
PROF	26.9	25	16.2	2680	1.6	26	2	6277	11.2	7	3.62	265
ASSO	20.4	7	16.6	1904	0.8	9	1.8	4687	12.6	7	8.1	290
CLER	20	16	15.7	1526	2.0	12	1.5	1158	16.9	8	7	250
SERV	25.8	37	13.8	2510	1.5	102	1.5	5014	11.3	23	7.11	660
CRAF	20.2	26	18.7	2724	2.3	20	2.3	2438	14.6	22	12.6	654
OPER	26.6	15	18.4	1719	2.3	9	2	858			12.6	204
ELEM	24.9	38	17.3	1225	1	39	1.8	476	14.7	32	10.7	1212
total	23.6	169	16.8	14893	1.7	221	2	22332	13.6	99	9.5	3546

Source: BKL – Population Study 2013-2014, Job Offers Study, 2013–2014.

In summary, both the unemployed and the employed persons who want to change work should not encounter any problems with fulfilling the criterion of the length of prior experience required by the potential employer with respect to a specific group of occupations.

Summary

The purpose of this chapter was to describe the market situation of occupationally active disabled persons (both employed and unemployed) in comparison to the situation of non-disabled persons. The position of disabled persons working under employment contracts is clearly worse than of the able-bodied persons hired in the same manner. Disabled persons have frequently poorer education than do other employed persons. They earn less and more frequently work part-time or under fixed-term contracts. The fact that they frequently have only lower secondary or even lower education means that their proportion among elementary workers is visibly higher than the proportion of elementary workers among able-bodied persons. Being aware of their limitations, which frequently is the result of the disability itself, disabled persons claim the work they perform generally suits them almost as frequently as the able-bodied people claim.

Similar differences are not seen in the comparison of disabled unemployed persons with their able-bodied counterparts regarding the structure of education, preferences regarding the desired occupation, or the average salary that would be satisfactory for them. Moreover, the job offers addressed to the disabled seem better matched to expectations than those meant for the able-bodied employees.

Certainly, this situation is influenced by the behaviour of employers who, recruiting employees with certified disability, reduce the requirements that they set for the able-bodied candidates. The employers reduce their expectations tied to the level of formal education (on the average, by one level of education), the requirements regarding the preferred set of competences of the job seekers, and they also (slightly) shorten the prior experience requirement. In exchange, they demand references from the previous place of employment. Such qualitative information from people who actually worked with the candidate is decisive for the employer, especially in the case of the recruitment of white-collar workers.

However, the latest values of the basic indices of the labour market[83] show that, in Poland, the situation of disabled persons is visibly worse than of the general population. The coefficient of occupational activity of disabled persons reached 28.2% during the third quarter of 2014, which means its value was half the value for all Poles. By nature, similar differences also apply to the employment rate. Among all the working-age disabled persons, only 27% are in gainful employment. This is the highest value since 2001, but it still amounts to only half of the result on the general level. The unemployment rate is also disadvantageous. For the whole country, the unemployment rate amounts to 8.2%, while with respect to disabled persons, it rises by 6.5%, to 14.7%.

This data taken from public statistics allow no illusions: More than 70% of disabled persons function outside the labour market, despite the fact that their employment can be supported with resources of the State Fund for Rehabilitation of the Disabled (PFRON). Data quoted in this paper confirms that disabled persons looking for employment possess qualifications and competences similar to the non-disabled unemployed persons. It makes sense to undertake the efforts for economic activation of such persons. The activity-supporting solutions should have other forms, innovative for Poland, since the ones available and used at present are insufficient.

[83] We refer to the values of ratios collected by the Central Statistical Office under the Labour Force Survey (LFS) calculated for the 3rd quarter of 2014.

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Chapter VI

Konrad Turek

The grey side of the labour market

Primary conclusions

According to data collected under the BKL Study, the number of working-age persons who have worked without a formal contract during the 12 months preceding the research had been falling systematically from 2010 to 2012 – from 1.2 million (which accounted for 4.7% of persons aged 18/59/64) to the level of 932 thousand (3,8%). In 2013, this number remained almost unchanged (937 thousand, or 3.8%). In 2014, a slight increase was seen, to the level of 974 thousand, which amounted to 4% of working-age persons.

The high share of people working in the grey market was seen among registered unemployed (around 10%).

The non-registered sector of the labour market is very varied in terms of the characteristics of its participants – it includes all age groups, people with various levels of education, performing different professions, city dwellers, and rural residents alike.

The non-registered employees are mostly men (70%) and persons with a lower education level (almost 60%). Quite frequently these people are young, only starting their career, (e.g. looking for their first job), or still studying (18% of those working without a contract were engaged in formal education).

Among working students of the final years of full-time studies, around 25% worked without formal contracts.

In comparison with the official labour market, the grey market has a clear over-representation of unskilled labour occupations (mostly in the construction sector).

A relatively small percentage of those working without a contract were simultaneously hired under a legal contract (17%).

Results of the BKL Study confirm that it is difficult to form an unambiguous evaluation of the consequences of the semi-official sector of the economy. It has its positive sides (at least in the short term) and negative ones from the perspective of the employee, the enterprises, and the whole socio-economic system.

For one-third of those working without a contract, this work was of an occasional nature, and a further 19% performed it for family or friends.

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Most of the participants of the grey market (60%) claimed they were satisfied with the working conditions, including salary.

Half of the non-registered employees would not like their employment to be legalized at the expense of reduced salary. Even those who would agree to a reduction in pay stated they would not sacrifice more than 10% to have their employment registered.

Among the main reasons for not signing employment contracts, respondents most frequently named reluctance of the employer (40% of all responses, and 50% among the unemployed). The second reason was the fact that this was additional work, of an occasional nature (30% of responses). For 19% of respondents, the lack of contract was because they performed the work for family or friends. Avoidance of taxes was indicated by only 18% of those working without a contract.

Introduction

The issue of the grey area of the Polish economy has been described in several extensive analyses (including Kozłowski, 2004; Mróz, 2004; Ministry of Labour and Social Policy, 2008; Polityka Społeczna 2009; Central Statistical Office, 2011; Tyrowicz, Cichocki, 2011; Pasternak-Malicka, 2013; Schneider, Raczkowski, 2013; Łapiński, Peterlik, Wyżnikiewicz, 2014). Despite that, it is still rather difficult to discuss a clear and lucid image of this sector of the Polish economy. The fundamental problem is the absence of appropriate data. It results primarily from the very nature of the non-registered activity, which individuals or business entities attempt to conceal due to its illegal nature or the potential negative moral opinion. This translates into difficulties with measurement, so research of the grey area uses different methods, including a whole family of indirect measurements and statistical models that are based on certain theoretical assumptions (see Giza-Poleszczuk, 2009; Schneider, 2012). This is coupled with problems with the definition and determination of boundaries of the examined phenomenon. Under the most general approach, the unofficial economy encompasses all economic activity plus the resulting income that avoids state regulations, taxation, or observation (Schneider et al., 2011). Most frequently, the illegal activity (the black market) is separated from the semi-legal activity (the grey area). This second kind is tied primarily to avoidance of taxes (Raczkowski, 2013). It also includes non-registered work, which is work performed without signing a formal contract or based on an oral agreement.

The purpose of this chapter is to analyse the grey area of the labour market – the sector of non-registered employment – based on the data collected in the course of research conducted under the Study of Human Capital. One of the main purposes of this research was to analyse the occupational situation of Poles in the broad perspective of various types of activity and attitudes tied to work. Under the Population Study and Study of the Students, the respondents were asked whether they performed any work without signing a formal contract within the past 12 months.[84]

The Population Study was carried out in the years 2010-2014 on large, representative samples of the population aged 18–59/64 (n_{2010} = 17 904; n_{2011} = 17 782; n_{2012} = 17 600; n_{2013} = 17 600; n_{2014} = 17 674; $n_{2010\text{-}2014}$ = 88 560). The respondents also gave reasons for not concluding employment contracts. In the 2012-2013 study rounds, some additional questions were asked. These allowed identifying a group of persons working without a contract at the time the study was carried out. Questions were also asked on the opinions regarding working conditions and income. In the 2014 round, the researchers asked whether those working without a contract would be willing to give up part of their earnings in exchange for making their employment legitimate and what percentage would that be. Study of the Students was carried out in 2010 and 2013 on representative samples of students in their last years of full-time studies (n_{2010} = 33 272; n_{2013} = 32 100).

The first part of the chapter outlines the research subject and presents the state of knowledge on the grey area in Poland, taking into account the reasons for and consequences of its existence. The second part

[84] Work partly unregistered (i.e. performed under a written contract, but one for an amount smaller than actually paid) and illegal activity were not taken in consideration.

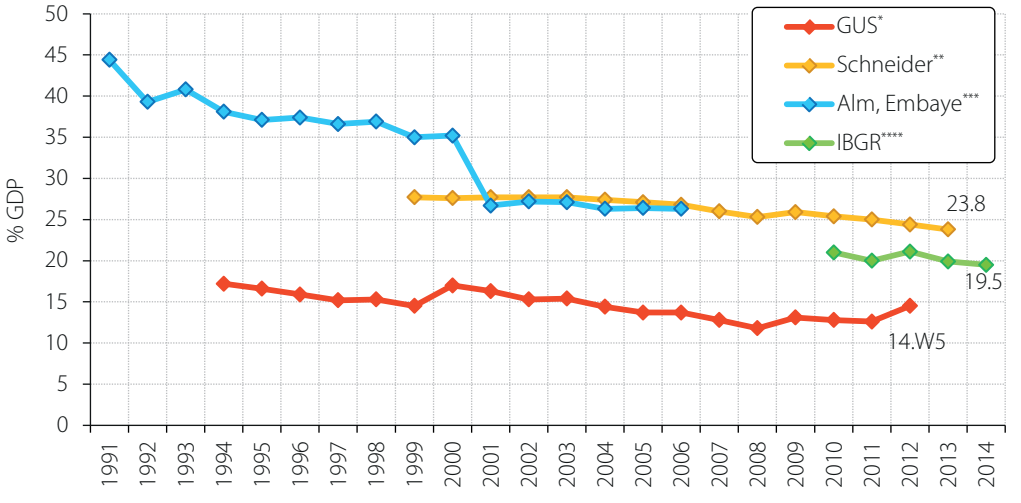
presents results of the BKL Study. They have allowed us to estimate the size of the grey labour market, to see who worked illicitly, where they worked, and for how much, and why they did not want to sign an employment contract. It was also possible to compare the various features of the grey market group with persons from the official labour market, with the unemployed and occupationally inactive. Based on data for the years 2010-2014 it was also possible to check whether the economic slow-down caused a change in the occurrence level of these phenomena in Poland. The chapter closes with a summary and discussion focusing on issues relevant for the policy targeted at reducing the grey market.

1. The grey market – an outline of the problem

The grey market in Poland

According to various sources of data, the grey market in Poland has been systematically reducing its size, although its share in the economy is still larger than in other countries of Western Europe. The estimates differ depending on the concept and methodology for measurement (see Figure VI.1). According to calculations made by F. Schneider et al., the size of the grey market[85] in Poland has been falling slightly but constantly since the end of the 1990s. In 1999, it accounted for 27.7% of the GDP, in 2007 – 26%, and in 2013 – 23.8%. However, it was still one of the highest results in the European Union. For example, in the Czech Republic and in Slovakia, in 2013, the size of the grey sector was estimated at around 15%, in Germany at 13%, and the average for all EU-27 countries amounted to 18.4% (according to: Schneider et al., 2011; Schneider, Raczkowski, 2013).

Figure VI.1. Size of the informal economy in Poland based on various measurement methods (in % of the GDP)



*Source: * Central Statistical Office (2014); **Schneider et al. (2011); Schneider, Raczkowski (2013); ***Alm, Embaye (2013); ****Gdańsk Institute for Market Economics (IBnGR) (Łapiński et al., 2014).*

According to the estimates made by the Central Statistical Office (GUS),[86] in the years 1994-2003, the share of informal economy in the GDP ranged from 15% to 17%, gradually going down to 11.8% in 2008, and then, during the period of economic slow-down, rose to 12.6% in 2011 and to 14.5% of the GDP in 2012. The remuneration paid for unregistered work accounted for, according to the GUS, around one-fourth of the size of the informal economy, i.e. 3.3% of the GDP (based on: Pasternak-Malicka, 2013, p. 33-34; Central Statistical Office, 2014, p. 369). The largest share of the grey economy belonged to

[85] Estimated with the structural models method, of the MIMIC type (*Multiple Indicators Multiple Causes*), taking into account many factors identified on the basis of theory, which influence the development of the grey market and consequences of its presence.

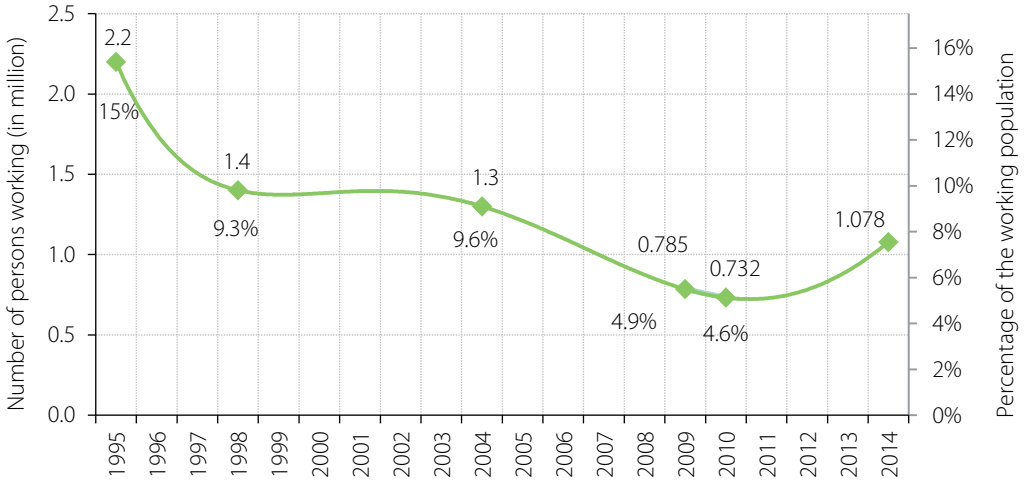
[86] These estimates take into account the understatement of business results by registered entities, as well as unregistered business activity conducted for one's own benefit.

entities operating in the sectors of trade, vehicle repair, accommodation, and gastronomy (a total of 6.2% of the GDP) as well as in the construction sector (2.6% of the GDP).

