Human Capital Study

UNIVERSITAS JAGELLONICA CRACOVIENSIS

The Polish Labour Market

– Processes and Resources

BKL Study Results 2021–2022

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The Polish Labour Market – Processes and Resources

BKL Study Results

The Polish Labour Market – Processes and Resources – The publication summarising the wave of research conducted in the years 2021-2022

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Dear Readers,

We are presenting a study summarising the latest wave of research conducted in the years 2021-2022 within the framework of the second edition of the Human Capital Study (Polish: Bilans Kapitału Ludzkiego, BKL Study) – a project implemented by PARP and the team of Jagiellonian University experts led by Professor Jarosław Górniak.

It was a very turbulent time in the Polish and global economy, marked by the consequences of the COVID-19 pandemic, the war in Ukraine, and rising inflation. In this publication, you will find an overview of the topic of inflation and its subjective perception among the BKL Study respondents. The study is divided into two parts: 'Processes' and 'Resources'. Chapters grouped under the first title analyse the responses to significant economic and social trends, with the analysis based on the outcomes of the BKL Study. In the section entitled 'Resources,' we provide an overview of different aspects of human capital in Poland. When research results are compared in this way, it enables a broad analysis of the phenomena that occur in the Polish economy and shape the labour market.

At the Polish Agency for Enterprise Development, we are aware that the lack of people with the appropriate skills is a more considerable constraint for employers than the unavailability of capital, and that mismatched skills can seriously impede economic development. That is why we have been accompanying entrepreneurs for more than two decades in creating and shaping the skills required to meet the demands of a competitive economy. We will continue to do so by continuing research under the third edition of BKL 3.0 – where, in addition to carrying on with observation of the supply of and demand for skills in the labour market, we are introducing new elements, that is, thematic research. Its results will allow us to respond adequately to new phenomena related to technological transformation, demographic change, and the green transition. We hope that both this report and the activities that we are planning will inspire you to become active in your professional domain.

Mikołaj Różycki
President
Polish Agency for Enterprise Development

Introduction

The second edition of the Human Capital Study (Polish: Bilans Kapitału Ludzkiego, BKL Study) project, launched in 2016, is coming to an end. During this time, we have monitored the development of employers' expectations regarding the skills of workers and the availability of workers with specific skills on the labour market. We investigated the activity of companies and individuals in terms of skill development and their motivations and barriers in this area. We analysed the factors shaping the situation of workers in the labour market in terms of wage conditions and job security, including the variation in labour market position by gender, age, education, within occupational groups or industries. We also took a closer look at the management of human resources in companies, and how it is influenced by companies' development dynamics. We sought to capture the consequences of the 'black swans' that emerged on the path of economic development that took the form of the COVID-19 pandemic and the Russian Federation's war of aggression against Ukraine. All of these analyses were based on data acquired according to the best possible methodological standards, which our field research partners strove to meet under difficult implementation conditions: The Public Opinion Research Center carries out population surveys, whereas PBS undertakes surveys of businesses and development providers. In line with open science standards, the data, questionnaires, and the description of the research methodology are available to anyone who wishes to analyse them on the BKL Study project website, where subsequent reports are published as well. This report concludes the current survey cycle.

The research was conducted in the field between 2017 and 2022, with the usual implementation period being the last quarter of the year. Alternately, cross-sectional surveys were conducted on samples randomly selected from the PESEL register for the Polish population and from the Polish Bisnode Database for enterprises combined with the panel sample generated during the earlier surveys (2017, 2019, 2021) and surveys conducted solely on a panel sample (2018, 2020, 2022). Under the BKL Study project, we also conducted a separate survey of companies from the development services sector, based on random samples from a frame drawn up on the basis of registers of entities from this sector (Statistics Poland, Educational Information System, Training Institutions Register, Development Services Database). The results cited in the particular texts refer to specific studies, with sizes of the samples from which the results were calculated provided. The study used a combination of

direct and indirect methods of contact with participants. During the pandemic