The estimations of the Gdańsk Institute for Market Economics[87] extend the definition applied by the GUS to include illegal activity. According to these data, in 2010, the grey area added up to 21% of the GDP, in 2012, it was 21.1%, and in 2014, it was 19.5% (Łapiński et al., 2014).

According to another measurement method, based on the currency demand, J. Alm and A. Embaye (2013) have estimated that, in the early 1990s, the grey market in Poland exceeded 40% of the GDP and from there on, it gradually shrunk; in 1999, it accounted for 35% of the GDP and fell to 26-27% in the years 2001-2006.

Figure VI.2. The number of persons in Poland working without employment contract, according to CSO data



Source: Central Statistical Office, 2011; data from 2014: the Rzeczpospolita daily; 2014

As suggested by the data, the number of people working in the grey market is also falling (See Figure VI.2). Since 1995, the Central Statistical Office has been carrying out research on unregistered work as one of the module of the Labour Force Survey (LFS). Its results indicate that, in 1995, as many as 2.2 million people worked without a contract (this accounted for almost 15% of all the working population). In 1998, the number dropped visibly to 1.4 million (9.3%), in 2004 to 1.3 million (9.6%), and in 2009 to 785 thousand (4.9%). Under the last LFS round, carried out in 2010, 732 thousand persons admitted to unregistered work, which is only 4.6% of the total working population (these persons constituted 2.3% of population aged 15+ and 3% of the working-age population[88]) (Central Statistical Office, 2011). Similar results were obtained in the course of study conducted in 2007 under commission from the Ministry of Labour and Social Policy. They indicated that 5.6% of the working-age population performed work without a contract (among the population aged 15+, their share reached 4.8%) (Ministry of Labour and Social Policy, 2008). According to the latest data of the Central Statistical Office, in 2014, the grey market employed 1.078 million persons (according to *Rzeczpospolita* daily, 2014).

In this regard, the situation of Poland does not seem bad at all, and the size of the informal economy does not translate directly into the size of the grey area of the labour market. According to the comparative study of the Eurobarometer of 2013, conducted on the 15+ population, 3% of all Poles declared that they performed some paid activities without a contract during the 12 months preceding the study (EU, 2014). The average for EU-27 reached 4%, and many countries where the informal sector of the economy is smaller have reported much higher results in terms of the percentage of people working

[87] Taking into account the concealed and informal activity (similarly as in the CSO data), and additionally the illegal business (prostitution, drug trade, contraband) and own upward estimates.

[88] The proportion among working-age population was calculated based on the number of working-age persons as of January 1, 2010 (data according to Eurostat).

without a contract, for example, Holland (11%) or Denmark (9%). Similar results were obtained in the research conducted in 2007 (Eurofund, 2008). However, it should be added that, on average, the number of hours worked in the grey area by Poles is more than three times higher than in the case of the Dutch and the Danes. Clarifications of these differences is complicated and covers not only differences in the characteristics of the economy and the labour market, but also in the system of tax and social security, as well as cultural issues (see Eurofund, 2013). It should be kept in mind that, in the case of such a sensitive issue as work in the grey market, the research methodology applied (such as structure of the questionnaire and formulation of questions) significantly influences the results.

Reasons for the growth of the grey area

The numerous studies focus on the primary reason for the presence and factors supporting the growth of the unregistered work sector from the macro perspective, which is a phenomenon being part of the socio-economic system (including Friedman et al., 2000; Eilat, Zinnes, 2002; Renoy et al., 2004; OECD 2004, 2008; Gołębiowski, 2007; Kabaj, 2009; Schneider et al., 2011). A summary of factors discussed in these studies allows the identification of three groups: institutional, economic, and socio-cultural factors (see Table VI.1).

Table VI.1. Factors influencing the size of the grey area

Institutional	Economic	Social and cultural
– level of tax charges, – degree of the complication of the tax system, – enforcement of the law, – amount of social security contributions, – availability of social transfers (e.g. benefits for the registered unemployed, earlier retirement), – range of administrative obligations (e.g. reporting), – institutional instability and large structural changes which destabilise the labour market (e.g. tied to the system transition), – regulations regarding the flexibility of the labour market (e.g. forms of contracts, time of work, flexibility of salary, protection of the employee, procedures tied to lay-offs), – the level of minimum wage.	– level of unemployment, – level and structure of demand for employees, – availability of offers for legal employment, – structure of employee supply (availability of appropriate candidates), – level and incidence scope of poverty, – level of economic growth.	– respect for the law among the society, – tax honesty (or morality), – incidence scope of corruption, – social sense of impunity, – development level of the civic society, – social acceptance for unregistered work, – local culture and tradition (e.g. regarding work without contract, use of social benefits), – availability of information on unregistered goods and services (social networks).

Source: Author, based on relevant literature.

The studies named earlier usually cite institutional reasons that are regulating the functioning of the actors of the economic system. They include tax charges and social security contributions, whose excessively high level can entice workers to escape into the grey area. On the other hand, excessive availability of social transfers (and most importantly, their wrong direction) can discourage workers from seeking legal employment and motivate them to undertaking ad hoc unregistered work as a source of

additional income. Other factors also include the degree of the complication of the tax system, and the range of various administrative duties (e.g. reporting), which generate costs, including the time devoted to them. Another very important issue are the regulations shaping the flexibility of the labour market, contrasted with the protection of employees, and they apply to such areas as the form of employment, the time of work, the flexibility of salary (including the minimum wage) and procedures tied to lay-offs. Institutional stability is also important (linked with the political, economic, and social situation, as well as public policy). Significant structural changes that destabilise the labour market can support the growth of the grey market, which is stressed in the context of the countries undergoing system transition (e.g. Johnson, Kaufman, Shleifer, 1997; Renoy et al., 2004; Tyrowicz, Cichocki, 2011). B. Mróz (2004, 2012) also draws attention to this fact, stating that since the early 1990s, the dominant approach in Poland was a liberal approach to unregistered business activity, supporting the development of this sphere. Its presence was tolerated as the unavoidable cost of the development of capitalism and the violent systemic change (and was supported by the "institutional vacuum" and the ingenuity in getting around official regulations, dating back to the times of the People's Republic of Poland). Moreover, during the times of system transition, there have been other, more urgent problems on which the attention of the authorities focused.

In terms of the economic dimensions, the level of unemployment is frequently listed as the factor tied to the size of the grey market (in such studies as Eilat, Zinnes, 2002; Ministry of Labour and Social Policy 2008; Bajada, Schneider, 2009; Pasternak-Malicka 2013), although some research refute a correlation between these two phenomena (see Kabaj, 2009). Other features of the labour market include the demand for employees (type of demand, sought-after competences and qualifications, as well as the availability of legitimate employment offers) and the supply of employees (availability of appropriate candidates, quality of human capital). Some research links the grey market to the level and reach of poverty and scale income inequalities (Ahmed, Rosser, Rosser, 2007; Dobson, Ramlogan-Dobson, 2012; Kar, Saha, 2012) as well as to the more general condition of economy and the level of economic development (the grey market is smaller in better-developed economies, although there are certain exceptions, see Eilat, Zinnes, 2002; Kabaj, 2009).

The third group includes factors of a social and cultural nature. It includes, among others, respect for the law among the society and tax morality, which is the inclination to honestly pay one's taxes. Studies (mostly those conducted in developing countries) suggest that corruption can support the presence of grey market (see Dreher, Kotsogiannis, McCorriston, 2009; Buehn, Schneider, 2012; Dobson, Ramlogan-Dobson, 2012; Goel, Sanouris, 2014), this can include the sense of impunity in case of breaching the law. The association with the development level of the civic society and overall quality of democracy is also cited (Eilat, Zinnes, 2002). Moreover, various communities, cultures, and traditions can have various levels of approval for unregistered work, different models for employment and use of social benefits (e.g. the inheriting of attitude based on occupational passivity and living from benefits). The level of social trust, and the range and strength of relationships in communities (e.g. ties in a neighbourhood community) also cannot be overlooked. These factors influence both the availability of information on the unregistered goods and services and the attitude towards formal treatment of small services that have the nature of paid work (e.g. a trust-based relationship can tighten the social bonds). In this context, even such factors as social diversity (for example ethnic origin) are taken into consideration, because they can translate into the model of economic relations (see Lassen, 2007).

The issue of the grey market can also be analysed from the micro standpoint – that of its actors. It is necessary to keep in mind that unregistered work is the product of the cooperation of the employer and the employee who choose this kind of relationship for specific reasons. Table VI.2 presents a list of such reasons, developed based on the relevant literature (including Renooy et al., 2004; Schneider et al., 2011; Central Statistical Office, 2011; Pasternak-Malicka, 2013).

Table VI.2. Reasons for not signing official contracts

From the perspective of employee	From the perspective of employer
– desire to avoid paying taxes and other financial liabilities, – fear of losing social benefits after registration of the contract, – need to have a higher income, – no possibility to find legal employment, – inclination to take risk, – low level of human capital or not meeting the competence demands in the local labour market	– unwillingness to observe the limiting regulations of the labour market, – desire to avoid administrative obligations and procedures, – intense competition in the company's business sector, – business sector and the related competence profile of employees, – seasonal nature of increased demand for temporary employees in the enterprise

Source: Author, based on relevant literature.

Analyses that focus on employees ascribe the reasons for not signing official contracts mostly to the desire to avoid taxes and other charges (e.g. social security contributions), and to the fear of losing social benefits (such as unemployment benefits) after the contract is registered. The main motivating factors also include the need to increase one's income (that is, the lack of income, low, unsatisfactory pay, or hardships experienced by the household), especially if finding legitimate employment is not possible. Traits of the employee leading to his low attractiveness in the official labour market also play their roles, and these include the low level of human capital, a mismatch with competence requirements in the local labour market, as well as individual appetite for risk.

It is worth noting that, in the case of numerous issues tied to the grey market, different sources of data and analyses lead to divergent, often conflicting conclusions. The same is true for individual motivations for not signing official contracts. A good example is the study carried out by J. Tyrowicz and S. Cichocki (2010, 2011). They have analysed the level of salaries based on two data sources, in both cases applying the approach known as *propensity score matching,* comparing those working in the grey market with their officially employed "statistical twins." According to the first analysis, based on results of the study carried out by the Ministry of Labour and Social Policy in 2007, the registered employees earned more than the corresponding grey market workers, which, according to the authors, fit the conclusion that claims that one of the main reasons for unregistered work is the limited access to legitimate employment (Cichocki, Tyrowicz, 2010). On the other hand, in the second analysis, based on the Labour Force Survey from the years 1995-2007, the authors have reached a different conclusion (Cichocki, Tyrowicz, 2011). According to these calculations, those working without an official contract could hope to receive a clearly higher income, which suggests that one of the main reasons discouraging them from legal employment was the desire to avoid taxes (and the resulting increase in earnings). Unfortunately, Tyrowicz and Cichocki do not explain these differences. It can be assumed that their source lies in the different methodology and nature of sample on which they were based. However, this confirms the conclusions suggesting that, when researching the grey market, we analyse a group that is very varied and hard to capture and that we still know very little about it.

The second group of reasons for not signing the contract refers to the employers' perspective. It includes, among others, the reluctance to observe labour market regulations that limit the opportunity to act (including regulations on minimum wage, working hours, employee rights, holidays and maternity leave, paying for overtime, adhering to safety standards) as well as the desire to avoid administrative obligations and procedures (including reporting procedures). The business environment and sector in which a company operates also influences the decision on not registering employment. Most importantly, high competition may lead to the need to reduce production costs. Moreover, in sectors with seasonal demand for temporary workers, the costs and limitations tied to regulation of short-term

employment can have a discouraging effect. The business profile can also determine a specific profile of employees (e.g. worse educated ones) who are more willing to accept work without a contract.

Consequences of the presence of grey market

The breakdowns presented above certainly do not contain an exhaustive set of factors supporting the growth of the grey market or the reasons for avoiding legalisation of employment. They do show, however, that this is a complex issue. The case is similar with respect to the consequences of this phenomenon. The literature on the subject indicates both negative and positive consequences of the grey market for the state, the economy, the enterprises, and the employees (see Eilat, Zinnes, 2002; Gołębiowski, 2007; Kabaj, 2009; Central Statistical Office, 2011; Raczkowski, 2013).

Negative aspects are usually cited from the perspective of the state and the economy as a whole. Most importantly, the grey market reduces the inflow of taxes and various premiums, while the concealment of income increases the costs of the undeserved social benefits. As a result, this could lead to lower economic growth. State institutions also lose control over the unregistered business, which hinders administration of this area, as well as the implementation of effective labour market policy. When illicit activities are widespread, this can have a negative influence on law and order, observance of standards and on civic attitudes. The lack of registration of business activity creates unfair competition among companies. The illegal or semi-legal solutions are usually chosen because they are cheaper or easier than the official ones, which influence the prices of products and services. Honest enterprises may not be able to cope with such competition.

Doubtlessly, the existence of the grey market also has some positive consequences for the system. First of all, this sector extends the labour market and increases the actual level of employment. It generates jobs that might not have been created at all in the official economy; although, frequently the low productivity is their distinguishing feature (Ministry of Labour and Social Policy, 2008).

The unregistered work also leads to the flow of money among households of different financial standing and increases consumer demand. As suggested by research, at least two-thirds of income obtained through unregistered work is spent in the official economy (Kabaj, 2009). It should also be kept in mind that the functioning of the grey market results, to a certain extent, from the dysfunctions of the official employment system. Ineffective bureaucracy, administrative obstacles, unfavourable law, and the insufficient flexibility of regulations all can effectively thwart various types of activity in the official economy and hinder enterprises development. From this perspective, it could be said that the grey market helps the wheels of economy to turn (according to Łapiński et al., 2014, p. 14).

From the employee perspective, the consequences of work without a contract are also twofold. On one hand, they are not protected by labour law, which gives their employer significant space for abuse. By not paying social security contributions, unregistered employees have no security for the future, while the lack of health insurance premiums means their possibility to use the public health services is limited. The informal employment cannot be included in seniority, nor can it be an advantage when seeking legal employment.

On the other hand, the grey market offers opportunities for those who are unable to or do not want to work under formal contracts. It guarantees a certain, at least minimum, income and can also prevent the social exclusion of certain groups. The experience gained in the course of this work can improve the human capital of the employee, and, in consequence, increase their chances for legitimate employment. C. Bajada and F. Schneider (2009), who researched the relationship between the grey market and unemployment, pointed out the substitution effect. The unregistered work offers short-term financial support for the temporarily unemployed who are striving to find official employment (however, this group is only a part of the grey market, growing due to short-term shifts in unemployment levels). Seen from this perspective, the grey market can act as a buffer mitigating the consequences of the loss of employment, allowing one to "ride out" the period of unemployment.

Assessment of the consequences of the lack of a contract, experienced by both parties of the employment relationship, depends largely on the frequency and scope of work performed. From the systemic standpoint, the most important is the scale of the phenomenon. It could be assumed that the more frequently workers and employers enter the informal relationship, and the more important it is for the economic functioning of both parties, the larger is the risk of pathologies, abuse, and other negative consequences for individuals and enterprises alike, including the larger budgetary, economic and social costs of the grey market. Results of research carried out by the Central Statistical Office suggest that short-term, ad-hoc work constitutes a large share of the Polish grey market. According to this research, in 2010, the unregistered work constituted primary employment for 54% of all grey market workers (395 thousand people), while, for the remaining 46% (337 thousand), its nature was occasional. Significantly, 34% of respondents have worked not more than 10 days throughout the whole 2010 in the grey market, while only 24% worked illegally for more than 60 days. The nature of this work was mainly seasonal, usually in the summer, when the demand for gardening, agriculture, and construction workers increases. Moreover, two-thirds of employers offering unregistered work were individuals or households, only 28% of them were enterprises (Central Statistical Office, 2011).

In the case of the one-off, small jobs performed over a short period of time, the absence of registration can facilitate both requesting the work to be done and its performance. Financial matters aside, this solution primarily means saving time that would have to be dedicated to legalise such relationship (which is particularly burdensome if both parties have no experience in this matter). Relations of this kind can seem more like favours done by colleagues or neighbours; since they occur more in the sphere of personal contacts than of formal ones, they are based on trust or recommendation, and the signing of contracts or the issuing of invoices could be seen as an insult (Giza-Poleszczuk, 2009).

Moreover, in the case of one-off work, the risk of negative consequences (e.g. lack of employee privileges and legal protection) is smaller. The economic and social costs are also relatively low (from the individual perspective), and certain consequences can actually be favourable for the individuals and the economy (at least in the short-term perspective). The situation is drastically different in the case of recurrent, long-term employment relations, where mostly the costs, problems, and dysfunctions should be discussed.

2. Unregistered work in light of the Study of Human Capital

Description of categories applied in the analyses of unregistered work in the BKL Study

Before the presentation of results, the categories of respondents used in empirical analyses presented in further sections of this chapter should be explained. The main objects of interest are persons performing unregistered work. Under the BKL Study carried out in the years 2010-2014, the respondents were asked whether they performed any work without signing a formal contract within the past 12 months. The persons who responded "yes" form the category "Work without contract during last 12 months." For the 2013-2014 rounds of the BKL Study, a question was added whether the respondents still worked during the time of the study (category "Currently working without contract").

Two general categories of the working population were also identified, covering the registered employees. The first one - "Employed" – includes persons who were employed and worked at the time of the study. It corresponds to a similar category applied in the classification of occupational activity under the Labour Force Survey, although its boundaries cannot be determined as precisely as done under the research carried out by the Central Statistical Office. In the BKL Study, this group includes persons who replied "yes" to at least one in four questions. These questions applied to work under employment contract during the past 3 months, currently running a business activity or a farm, and a general question on current full-time or part-time employment.

The second category of working persons, identified for the purpose of the analyses, is the "Working (officially)." In this case, respondents who during the past 12 months worked without a contract were

removed from the "Working" group, which left only those persons who did not participate in the grey market.

Two groups of unemployed were identified. The first one was "Unemployed (LFS)" – persons without work, actively seeking employment (have undertaken the relevant activities during the preceding 4 weeks and are ready to start work in the coming week). It corresponds to the classification employed in the Labour Force Study.

The second group are the "Unemployed (registered)" - people registered with the Labour Office as unemployed. Under the 2010-2011 round of the BKL Study, this category did not include all the registered unemployed, only those who declared they were currently looking for work (i.e. those registered unemployed who were not seeking work were omitted). The 2012-2014 Study rounds took into account all registered unemployed (regardless of whether they were looking for work, or not).

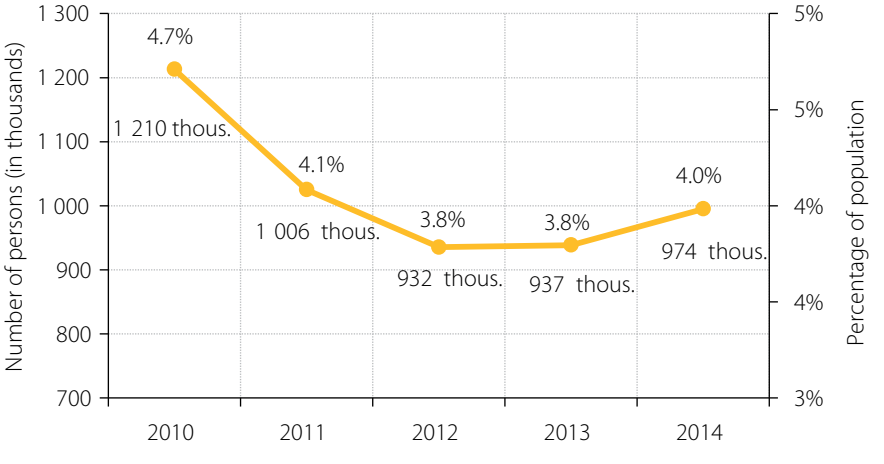
The "Inactive" category, similarly as under the Labour Force Study, includes persons who neither worked nor actively sought employment at the time of the study. Together with the "Working" and "Unemployed (LFS)" categories it adds up to 100%.

To maximise the numbers, most analyses are based on combined data from the 2010-2014 rounds of the BKL study. Sometimes they are narrowed down to the years 2012-2014, 2013-2014 or only to the year 2014, which is based on the questions asked the respondents under the individual study rounds.

Size of the grey area of the labour market

According to data collected under the BKL Study, the number of working-age persons who have worked without a formal contract during the 12 months preceding the research had been falling systematically from 2010 to 2012 – from 1.2 million (which accounted for 4.7% of persons aged 18/59/64) to the level of 932 thousand (3.8%). In 2013, this number remained almost unchanged (937 thousand, or 3.8%). In 2014, a slight increase was seen, to the level of 974 thousand, which amounted to 4% of working-age persons.[89]

Figure VI.3. Estimated number of persons (in thousands) and percentage of working-age persons who have worked without a formal contract during the 12 preceding months



Source: BKL – Population Study 2010–2014.

Under the 2013 and 2014 BKL Study rounds, the researchers also asked whether these respondents still performed unregistered work at the time of the study. About one-third of them admitted to it in 2013, and they accounted for 1.2% of all the respondents (297 thousand), and in 2014, for 1.7% (420 thousand).

[89] Similarly as under other studies of the grey market, carried out with the direct measurement method, one can assume that the obtained results are an under-estimation of the phenomenon's scale, because some of the respondents could have not admitted to working without a contract. It should therefore be assumed that the results suggest a minimum scope of the grey market.

More detailed information is shown in Table VI.3, which additionally presents the current occupational status of respondents. The high share of persons working without a contract was seen in the category of the unemployed (both those registered with the Labour Office and those unemployed in economic terms, i.e. not employed currently and actively seeking work). In 2014, it amounted to circa 10%. It was visibly higher only in 2010, with almost 15% of all the unemployed in economic terms. In the category of employed persons, 3% have participated in the grey area during the past 12 months.

Table VI.3. Estimated number of persons (in thousands) and percentage of working-age persons who had worked without a formal contract during the 12 preceding months, broken down according to their occupational situation

		2010	2011	2012	2013	2014	Total 2010–2014
Share (in %)	Employed	3.4	3.1	2.4	2.6	2.9	2.9
	Unemployed (LFS)	14.8	11.6	10.8	9.6	10.5	11.3
	Unemployed (registered)	12.3*	11.3*	10.0	9.0	10.0	10.5
	Inactive	4.5	3.6	3.8	4.0	3.9	4.0
	In the whole population	4.7	4.1	3.8	3.8	4.0	4.1
	N total	17900	17779	17599	17600	17674	88552
Estimated number (in thousands)	Employed	530	465	356	387	436	
	Unemployed (LFS)	313	268	310	280	281	
	Unemployed (registered)	182*	195*	250	236	253	
	Inactive	367	274	267	269	258	
	In the whole population	1 210	1 006	932	937	974	

Notes:

* *In the 2010-2011 study rounds, only the category of persons registered as unemployed who declared they are currently seeking work was singled out. The 2012-2014 Study rounds took into account all registered unemployed (regardless of whether they were looking for work, or not). Therefore, the size of population for the years 2010-2011 is underestimated.*

Source: BKL – Population Study 2010–2014.

Occupational and educational activity of the grey market participants

Table VI.4 presents selected features of the occupational activity of the grey market participants in comparison with persons working only in the official labour market and persons unemployed in economic terms. As mentioned earlier, among those who performed unregistered work during the preceding 12 months, only one-third remained in this relationship, and the analysis includes both these groups.

To begin with, a more general image of the occupational situation of the grey market participants can be drawn. The self-defined categories of the current occupational situation require clarification. This was a multiple-choice question, not imposing definitions on the respondents (e.g. the common understanding of unemployment usually differs slightly from the definition of economic or registered unemployment). Therefore, the "unemployed" and "employed" categories do not match fully the analytical classification.

It is worth noticing fact that, among persons currently working without a contract, those registered with the Labour Office as unemployed accounted for 22% (it should be noted that, among the economic unemployed, this was only 66%). However, only 2% were collecting unemployment benefits (among the economic unemployed – 10%). On the other hand, 16% of the current grey market participants can be classified as unemployed according to the LFS criteria - actively seeking work. In their case, the unregistered work can act as a substitute, as described by Bajada and Schneider (2009), because the goal of these persons is to find legitimate employment, and the work without a contract servers as temporary support. On the other hand, 21% of persons working without a contract at the time the study was carried out are inactive, according to the LFS classification, i.e. persons not actively looking for work.

Table VI.4. Selected information on the occupational activity of persons who have worked without a contract during the preceding 12 months and persons continuing such work in comparison with persons working in the official labour market and unemployed in economic terms (in %, percentages calculated column-wise)

		Working without contract		Employed (officially)	Unemployed (LFS)
		during past 12 months (2010–2014)	currently (2013–2014)	(2010–2014)	(2010–2014)
LFS	Employed	43	63	100	-
	Unemployed (LFS)	29	16	-	100
	Inactive	28	21	-	-
Unemployment	Unemployed (registered)*	26*	22	-	66*
	Receives unemployment benefit*	2*	2	-	10*
Self-definition of occupational situation[1]	Employed (1,2)	43	63	99	-
	(1) Works full-time	30	38	93	-
	(2) Works part-time	14	26	6	-
	Unemployed	33	22	0	85[3]
	Homemaker	4	3	2	9
	Retired	1*	1	1*	1*
	Collects disability benefit	3*	4	0*	2*
Current registered work	Total registered work (1– 3)	21**	17**	93**[4]	-
	(1) Business activity or farming	4	5	19	-
	(2) Employment contract	15	11	75	-
	(3) Contract of mandate / task contract	3**	2**	4**	-
Forms of occupational activity over the past 12 months	Various forms, total (1– 5)	34	31	21	24
	(1) Contract of mandate / task contract	14	14	8	10
	(2) Farming for own use	3	3	7	2
	(3) Unpaid help in family business	11	9	4	7
	(4) Internship, training	12	8	4	10
	(5) Voluntary work	4	3	2	2
Past occupational activity	In the past worked under employment contract[5]	51	53	44	67
	In the past conducted business activity[6]	8	9	7	9
Formal education	Participated in the last 12 months	22*	14	8*	14*
	Participates currently	18	12	4	8
Informal and non-formal education (last 12 months)[2]	Participated in non-obligatory courses or training	12	12	18	11
	Engaged in self-education	18	19	16	14
N total (average values for variables)		3607	513	52114	9207

Notes:

* *Data for 2012-2014, with the exception of persons currently working without contract. Numbers of respondents: N – working without contract (in the past 12 months) = 2037; N working (officially) = 31393; N unemployed (LFS) – 6076.*

** *Data for 2013-2014. Numbers of respondents: N – working without contract (in the past 12 months) = 1371; N employed (officially) = 21119; N unemployed (LFS) – 4014.*

[1] *Data does not add up to 100% (multiple-choice question). Only selected characteristics are presented.*

[2] *Persons aged 25-59/64 are taken in consideration.*

[3] *The value is lower than 100%, because it is based on declarations; part of the economic unemployed did not identify themselves as unemployed (although they actively seek employment).*

[4] *The value is lower than 100%, partly because some of the working persons did not define the form of their work precisely (e.g. lack of data, illogical responses), and no question on self-employment was asked (part of the respondents could have not recognized this form as own business activity).*

[5] *Persons who currently work full-time were asked about work for another employer.*

[6] *Persons who are currently running their own business were asked about doing business in another sector.*

Source: BKL – Population Study 2010–2014.

Among those working without a contract, 63% defined their situation as "employed." The question did not precisely ask about type of employment; it only specified the dimension of work. 38% of respondents cited full-time work, and 26% of respondents cited part-time work. More detailed information was obtained through questions on specific forms of employment. A relatively small percentage of those working without a contract (only 17%) were simultaneously hired under a legal contract. This proportion consisted of 11% of people hired under employment contract, 5% running their own business or farming, and 2% working under civil law contracts.

Other forms of occupational activity in which the respondents engaged over the past 12 months also deserve a mention. These included civil law contracts (around 14% of current participants of the grey market), unpaid help in family business or farm (9%), training or internship (8%), voluntary work (3%), and farming for oneself. During that period, a total of one-third of the unregistered workers participated in such activities. It should be noted that this proportion was visibly higher than of those working in the official market (21%) and the unemployed (24%). This means that, in the situation of the absence of opportunities for permanent, registered employment, participants of the grey market more frequently engage in various temporary occupational activities. Moreover, over half of the unregistered employees have worked based on an official employment contract in the past, and one in ten had their own businesses.

The last item in able 6.4 presents the rates of participation in formal education and other forms of lifelong learning. In this group, 14% of respondents continued education at schools or higher education institutions during the past year, and 12% at the time of the study (this was more than in the population working in the official labour market, where the corresponding values amounted to 8% and 4%).

With respect to participation in non-formal and informal training, the analysed group was limited to the age group 25-59/64. The level of participation in non-obligatory courses and training (other than health & safety and fire safety training) during the past 12 months was slightly lower among persons working without a contract (12%) than among those in the official labour market (18%), but it was slightly higher than in the case of the unemployed (11%). It should be kept in mind that training is financed mainly by employers (see Szczucka, Turek, Worek, 2014), and investing in the development of non-registered employees can be inconvenient from the formal standpoint. It may also not be worth the trouble for the employer, since he is uncertain whether the employee would remain with the company. On the other hand, it is interesting to note that 19% of the grey workers were engaged in self-education, using books, professional magazines, and the Internet, with the help of family members or friends, and this proportion was slightly higher than in the case of the working ones (16%) and the unemployed (14%).

Characteristics of the players of the grey labour market

Table VI.5 presents the basic characteristics of grey market participants. In light of results obtained through other research (such as the Central Statistical Office, 2011), it is not surprising that men are the vast majority (70%). The age distribution also confirms that unregistered work applies to all generations, although the share of persons aged 18 to 24 is larger than in the official labour market.

Similarly, unregistered work applies to all education categories, but its structure differs significantly from the structure of employees in the official labour market. As shown by analyses from various countries, including Poland, the grey area primarily provides work for persons with low education levels (OECD, 2008; Central Statistical Office, 2011; EU, 2014).

This is confirmed by the BKL Study. In the grey area, the share of persons with basic vocational or even lower education is definitely larger (almost 60% versus 45% among those working officially), while the percentage of people with tertiary education diplomas is markedly smaller (around 10% versus 25%).

On the other hand, in the case of place of residence, there are no significant differences between the legal and semi-legal labour market, since residents of rural areas account for one-third of employees in both cases.

The grey side of the labour market

Table VI.5. Selected features of persons who, during the past 12 months, have worked without a contract and persons who still perform such work, in comparison to persons working in the official labour market and persons unemployed in economic terms (in %)

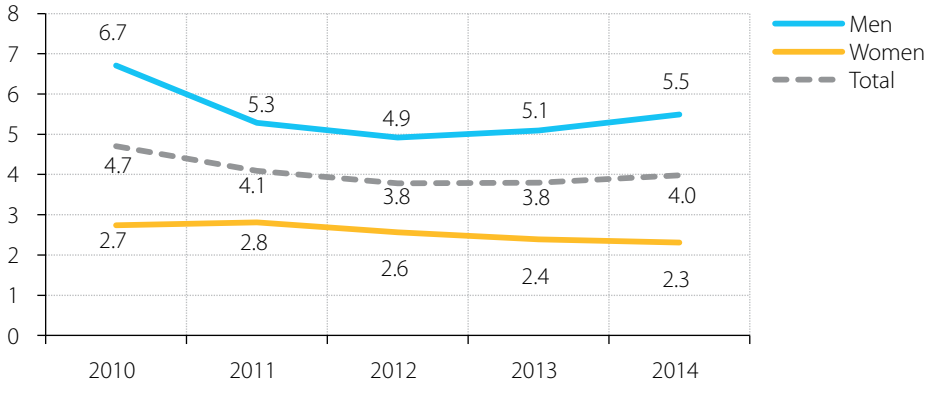
		Working without contract		Employed (officially)	Unemployed (LFS)
		during past 12 months (2010–2014)	currently (2013–2014)	(2010–2014)	(2010–2014)
Gender	Share of men	70	71	53	52
Age	18-24	31	23	7	24
	25-34	26	30	28	28
	35-49	25	27	40	27
	50-59/64	18	20	24	21
Education	Lower secondary and lower	30	27	8	20
	Basic vocational	28	32	28	34
	Upper secondary	33	29	39	35
	Tertiary	10	12	25	11
Place of residence	Country	37	36	37	41
	up to 49 thousand	22	23	24	26
	50-199 thousand	18	18	16	17
	200+ thousand	24	23	23	16
N total (average values for variables)		3607	513	52114	9207

Source: BKL – Population Study 2010–2014.

It should be kept in mind that a distribution of this kind presents only a structure of the group covered by research, which is also influenced by population structure. In order to compare the occurrence frequency of unregistered work in various communities, ratios for each of them should be checked.

Figure VI.4 shows that participation of women in the grey market was not only lower than that of men, but it also declined systematically –from the level of 27.-28% in the years 2010-2011 to 2.3% in 2014. In the case of men, after a three-year downward trend from 2010 to 2012, it rose again to the level of 5.5% in 2014.

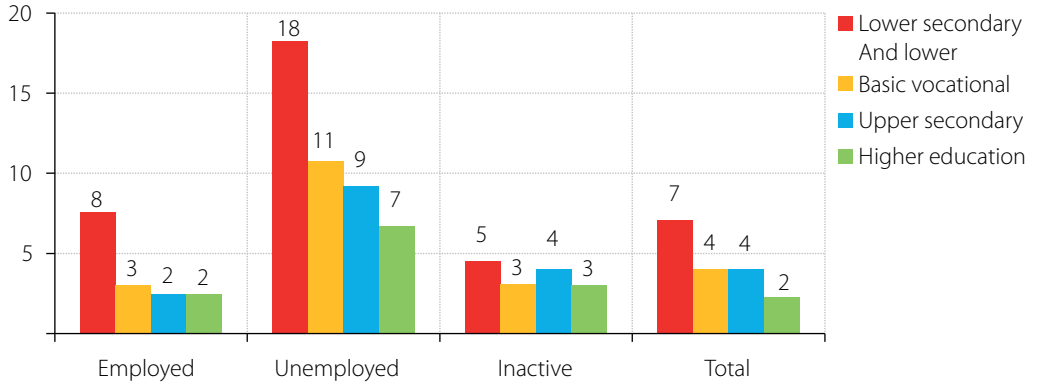
Figure VI.4. The number of persons who had worked without a formal contract during the 12 preceding months (in %)



Source: BKL – Population Study 2010–2014.

The popularity of unregistered employment declines with the rise of the level of education (see Figure VI.5). A particularly high percentage of persons active in the grey market over the preceding 12 months were seen among those with lower secondary or lower education. It amounted to 7%, while, among the currently unemployed in economic terms, it was as high as 18%. On the other hand, among those with higher education, only 2% worked without a contract.

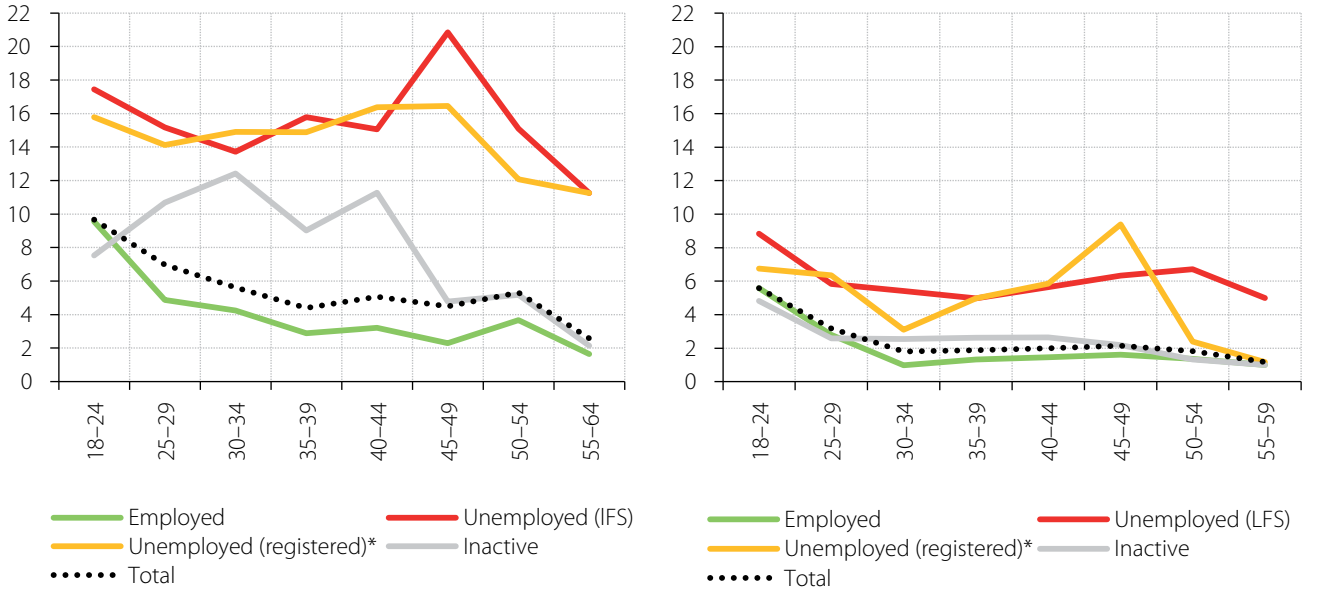
Figure VI.5. Percentage of persons who worked without a formal contract during the 12 preceding months, broken down according to their occupational situation and education level (combined data for the years 2010-2014) (in %)



Source: BKL – Population Study 2010–2014.

On the general level, participation in grey market activity was the highest among persons aged 18-30, and dropped slightly in the subsequent age groups (see Figures VI.6 and VI.7). However, when the current occupational situation of respondents is factored in, these tendencies appear slightly differently. Among the unemployed – both men and women – involvement in work without a contract rose clearly among people in their forties. High ratios were also seen among occupationally inactive men aged 25-44.

Figures VI.6 and **VI.7.** The percentage of men (figure on the left) and women (on the right) who worked without a formal contract during the 12 preceding months, broken down according to their occupational situation and education level (data for the years 2010-2014) (in %)



Notes:

** Combined data for the years 2012-2014*

Source: BKL – Population Study 2010–2014.

The grey side of the labour market

Unregistered work among seekers of their first job and students

The analyses presented above corroborate conclusions that can be found in the relevant literature: Unregistered work is particularly popular among younger people, who are still studying or are at the start of their career (see Ministry of Labour and Social Policy, 2008; Walewski, 2009; Central Statistical Office, 2011).

Interesting results in that respect are found in the Population Study of the BKL, covering persons who are looking for their first job and data from the Study of the Students.

Table VI.6. Occupational experience of unemployed seeking their first job, data for the years 2010–2014 (in %)

		2010	2011	2012	2013	2014	Total
Unemployed seeking their first-ever job*		19	22	20	21	19	20
N total		1467	1655	2061	2085	1929	9197
Occupational experience of seekers of first job**	No experience	45	52	59	66	69	58
	Internship, training	27	30	22	12	12	21
	Unpaid help in family business / farm (last 12 months)	15	10	10	11	10	11
	Work without formal contract (last 12 months)	16	10	10	8	8	10
	Contract of mandate / task contract (last 12 months)	6	8	8	5	5	6
	Employment contract (in the past)	4	2	2	3	4	3
	Work abroad	2	2	1	1	2	2
	N total	275	368	416	433	374	1866

Comments:

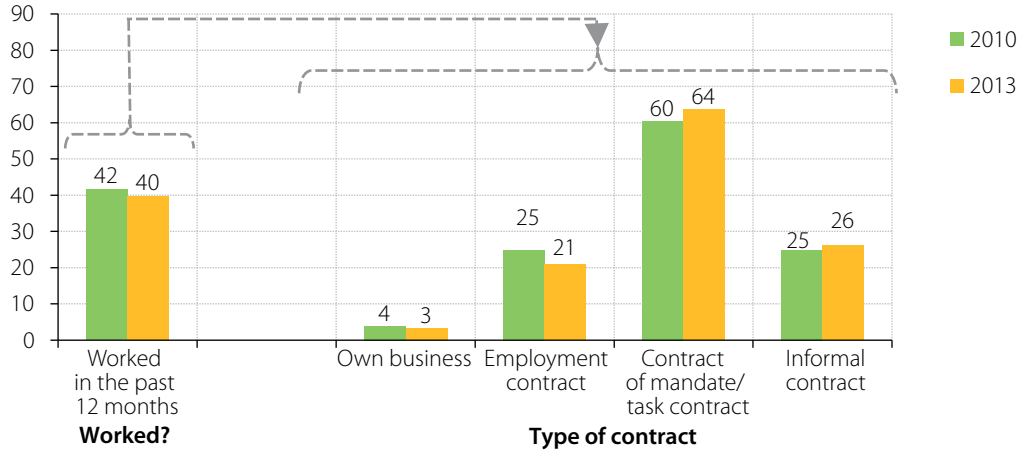
** Element of question on the main reasons for seeking work.*
*** Multiple choice question, the categories do not add up to 100%.*

Source: BKL – Population Study 2010–2014.

Under all the rounds of the BKL Study, some 20% of the unemployed persons stated that they were looking for their first-ever job (see Table VI.6). However, some of them did have some occupational experience. These included primarily training and internships, and slightly more rarely help in running a family business or farm, unregistered work and work under contract of mandate or task contract. The percentage of persons who have worked before without a contract fell in the subsequent years – from 16% in 2010 to 8% in 2014. During the same period, the share of persons seeking their first job without prior experience rose visibly (from 45% to 69%).

As the results of BKL study conducted in 2010 and 2013 among students of last years of a full-time university program, the informal contracts were very popular in this group (see Figure VI.8). In both rounds, around 40% of students admitted they have worked during the past 12 months. Of that number, as much as one fourth worked without contract, which makes this kind of work even slightly more popular than employment contracts. Usually however, students worked under civil law contracts.

Figure VI.8. The percentage of students in the last years of full-time studies who worked during the 12 preceding months, broken down per contract type (in %)



Comments: Values for the categories of contract type do not add up to 100%, because respondents could name more than one work performed. n2010 = 33 272, n2013 = 32 100

Source: BKL – Study of the Students 2010, 2013.

It is difficult to make an unambiguous evaluation of these results, because it depends on the extent to which the form of employment reflects preferences of the students, regarding flexible forms, and to what extent it is a necessity, resulting from limited capacity to find more stable employment. On one hand, both the contracts of mandate or task contracts and the absence of contract ensure flexibility. They also offer higher income than in the case of employment contracts. On the other hand, this takes place at the expense of the stability of employment and development opportunities. Assuming that the employers impose this form of employment, wanting to retain flexibility and lower costs of work, this would confirm the frequent accusation that companies try to save money when hiring students. This can also suggests barriers to the start of actual careers.

Structure of occupations in the shadow economy

According to results of research carried out by the Central Statistical Office, shadow economy employees usually perform gardening and agricultural works (21%), renovations and repairs of structures and installations (17%), as well as construction and installation services (14%) (Central Statistical Office, 2011).

The BKL Study looks at occupations from a different perspective. It uses the International Standard Classification of Occupations – ISCO-8 – with four levels of accuracy.

Table VI.7 presents the percentage of people working without contracts in the nine main occupational groups of ISCO. The highest level of grey market participation in seen in the elementary labourer occupations (12%), next is among craft labourers (6%), then in services and agriculture (4% in each of these categories).

Table VI.7. The percentage of persons who worked without a formal contract during the 12 preceding months, broken down per occupational situation and occupation (combined data for the years 2010-2014) (in %)

		** Occupation									
		1 mana	2 prof	3 asso	4 cler	5 serv	6 agri	7 craf	8 oper	9 elem	Total
Employed		1	2	2	1	3	2	4	2	8	3
Unemployed (economic)		17	8	10	5	9	22	14	7	24	11
Unemployed (registered)*		8	6	8	2	10	21	11	6	21	10
Inactive		0	4	4	2	6	10	4	2	12	4
total	%	2	2	3	2	4	4	6	2	12	4
	N	2097	9131	8112	6252	14063	5234	14861	7699	9276	86093

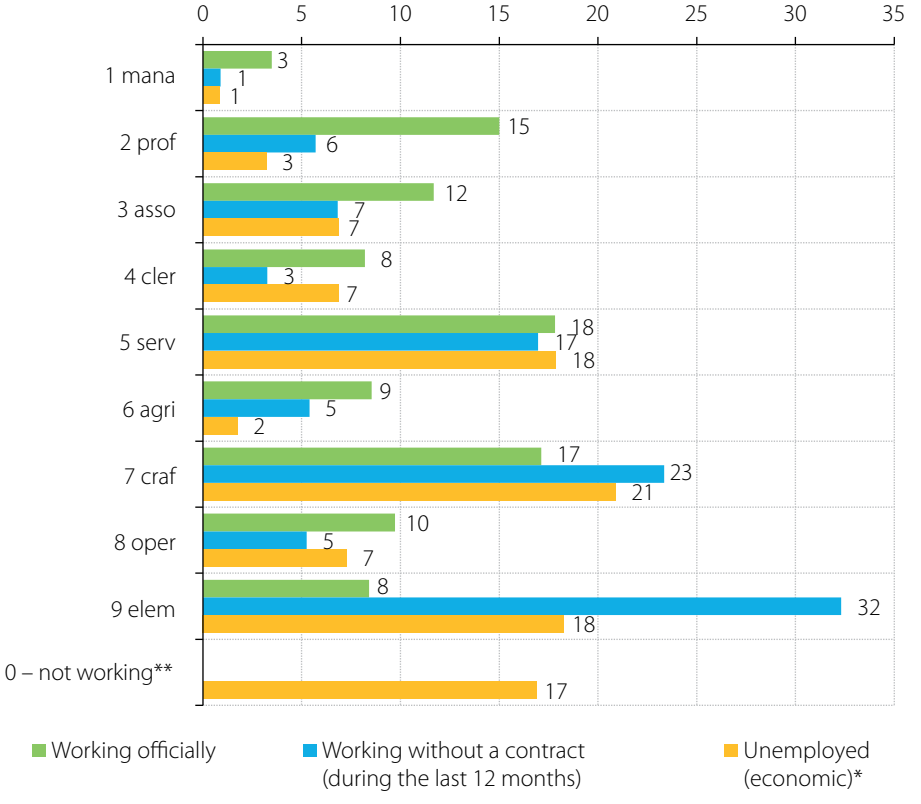
Notes:
* *Combined data for the years 2012-2014*
** *In the case of employed persons, the occupation refers to the work they currently perform. In the case of the unemployed and inactive the occupation refers to their previous work.*

Source: BKL – Population Study 2010–2014.

The grey side of the labour market

Similar conclusions can be drawn from analysis of the results of Figure VI.9, which presents the comparison of persons working in the official and the unregistered labour markets at the highest level of the ISCO classification. In the grey area, the share of unskilled employees is visibly higher (32% compared to 8% among those officially employed), and for craft labourers it is slightly higher (23% and 17%, respectively). These two occupational groups account for more than half of all players of the shadow economy. Managers, professionals, or representatives of clerical occupations are more difficult to encounter in the grey market than in the official labour market.

Figure VI.9. Occupational structure of persons currently employed (regardless of form of contract) and the unemployed (previous occupation); and occupational structure of persons who worked without a formal contract during the 12 preceding months (combined data for the years 2010-2014) (in % of a given group)



Notes:
Occupation: (top to bottom) 1 mana – public officials, senior officials and executives; 2 prof – professionals; 3 asso – technicians and other middle-level personnel; 4 cler – office workers; 5 serv - service and sales workers; 6 agri – agricultural workers, 7 craf – skilled workers in industry and craftsmen; 8 oper – plant and machine operators and assemblers; 9 elem – elementary occupations.

** The unemployed were asked about their previous occupation.*
*** Unemployed persons who have not worked before.*

The percentage values for the individual occupations add up to 100% within each of the groups marked with colours.

Source: BKL – Population Study 2010–2014 .

More detailed information in that respect is provided in Table VI.8, which shows the second (two-digit) and third (three-digit) levels of the ISCO classification. It presents only the most popular occupations (the ISCO list for the second level contains over 40 occupations, for the third – over 150). 17% of those working in the shadow economy are auxiliary labourers (mostly in mining and construction), while construction workers account for around 15% of this group. The proportions of shop salespersons, labourers in agriculture, forestry, and fishery, of personal service workers, of skilled agricultural workers, cleaners and helpers or metal, machinery and related trades workers are also high.

Table VI.8. Occupations performed the most frequently by persons who during the past 12 months worked without a formal contract (combined data for years 2010–2014) and among persons currently working without a formal contract (data for 2014) (in %)

Occupations	Working without a contract during the past 12 months (2010-2014)		Currently working without a contract (2014)	
	n	%	n	%
93 Auxiliary labourers (mining / construction / manufacturing / transport)	602	17	88	17
931 Mining and construction labourers	517	15	83	16
932 Manufacturing labourers	43	1	4	1
933 Transport and storage labourers	42	1	2	0
71 Building workers (excluding electricians)	510	14	74	15
711 Building frame and related trades workers	267	8	41	8
712 Building finishers and related trades workers	179	5	28	6
713 Painters, building structure cleaners	64	2	5	1
52 Sales workers	279	8	39	8
522 Shop salespersons	204	6	34	7
92 Agricultural, forestry and fishery labourers	208	6	24	5
51 Personal service workers	207	6	24	5
513 Waiters and bartenders	94	3	9	2
512 Cooks	53	2	10	2
61 Skilled agricultural workers	138	4	26	5
91 Cleaners and helpers – domestic, hotel and office	137	4	23	4
72 Metal, machinery and related trades workers	137	4	26	5
723 Machinery mechanics and repairers	68	2	14	3
83 Drivers and mobile plant operators	113	3	12	2
75 Food processing, woodworking and garment trades workers	105	3	14	3
34 Legal, social, cultural and related associate professionals	90	3	12	2
53 Personal care workers	73	2	4	1
531 Childcare workers and teachers' aides	59	2	4	1
96 Refuse workers and other elementary workers	70	2	3	1
23 Teaching professionals	66	2	25	5
74 Electrical and electronic trades workers	61	2	8	2
N total	3607	100	514	100

Note: Only the most popular groups of occupations were selected.

Source: BKL – Population Study 2010–2014.

Regional differences

Other important dimensions of the analysis are the regional differences among the size of grey area of the labour market (see Table VI.9). Based on the average values for the years 2010-2014, these differences were slight. Only in the Podlaskie administrative region was the proportion of people working without a contract during the 12 months preceding the study visibly higher; it amounted to 8%, while in the remaining regions it ranged from 3% to 5%. This above-average level in this region was due primarily to its high proportion among the unemployed population, where one in five of these persons worked in the shadow economy. Moreover, since 2010, a growth of the grey economy is observed in this region from 7% to 10% in 2014.

Table VI.9. The percentage of persons who during the past 12 months worked without a formal contract, broken down per administrative regions and occupational situation (in %)

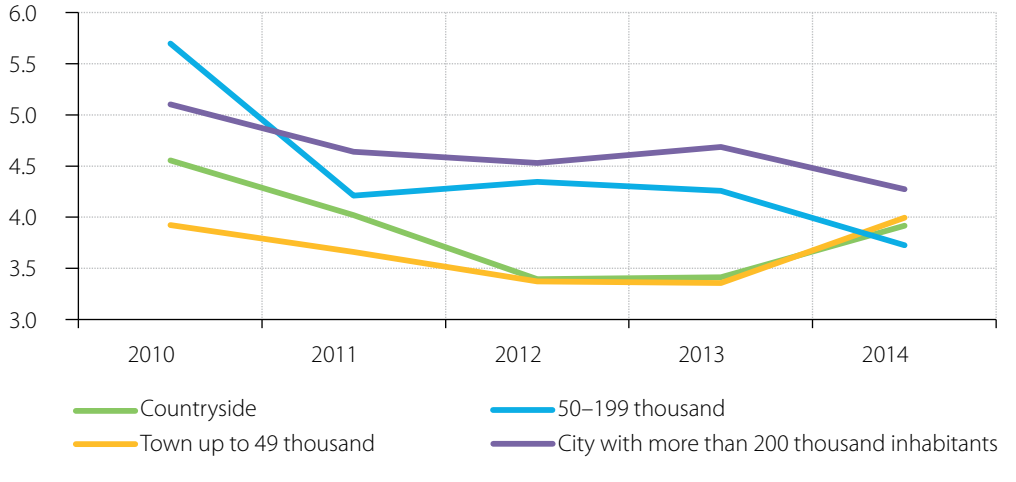
	2010	2011	2012	2013	2014	2010–2014				
						Employed	Unemployed (LFS)	Unemployed (registered)*	Inactive	Total
Dolnośląskie	4	6	4	4	3	3	12	8	4	4
Kuj.-pom.	3	2	2	3	4	3	8	11	2	3
Lubelskie	5	4	4	4	6	3	12	11	5	5
Lubuskie	4	4	4	4	3	2	10	7	4	4
Łódzkie	4	5	5	4	4	3	13	11	5	4
Małopolskie	5	4	5	4	5	4	11	7	5	5
Mazowieckie	5	4	4	4	4	3	13	10	5	4
Opolskie	3	4	2	4	5	2	13	12	4	4
Podkarpackie	6	4	4	3	4	3	9	9	5	4
Podlaskie	7	8	8	7	10	5	23	26	9	8
Pomorskie	5	4	2	3	3	2	13	10	3	3
Śląskie	5	3	5	4	3	3	11	10	4	4
Świętokrzyskie	3	3	3	3	3	2	9	8	2	3
Warm.-maz.	6	3	4	4	4	3	9	9	5	4
Wielkopolskie	4	3	2	3	3	2	9	6	3	3
Zach.pom	4	4	3	3	5	3	9	8	3	4
Total	5	4	4	4	4	3	11	10	4	4
N	17898	17781	17601	17598	17674	53660	9207	5483	25687	88554

Notes:
* *Combined data for the years 2012–2014.*

Source: BKL – Population Study 2010–2014.

In 2014, the differences in grey market participation ratios tied to place of residence decreased markedly (see Figure VI.10). In the previous years, they were slightly higher in large cities and medium-sized towns than in small towns and in rural areas.

Figure VI.10. The percentage of persons who during the past 12 months worked without a formal contract, broken down per place of residence (in %)



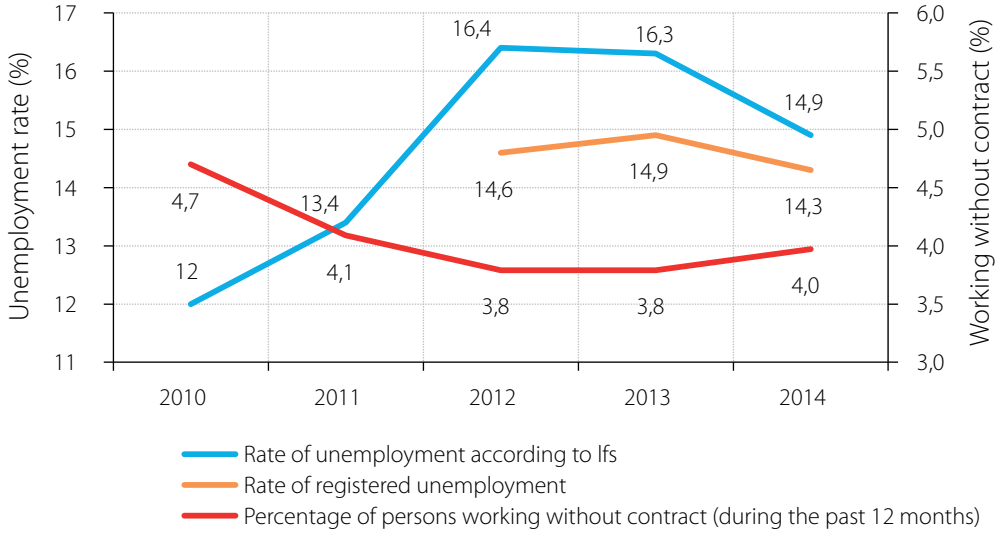
Source: BKL Population Study, 2010–2014.

The shadow economy and the rate of unemployment

The section dedicated to reasons for the presence of the grey market named unemployment as one of primary reasons causing its growth (see Eilat, Zinnes, 2002; Pater, 2007; Dell'Anno, Solomon, 2008; Pasternak-Malicka, 2013; Davidescu, Dobre, 2013). This results primarily from analyses that suggest that the important reasons for not concluding legitimate contracts include, primarily, the inability to find legitimate employment and a reluctance to give up the opportunities tied to the unemployed status (e.g. the unemployment benefit). The influence of the rising numbers of the unemployed on the changeable size of the grey market is also cited, because the unemployed engage in temporary occupations without a contract during their search for lawful employment (Bajada, Schneider, 2009). The more complex nature of this relationship is also mentioned frequently, which is confirmed by some analyses demonstrating the absence of a direct relationship between level of employment and size of the grey market (see Ministry of Labour and Social Policy, 2008; Kabaj, 2009).

The results of the BKL Study in that area match the conclusions that indicate the unclear nature of the relationship between the unemployment rate and the grey market size. It is particularly interesting that, on the most general level, considering average values countrywide, this correlation was negative: When unemployment was on the rise, the number of people working without a contract dropped (see Figure VI.11). However, the average values for the whole country can be too much of a simplification for the local labour markets and using them may not make much sense.

Figure VI.11. Unemployment rate and percentage of people working without contract among the working-age population (in %)



Comments:

Unemployment rate according to LFS – proportion of the number of people not having work, actively seeking it (undertaking any activities in that respect during the past 4 weeks and ready to commence work in the coming week) to the number of persons occupationally active.

The rate of registered unemployment according to the BKL Study is the proportion of the number of people who admitted they have been registered as unemployed with the District Labour Offices at the time of the study to the number of persons occupationally active (being the sum of registered unemployed and employed persons).

Source: BKL Population Study, 2010–2014.

On the more detailed level for the provinces (administrative regions), this relationship was not present (see Table VI.10 and Figure A1 in the Annex). There was no clear correlation neither between the values for the subsequent years within the individual provinces, nor between provinces analysed in the same year (both in terms of the LFS unemployment and in terms of the registered unemployment rate). For example, in the Podlaskie region, which continually shows the highest values of persons working without a contract, the unemployment rate was not the highest at all. On the other hand, in the Świętokrzyskie region, where the grey market is among the smallest ones, the unemployment rate was among the highest in the whole country.

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Table VI.10. Unemployment rate and percentages of persons working without contract among working-age population in the individual provinces (in %)

	Percentage of workers without a contract (in the past 12 months)					Unemployment rate according to LFS					Registered unemployment rate		
	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014	2012	2013	2014
Dolnośląskie	3.9	5.6	3.8	4.3	3.5	13.1	14.3	15.1	18.1	17.1	14.9	15.8	13.9
Kuj.-pom.	3.4	2.1	2.4	3.0	3.9	12.3	12.5	17.2	18.9	19.5	17	17.8	21.6
Lubelskie	4.8	4.4	4.0	4.1	5.5	12.3	13.7	16.7	18.2	18.3	14.2	16.1	19
Lubuskie	3.9	4.0	3.8	3.9	2.9	14	18.2	19.7	18.7	18	18.1	18.4	18
Łódzkie	4.4	5.1	4.6	3.6	3.8	9.4	11.6	16.4	16.3	13.1	14.5	16	11.6
Małopolskie	5.4	4.3	4.5	4.2	4.7	12.4	14.8	17.8	14	13.9	12.9	10	11.5
Mazowieckie	4.9	4.2	4.0	3.7	3.6	10	10.5	14.6	14.7	9.6	13.2	12.3	9.1
Opolskie	2.6	4.4	1.8	3.6	5.4	9.9	9.6	10.6	15.5	14.8	8.9	13.5	15
Podkarpackie	6.1	3.9	4.3	3.4	3.5	18.2	16.2	25.2	23.7	22	23.6	22	22.7
Podlaskie	7.2	8.5	7.9	7.4	10.1	11.7	13.5	19.2	15.5	16.1	16.7	16.1	17.3
Pomorskie	5.2	4.4	2.4	2.6	2.9	11.6	15	12.1	11.9	9.6	11	12.1	11
Śląskie	5.3	3.2	4.6	4.5	3.2	11.9	13.6	15.5	15	13.2	13.5	14.8	12.1
Świętokrzyskie	2.9	3.2	2.8	3.4	2.9	16.7	14.9	18.7	19.2	19.4	17.7	17.9	17.4
Warm.-maz.	6.3	3.5	3.7	4.2	4.2	18.7	15.6	24.3	25.3	21.2	24.1	27	22.6
Wielkopolskie	3.6	2.7	2.3	2.9	3.2	8.1	9.5	10.7	11.5	13.8	8.6	9.2	11.7
Zach.pom	4.4	4.2	3.1	2.8	4.5	13.5	20.4	20.9	16.9	17.2	18.9	17.3	17.5
Total	4.7	4.1	3.8	3.8	4.0	12	13.4	16.4	16.3	14.9	14.6	14.9	14.3

Note: for definitions of unemployment rate, see the previous figure .

Source: BKL Population Study, 2010–2014.

However, one should remain cautious when drawing conclusions on the correlation between these two phenomena based on such simple juxtapositions. First of all, the values of variables refer to a different period. In the case of the shadow economy, the question covered the last 12 months, while the unemployment rate referred to situation at the time of study (as other studies show, a lot depends on whether short-term or long-term consequences of unemployment for the grey market are taken in consideration, see Davidescu, Dobre, 2013). Secondly, this relation may be defined by other factors, and the general-level result could be a function of other mechanisms.

Earnings of persons working without contracts

One of the most interesting issues pertaining to unregistered work are the earnings, because the financial perspective is frequently used to analyse the motives and reasons for undertaking unregistered work. However, obtaining information on that issue is even more difficult than in the case of persons employed under formal contracts, because they are less willing to reveal information on activity inconsistent with the official regulations. In addition, both the number of hours and the regularity of this type of work vary significantly. Frequently, its nature is temporary and it provides just an ad hoc supplement for the home budget (see Central Statistical Office, 2011).

Usually research suggests that the non-registered work pays less than similar work performed under a formal contract (Ministry of Labour and Social Policy, 2008; Central Statistical Office, 2011). According to some estimates, workers in the shadow economy make around 20-25% less than employees of similar features (so-called "statistical twins") in the official labour market. At the same time, their earnings were lower than the average for the other employees, which confirms the theory that the shadow economy is dominated by employees with lower qualifications (the CASE/IPiSS – Institute of Labour and Social Policy - study for the Ministry of Labour and Social Policy on the basis of data for the years 1996-2009;

according to: *Rynek Pracy*, 2010). However, there are no clear conclusions in that respect. This is proven by the contradictory results of two analyses, conducted by Tyrowicz and Cichocki (2010, 2011), mentioned earlier. One of them indicated that earnings in the shadow economy are higher, and the other indicated that they are lower than in the official labour market. As estimated by the Central Statistical Office (2011), the average income obtained through unregistered work in 2010 amounted to slightly over 700.00 PLN. Importantly enough, its share in the household budget was quite significant, amounting, on average, to 63% of the individual's net income, and when the illicit work constituted primary employment, it was almost 84% of their net income.

Under the BKL Study, the questions asked about income did not request a specification of its sources. However, it is possible to compare average net earnings for the past 12 months between persons working without a contract and other participants of the labour market. Respondents were asked about the precise value of their income (in the years 2010-2014, a response was given, on average, by 55% of participants). In the 2013-2014 study rounds, those who did not want to reveal the amount were asked to determine the range of their salaries (in that manner information was collected from another 17% of respondents).

Table VI.11 presents information on average income. It is arranged according to the current occupational situation of respondents (employed, unemployed and inactive) and according to whether they did or did not work without a contract over the past 12 months. It should be kept in mind that this is not a question on earnings obtained through unregistered work, even those persons who did engage in it can also include in their responses the income from other types of work performed throughout the year. However, it is clear that respondents working only in the official labour market were making more (on average, 1985.00 Polish zloty) than did the participants of the shadow economy (1710 PLN).[90] The differences are not so pronounced and unambiguous in the case of the unemployed and inactive persons (and their relatively small numbers should also be kept in mind).[91] The diversity observed among the employed does not mean, however, that the same work performed under a contract would be better paid than it would be without a contract. The interpretation should rather run towards the theory that the grey market is occupied by persons with a lower economic status.

Table VI.11. Average net monthly income (during the past 12 months) among persons who during the past 12 months did not work and worked without a formal contract, broken down according to their current occupational situation (combined data for the years 2010-2014) (in PLN)

	Employed		Unemployed (LFS)		Inactive		Total	
Did he/she work without a contract over past 12 months?	No	Yes	No	Yes	No	Yes	No	Yes
5% trimmed mean	1985	1710	829	806	1019	1000	1717	1365
Median	1800	1500	660	700	900	800	1600	1200
Standard deviation	1655	1391	891	649	931	1132	1570	1291
N	27705	990	4937	364	14191	321	46833	2177
% of persons who gave precise answer regarding income	53%	64%	60%	60%	58%	55%	55%	60%

Note: Persons who declared lack of income were excluded from the analysis

Source: BKL Population Study 2010–2014.

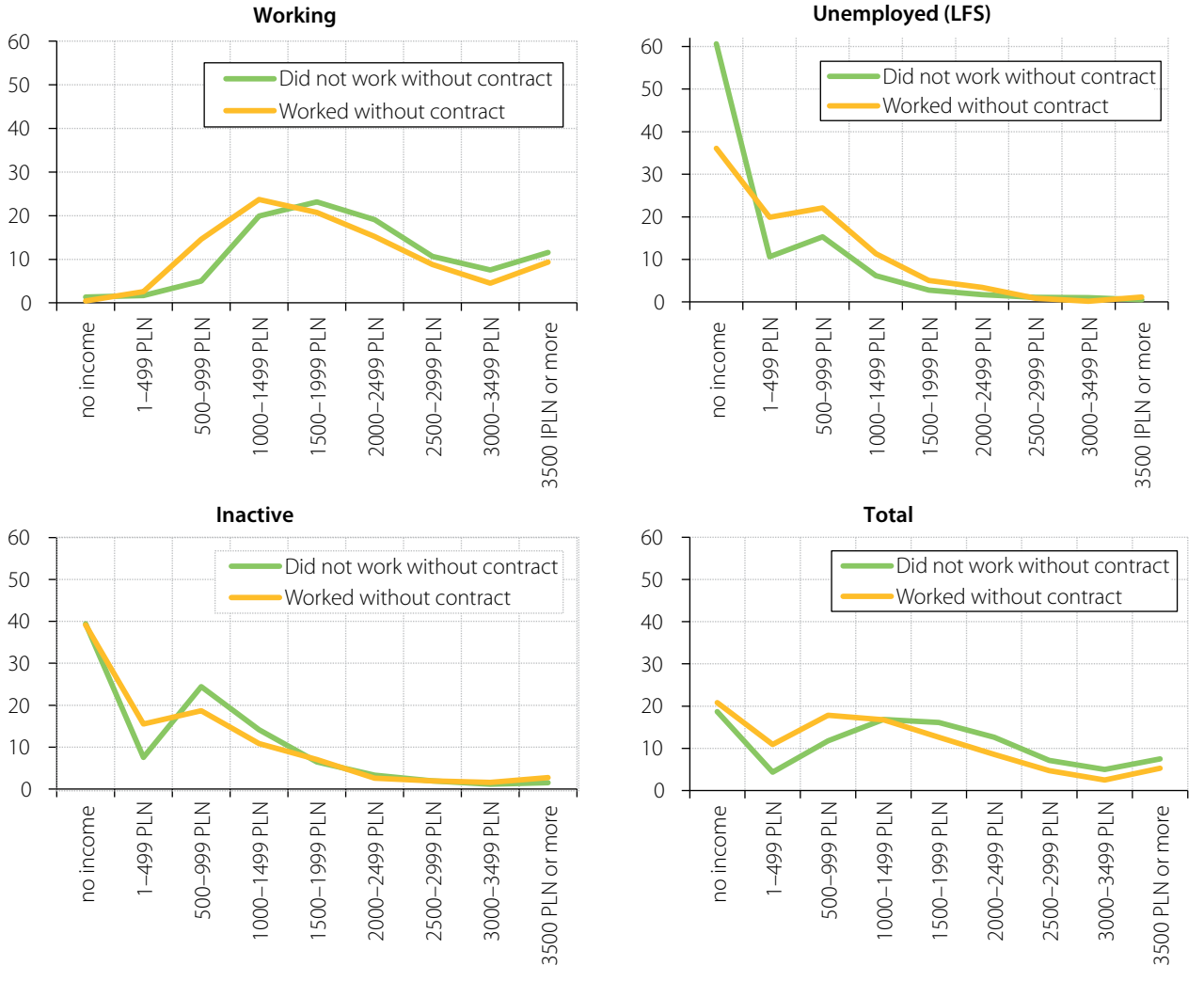
Subsequent analyses take into account responses given to questions on income categories; therefore, they are based on larger numbers of respondents and present the results as a percentage distribution

[90] The difference of the mean values was statistically significant on the level of $p<0.001$ both in the case of the Student's t-test (which can, however, be burdened by the different numbers of respondents in the groups) and the non-parametric Mann-Whitney U test.

[91] In the case of the unemployed, the differences of the mean values were not statistically significant. For the occupationally inactive, the result of the Mann-Whitney U test was significant ($p<0.05$).

(see Figures VI.10–VI.13). The respondents' breakdown was the same as under the previous analysis (compare with Table III.A.1 in the Annex, where overall results are presented).

Figures VI.12, VI.13, VI.14, VI.15. Average monthly net income (over the past 12 months) among persons who, during the past 12 months, did not work or worked without a formal contract, broken down according to their current occupational situation (combined data for the years 2010–2014) (in %)



Notes:
N total employed = 32653 of this N working without a contract = 1089.
N unemployed (LFS) total = 6128 of this N working without a contract = 698.
N total inactive = 16066 of this N working without a contract = 626.
N total = 54847 of this N working without a contract = 2413.

Source: BKL Population Study 2010–2014.

Data presented in Figure VI.12 confirms conclusions drawn based on the comparison of averages; persons currently employed, who over the past 12 months have worked without a contract, earned less during the year than those who worked only in the official market. Among the unemployed and the inactive ones, the differences were small.[92] It is worth noting that over 60% of the unemployed who did not work without a contract declared no work-related income over the past 12 months, while, in the case of unemployed working without a contract, this proportion dropped to only 36%. Therefore, one can assume that these 36% made so little money working without a contract that they either did not consider this income, or have forgotten it.

[92] In the case of registered unemployed, the values are almost identical as for the unemployed (LFS).

Reasons for not signing a formal contract

Earlier in this chapter, musings on the main reasons for engaging in unregistered work were presented. From the employee's perspective, they focused on two reasons: the inability to find formal work and financial hardships and the resulting need to increase one's income (see the IPiSS research in: Ministry of Labour and Social Policy, 2008; research of the Central Statistical Office, 2011; Pasternak-Malicka, 2013).

Results of the BKL Study presented the set of responses slightly differently (see Table VI.12). According to them, the most frequent reason was the reluctance of the other party, the employer, to sign a formal contract (40% of total responses in the years 2010-2014, among the registered unemployed even 51%). The second most frequent response was the extra and temporary nature of the work itself (30% of responses). For 19% of respondents, the lack of a contract resulted from the fact of performing work for family members or friends. A further 18% indicated the high level of taxes, and 10% burdensome formalities (in the case of the latter responses, it is interesting to note a decline in comparison to the years 2010–2011).

Table VI.12. Main reasons for not signing a formal contract, broken down per occupational situation

	2010*	2011	2012	2013	2014	2010–2014				
						Employed	Unemployed (LFS)	Unemployed (registered)**	Inactive	Total
Reluctance of the other party to sign the contract	45	35	41	40	36	42	46	51	30	40
Extra work, temporary work	-	36	36	40	43	25	31	35	37	30
Work for family or friends	22	17	23	17	17	17	18	16	24	19
Taxes and charges too high	20	22	16	16	15	21	14	15	16	18
Burdensome formalities	14	10	7	9	8	11	8	5	10	10
Lack of formal qualifications	9	7	7	8	8	7	8	8	8	8
Being registered with the Labour Office	6	8	3	4	4	4	8	13	4	5
Other reason	9	3	2	1	3	5	3	2	4	4
Being a student	1	1	0	1	1	1	0	0	2	1
Work abroad	1	1	0	0	0	0	1	1	1	0
Fear of losing benefits	1	0	0	1	0	0	0	0	1	0
N total	843	726	666	668	703	1550	1036	531	1021	3607

Notes:
** In 2010, no question on „extra / temporary work" was asked.*
*** Combined data for the years 2012-2014.*
Multiple-choice question, the answers do not add up to 100%.

Source: BKL Population Study 2010–2014.

The differences in responses associated with the social and demographic traits of respondents were not significant. However, in the 18-24 age group, the temporary nature of work was more important than in the case of older persons (see Table VI.13). In the subsequent age groups, the main reason was the employer's reluctance to formalise the employment relationship.

For the unemployed seeking work for longer than 12 months, the family or friendship relationship exerted a slightly stronger influence on the decision on undertaking unregistered activity (see Tables VI.14 and VI.15). It is also worth noting that being registered with the Labour Office gained importance only with those unemployed who have been seeking work for a longer time, or have been registered with the Labour Office for longer.

Table VI.13. Main reasons for not signing a formal contract, according to age categories (combined data for the years 2010–2014) (in %)

	18-24	25-34	35-49	50-59/64	Total
Reluctance of the other party to sign the contract	34	46	42	40	40
Extra work, temporary work	36	25	27	30	30
Work for family or friends	20	14	20	24	19
Taxes and charges too high	14	19	20	19	18
Burdensome formalities	10	11	9	10	10
Lack of formal qualifications	10	7	7	6	8
Being registered with the Labour Office	4	5	7	5	5
Other reason	7	6	5	5	6
N	1124	923	910	648	3605

Note: Multiple-choice question, the answers do not add up to 100%.

Source: BKL Population Study 2010–2014.

Table VI.14. Main reasons for not signing a formal contract among the unemployed (according to LFS), according to the period of search for work (combined data for the years 2010-2014) (in %)

	How long were they looking for work (in months)?					Total
	0-3	4-6	7-12	13-24	25+	
Reluctance of the other party to sign the contract	42	47	44	49	48	46
Extra work, temporary work	32	27	30	28	33	31
Work for family or friends	14	15	16	23	20	18
Taxes and charges too high	15	18	13	14	14	14
Lack of formal qualifications	6	8	8	11	8	8
Burdensome formalities	12	8	4	7	8	8
Being registered with the Labour Office	3	1	10	10	10	8
Other reason	5	4	4	4	3	4
N	168	152	191	168	356	1034

Note: Multiple-choice question, the answers do not add up to 100%

Source: BKL Population Study 2010–2014.

Table VI.15. Main reasons for not signing a formal contract among the registered unemployed, according to the period of being registered with the Labour Office (combined data for the years 2012–2014) (in %)

Registered unemployed	How long was the person registered as unemployed (in months)?					Total
	0-3	4-6	7-12	13-24	25+	
Reluctance of the other party to sign a contract	60	51	49	51	49	51
Extra / temporary work	32	29	33	32	42	35
Work for family / friends	4	12	23	13	20	16
Taxes and charges too high	7	15	14	16	18	15
Being registered with the Labour Office	2	8	12	21	18	13
Lack of formal qualifications	6	4	9	9	9	8
Burdensome formalities	3	5	7	6	4	5
Other reasons	2	3	2	9	5	4
N	86	79	114	91	161	531

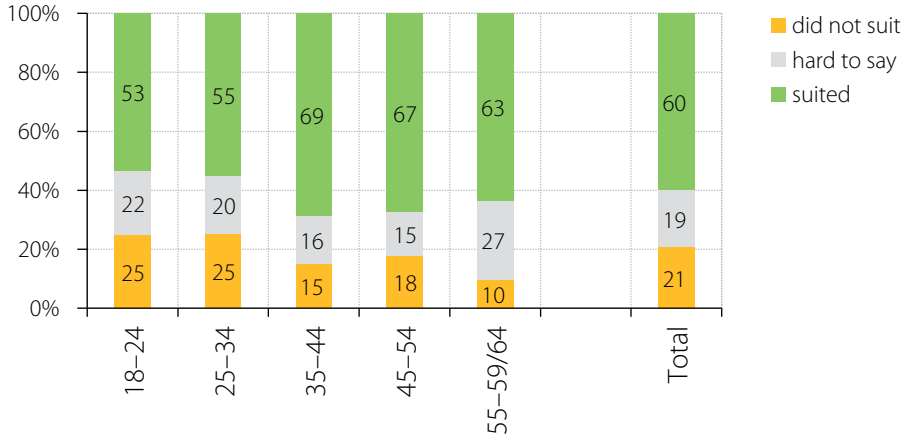
Note: Multiple-choice question, the answers do not add up to 100%

Source: BKL Population Study 2010–2014.

Attitude towards unregistered work

Almost two-thirds of all people who have worked without a contract during the preceding 12 months admitted that this form of work, including terms and earnings, suited them (among those working currently without a contract, this response was given by as much as 70%, and among those who no longer worked in this manner – 54%) (see Figure VI.16). Only in the age group 18-34, a contrary opinion was expressed by a significant part of this group (25%).

Figure VI.16. Did the terms and earnings tied to the work without contract suit the persons working in such manner over the past 12 months (combined data for the years 2013-2014) (in %)



Note: This question was asked only in the 2013 and 2014 study rounds. Total number of respondents = 1371.

Source: BKL Population Study 2013–2014.

In the 2014 round of the BKL Study, respondents working without a contract were also asked whether they would prefer to earn as much as they do, or perhaps a little less, in exchange for a formal contract. The responses were split roughly in half (see Table VI.16). There were differences tied to present occupational situation. Among persons who simultaneously were officially employed, as well as the inactive ones, around 55% would prefer not to register such an employment relationship. Meanwhile, among the unemployed, around 60% admitted they would sacrifice part of their earnings to have a regular contract.

A question was also asked about the percentage of the current earnings that the respondents would sacrifice to sign a contract. Regardless of the occupational situation, the value given most frequently was 10% (the responses varied only slightly).

Table VI.16. Opinions on registered work in the context of earnings, given by persons working without a contract over the past 12 months

		Employed	Unemployed (LFS)	Unemployed (registered	Inactive	total
Would rather earn as much as now, or a little less but in exchange for a formal contract? (in %)	As much as now, without a contract	55	43	39	56	52
	Earn a little less, but have a formal contract	45	57	61	44	48
	N	314	203	183	186	703
Percentage of current earnings that one would sacrifice to sign a formal contract.	Average	9%	12%	12%	10%	10%
	Median	10%	10%	10%	10%	10%
	N	187	138	132	116	441

Note: This question was asked only in the 2014 study round

Source: BKL Population Study 2014.

Summary

The grey area of the labour market in light of the BKL Study results

Based on the data collected in the course of the BKL Study, the size of the grey labour market could be estimated at slightly under 1 million employees (4% of people aged 18-59/64). Compared to 2010, this represented a decline by around 200 thousand persons (0.7 percentage points. These numbers do not differ significantly from the estimates made by the Central Statistical Office (CSO, 2011; *Rzeczpospolita,* 2014) and by the Ministry of Labour and Social Policy (2008); and all differences should be first blamed on different research methodologies. Therefore, it would be rather impossible to claim a negative influence of the economic slow-down on the growth of Poland's shadow economy, because, over the years 2010-2014, we have observed a decline in the number of unregistered workers (the increase by 0.2 percentage points in 2014 should be presently treated as neutral). This conclusion matches results from other European Union countries. Aside for a small increase in the years 2008-2009, the size of the grey market has been shrinking over the past several years in all the member states (Eurofound, 2013; Schneider, Raczkowski, 2013). According to authors of the Eurofound study (2013), this contradicts the theory that, in times of crisis, enterprises want to cut costs and households want to maximise their income; therefore, both groups move into the shadow economy. Instead, they point to another mechanism, according to which the informal economy decreases as the result of smaller demand for work, which is linked to financial hardships of enterprises (mostly in those sectors which were the hardest hit by the crisis, such as the construction sector, which simultaneously had a very large share of the shadow economy). It should be added that households constitute a large part of the buyers for the grey market goods and services; therefore, in their case, the decline of income or fears of losing financial stability could also have led to reduction of less important expenses (e.g. renovation and construction works, childcare, private tutoring).

The image of the market of unregistered work, which appears from the above analyses, suggests that this sector is very diversified in terms of the features of its players. It encompasses all age groups, people with various levels of education, performing various occupations, residents of the countryside and of cities alike. However, certain categories can be identified which are particularly inclined to opt for unregistered employment. They include primarily men (70% of this group) and persons with a low level of education (almost 60%). Quite frequently, this group also includes young people at the start of their careers (e.g. seeking their first-ever job) or still studying (18% of the grey workers still participated in formal education, among the working students in the last years of universities, as much as one fourth worked in the shadow economy). In comparison with the official labour market, the grey market displays a clear over-representation of elementary workers (usually in the construction sector).

One of the frequent research problems tied to the informal economy is the relationship between its size and the level of unemployment. Based on the simple correlation analyses of the BKL data on unregistered work,[93] it is not possible to state that this relationship is present. Indeed, the correlation for the whole country was high on the level of average values (although its direction was surprising – negative), but on the level of individual provinces, no clear dependencies were identified. The weak links between the size of the grey market and the level of unemployment are further confirmed by the fact that the unemployed people account for less than one-third of the grey market employees (and registered unemployed, only one-fourth). Significant limitations of the analyses suggest that clear-cut interpretations should be rather postponed. Even if unemployment does influence the decisions of individuals to remain in the shadow economy, this may be not so easily visible on the level of a correlation among the individual statistical ratios. Certainly, this issue deserves further study that would include both regional characteristics as well as individual traits, as well as the fluctuation typical for the changes in the numbers of the unemployed and those working without a contract.

Publications cited in this paper pointed out that the shadow economy has both its good (at least over the short term) and bad sides from the standpoints of the employees, the enterprises, and the whole

[93] Many studies employ more complex statistical models, based on macroeconomic data, or structural modelling, e.g. the MIM models (e.g. Bajada, Schneider, 2009; Davidescu, Dobre, 2013).

socio-economic system. Evaluation of its consequences depends largely on the nature of work (e.g. whether it is temporary or long-term, performed for an enterprise or for an individual), and the reasons for keeping this relationship outside the official system. Results of the Study of Human Capital confirm that it is difficult to formulate an explicit evaluation of the consequences of the semi-official sector of the economy.

For one-third of those working without a contract, the nature of work was temporary, and a further 19% performed it for family members or friends. In such cases, the potentially negative consequences for the individual are much smaller than in the case of a long-term employment relationship, where the lack of contract deprives the employee of the opportunity to exercise his rights, and the risk of exploitation is larger. Research carried out by the Central Statistical Office (2011) suggests that work in the grey market is still socially acceptable, but not as widely as it was in the 1990s.

The majority of workers in the shadow economy (60%) claimed to be satisfied with working conditions, including the earnings. It is also worth noting that avoidance of taxes was the driving motive only for 18% of people working without a contract. Half of the unregistered employees would not like to legalise their employment at the expense of their income. Even those who would agree to a reduction in earnings stated they would sacrifice, on average, not more than 10% to have their employment legalised. It is rather easy to see that this proportion is much less than the current level of taxes and social security contributions. Those results can be interpreted in two ways. On one hand, in light of other problems tied to finding employment, the issue of taxes is not a key one for the employee (which does not mean that it is unimportant for the employers too). On the other hand, these results are consistent with the literature that suggests that one of the methods to reduce the shadow economy is to lower taxes and the costs of labour (see Pater, 2009). This issue shall be discussed further on.

A relatively small percentage of persons working without a contract were simultaneously hired under a legitimate contract (17%). This could prove that, for the majority of people, work in the grey market is an important source of income (as suggested by the research carried out by the Central Statistical Office in 2010 – for 54% the primary). Thus, the shadow economy contributes to the reduction of social inequalities – at least as long as it provides a chance to increase one's earnings and does not turn into a necessity caused by complete inability to legalise employment.

A disturbing factor is the number of registered unemployed who engage in work in the grey area, which is one out of ten persons registered with the Labour Office. However, it cannot be said that their main reason is the fear of losing benefits (only 2% of the grey workers were collecting any benefits). The responses to questions on the main reasons for not signing employment contracts also do not suggest this. The most frequently named reason was the reluctance of the employer (among the unemployed persons – more than 50%). It could be concluded that the attitude of employers is one of the main obstacles to legal employment of the unemployed and thus to the reduction of the grey market.

Certainly, the perception of unregistered work by employers requires further study. The Polish literature does not have an extensive empirical base on this issue (the exception is the research carried out by the IPiSS under commission from the Ministry of Labour and Social Policy, in: Ministry of Labour and Social Policy, 2008). Meanwhile, it is the employers who make the decisions on hiring and on the form of this relationship. We could refer here to the theory of management, where the relationship between employer and employee is determined by the "expected value" of employee. It is determined by the employer on the basis of human capital represented by the employee, expected duration of employment and its costs (in the broad sense, not only in financial terms, taking into account the different kinds of risk) (e.g.. Flamholtz, 1999; see also: Turek, 2015). Results of the study carried out by the IPiSS match this model of interpretation (Ministry of Labour and Social Policy, 2008). According to them, for the employers, costs were the leading reason for hiring employees without contracts. Not only the purely financial costs of labour, but also flexibility in hiring and firing, the lack of the monthly mandatory reporting for various institutions and the need to incur the costs of medical leaves and vacations. Factors tied to the expected duration of employment, such as the seasonal nature of business and the shifts in demand for goods or services, also played their role. The last among the key factors was tied to human capital; employers hired workers without contracts, because they were unable to find people with the right competences, whom they would like to retain for a longer term.

How to reduce the phenomenon of unregistered work? Costs of labour and flexibility

K. Raczkowski (2013) points out that the semi-legal, unofficial economy cannot be completely shut down, nor should it be. The state should "turn a blind eye" on a certain area of the shadow economy, which pertains to individual business activity providing the necessary existential minimum for individuals. According to him, similar treatment should be given to micro-enterprises offering jobs, which would have never been created under official employment. Many countries that are much better developed than Poland, such as the Nordic states and Holland, where the informal economy is much smaller, have a higher share of unregistered employees. This does not change the fact that the state should manage the economy in a manner making registration of business more profitable in these cases. The existence of the shadow economy is a symptom of dysfunction and ineffectiveness of state institutions, the economic system, and the public policy. Thinking in the categories of shutting down the grey market is idle, because it is impossible to create a system that would fully regulate all types of economic activity. First of all, this is a wrong starting point. The principal determinant for analyses and musings should be the question on how to create conditions under which both the employees and employers would be willing to legalise their relationships. B. Mróz (2004) states this function of policy towards the shadow economy would be one of prevention, striving to minimise the probability of leaving the official sphere and of engaging in unregistered relations. The purpose of this policy – as rightly noticed by Schneider and Raczkowski (2013, p. 28) – should be to transfer the production of goods and services from the shadow economy to the official one in such a manner that it does not disrupt their supply and demand.

Engaging in the research and analysis of the grey market, one cannot forget that all mechanisms have their functions, and their existence results from the need for the achievement of certain purposes by individuals functioning in specific conditions. As Y. Eilat and C. Zinnes (2002, p. 1246) explain, the grey market is not a plague, nor an irreversible barrier to a country's development. The appropriate reforms of regulatory and institutional natures can lead to a reduction of this phenomenon. In the report prepared under commission from the Ministry of Labour and Social Policy (Ministry of Labour and Social Policy, 2008), the authors recommend a set of actions meant to reduce the phenomenon of unregistered work (see the extension in, Pater, 2009). These solutions include various financial incentives reducing the motivation of employees to seek informal employment (such as reduction of the tax wedge, of the tax obligations, and the level of social security contributions), organizational and administrative improvements (e.g. simplification of hiring procedures, better functioning of the labour market policy), individual assistance for unregistered employees (facilitating them the "exit" from the grey market without negative consequences, active support for groups of unemployed for whom the probability of opting for unregistered work is high), information and education campaigns, strengthening the system of auditing enterprises, and aggravating sanctions for employers who do not register they employees.

The precise discussion of these and all other proposed solutions would not be possible in this chapter. However, it is worth examining two issues that are frequently named among the priorities of the policy meant to reduce the numbers of people working without contracts (BRE, CASE, 2004; Ministry of Labour and Social Policy, 2008; J. Rutkowski, 2008; Pasternak-Malicka, 2013; Schneider, Raczkowski, 2013). Both focus on encouraging employers to legalise employment, which leads to an increase of costs and a reduction of benefits tied to participation in the informal economy, while simultaneously removing barriers to legitimate operations.

The first of these issues is the reduction of the non-wage labour costs (the mandatory contributions paid by the employee and the employer), meant to lower the "savings" associated with work without a contract. This concept has been repeated for many years, like a mantra, in the media, in reports, expert opinions, and discussions on the problems seen in the Polish labour market. It is also linked to the lowering of official salary and paying the remaining amounts outside any records (see Jacukowicz, 2006). Schneider and Raczkowski (2013) believe that dealing with the tax avoidance issue is the key and the most difficult challenge in the area of policy meant to reduce the unofficial economy (in an understanding broader than the unregistered work itself).

However, there is no guarantee that the reduction of non-wage burdens would cause the grey area to shrink. This is suggested by economic theory, but the nature of this concept is of the *ceteris*

paribus[94] nature, since the reality is much more complex and the relationships are influenced by other mechanisms. As suggested by international comparisons, the level of the tax wedge (the difference between total labour costs incurred by the employer and the net salary received by the employee) does not translate directly and universally into good or bad situations in the labour market (Polarczyk, 2007). Many countries where the tax wedge is larger, or where the mandatory social security contributions are higher (for example Belgium, Germany, Austria, France), have a much smaller shadow economy than the Polish one (see data in Schneider, Raczkowski, 2013; OECD, 2014). Moreover, since 2009, the tax wedge in Poland has been reduced (especially in the years 2006-2009, see OECD, 2014). Certainly, the relationship between the non-wage labour costs (both treated as a whole and the individual charges on the employer and the employee) is not clear-cut, and the reduction itself of the level of financial burdens would not provide a simple and final solution for an issue as complex as the grey area of the labour market. It is worth reiterating that, according to the results of the BKL Study presented here, avoidance of taxes accounted for only 18% of the reasons for not signing lawful contracts.

The second key priority is the greater flexibility of the labour market, which is mostly a reduction of risk associated with employment (including the possibility to reduce salary and to terminate the contract). This is a controversial issue and is usually contrasted with the demand to increase protection of employment, which is one of the most important postulates of the trade unions. The dispute usually runs along the opposition line between the liberal and the statist model of the economy. During the recent years, the issue of flexible forms of employment, in the form of civil law contracts, ignited very strong emotions. An equally awkward problem is the issue of the pre-retirement employment protection period (it is pointed out that it reduces the mobility of older employees, and most importantly, the chances for official employment of the older unemployed people; see Rutkowski, 2008; Magda, Ruzik-Sierdzińska, 2012). The minimum wage is yet another problem. Each of these issues has a slightly different nature and meaning for the grey market. By assumption, protection of employees is meant to prevent discrimination and exploitation, and to stabilise employment, while any increase in flexibility is perceived as unfavourable for the employee. The negative consequences apply to the reduction of stability and predictability of employment. Some solutions can be used to the disadvantage of employees, for the purpose of reducing the costs of the enterprise, e.g., during periods of economic downturn. This is also observed with respect to civil law contracts, used in the situation where the nature of the work is clearly of a full-time nature (in this context, the name "junk contracts" is usually invoked).

However, flexibility does not necessarily mean a worse situation for the employees, in particular, if we look at the unregistered employment where there is no employee protection at all. Treatment of the issues of protection and flexibility of employment as opposite concepts is a mistake with respect to the shadow economy. As noted by authors of the study, *Elastyczny rynek pracy w Polsce. Jak sprostać temu wyzwaniu? (Flexible Labour Market in Poland: How to Cope with this Challenge?)* (BRE, CASE, 2004, p. 24), the pathologies tied to disregarding employee rights by the employers are a much more far-reaching problem, and one that is not limited to the issue of deregulation and flexibility of employment. Allowing the employers more flexibility does not have to mean worsening of the situation of employees. Instead, it can reduce the incentive to escape into unregistered employment. When the problem is examined from the perspective of management theory, it seems that flexible solutions could assist in reducing the potential gap between the costs and employee productivity. From the employer's perspective, the opportunity to reduce salary or to lay off the employee reduces his risk tied to an erroneous decision on hiring or on retaining the employee. This leads to an appraisal of the employee's value from the standpoint of potential costs and has significant importance for improving the employability of the unemployed (especially important for persons aged 50 and more), and for increasing the mobility of employees (with respect to changing employers).

The issue of minimum wage is often raised in the discussions on the flexibility of the labour market (see Jacukowicz, 2007; Rutkowski, 2013). The fundamental purpose of such regulations is to ensure adequate salary (or rather, sufficient to cover the basic needs) and to prevent the exploitation of the weakest players of the labour market. In the context of the shadow economy, the proponents of the more liberal economy draw attention to the fact that the setting of such threshold is a barrier to the

[94] Other things being equal or held constant

creation of low-paid legal jobs, while, in the case of unregistered work, there are no wage regulations at all anyway (see Rogut, Żółkiewski, 2011; Schneider, Enste, 2013, p. 140-141). On the other hand, proponents of the existence (and also of the increase of the current level) of the minimum wage point out that the unemployed do not want to engage in the lowest-paid legitimate jobs, while the unregistered employment is frequently determined by factors other than wage-related (Kabaj, 2013). International comparisons also do not suggest that the relative level of minimum wage has a clear-cut influence on the size of the grey market (Williams, 2014, p. 136-138). Moreover, researchers point out that the minimum wage in Poland, compared to average salary or the minimum subsistence figure in Poland is still low, especially in comparison with other countries, and this does not translate into the low share of the grey market (Rutkowski, 2013; Kozek, 2014). Meanwhile, the appropriately high level of minimum wage has another important function; it contributes to the reduction of the working poor phenomenon, or the *precariat* (Kozek, 2014).

As in the case of labour costs, the flexibility of employment does not offer one "magical" solution to the problem of the informal economy. There are many reasonable arguments in favour of retaining certain forms for employee protection, while many indicate that increased flexibility of the market is the right choice. There are no clear-cut conclusions in that respect. The positive or negative consequences of various solutions depend on which social group is considered. The shadow economy is such a diverse organism that it is difficult to propose universal solutions that, while being beneficial for one group, would not harm another. For example, the protection of employees could be exercised at the expense of reducing the employability of the unemployed, while the high level of flexibility could have a different influence on people with a high and low level of human capital. Discussion on the methods for reducing the negative consequences of unregistered work should be based on an analysis of mechanisms influencing the different groups, taking into account the intended and unintended consequences for the economy treated as a whole. The nature of the labour market is also important. In the employer's market, and such is the character of the Polish labour market, the power of employees is much smaller than in the case of an employees' market, and the risk that flexible solutions would have negative consequences is much higher. Certainly, the relationship between flexibility or labour costs and the size of the shadow economy requires further analysis, as well as considerate discussion that would reject simplifications and conventional thinking tied to favouring either the liberal or the flexible model of economy and the related values. The routine approach to planning actions meant to reduce the phenomenon of unregistered labour could give very small results or even ones contrary to intentions. The intervention must be based on the differentiation of grey market areas and on selecting those areas and relationships which are indeed of a pathological nature, i.e. long-lasting, favouring the enterprises, large-scale, being to the detriment of the employee, forced and having features of exploitation, as well as causing significant negative social consequences. As suggested by data – both collected in the course of the BKL Study and under other research – such pathological relations may form a significant part of the informal economy. However, aside from them, a significant part of these relations is not so negative in character, and they can even have beneficial social and economic consequences in the short term.

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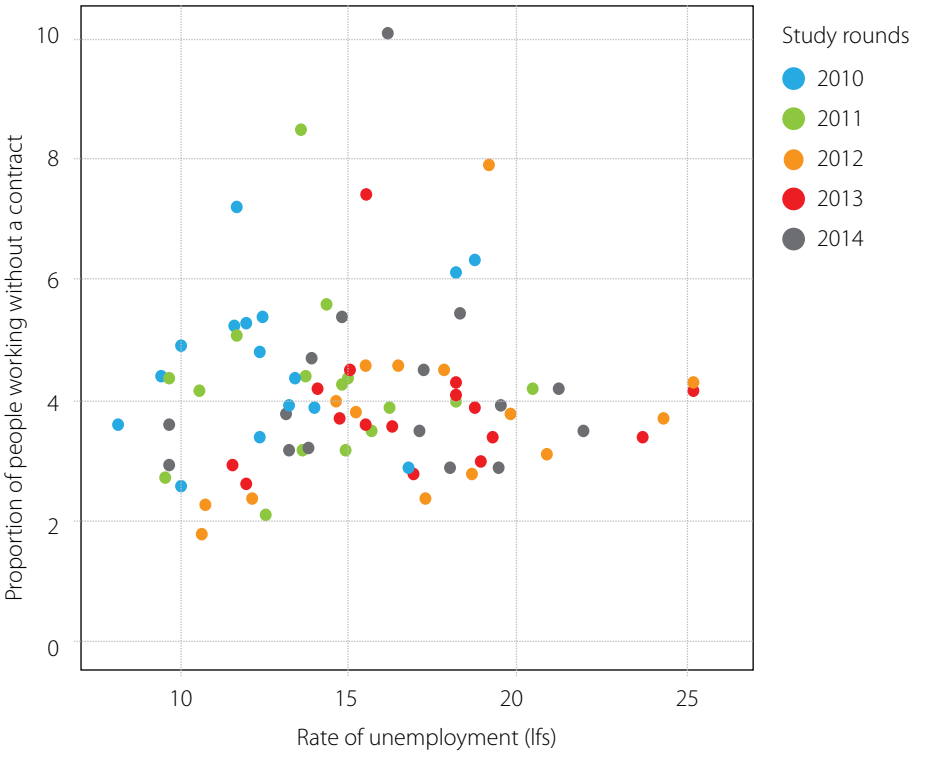
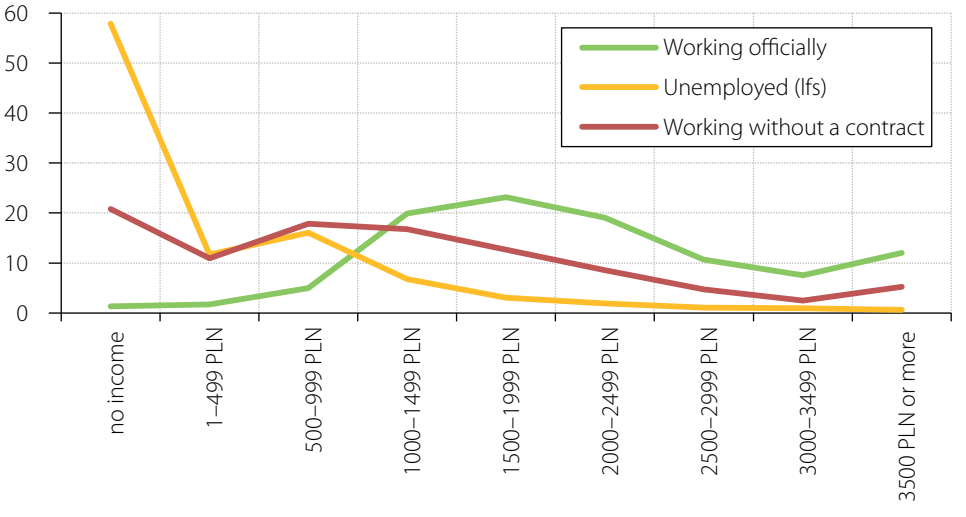
Annex

Figure VI.A.1. The proportion of people working without contracts and the unemployment rate in the administrative regions in the years 2010-2014



Source: BKL Population Study 2010– 2014.

Figure VI.A.2. Average monthly net earnings (during the past 12 months) of persons who during the past 12 months worked without a formal contract, worked in the official labour market and those who were unemployed (combined data for the years 2010–2014) (in %)



Notes:
N working (officially) = 31564; N unemployed (LFS) = 6128; N working without contract = 2413.

Source: BKL Population Study 2010–2014.

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For over a decade, PARP has supported entrepreneurs in implementing competitive and innovative projects. The goal of the Agency is to conduct programmes aimed at developing economy, supporting innovation and research activity in small and medium-size enterprises (SMEs), regional development, growth of export, development of human resources, and the use of new technologies.

The mission of the Agency is to establish favourable conditions for sustained development of Polish economy by supporting innovation and international activity of businesses, and promotion of environmentally friendly forms of production and consumption.

In the financial perspective 2007–2013, PARP is responsible for the implementation of tasks in three operational programmes: **Innovative Economy, Human Capital, and Development of Eastern Poland.**

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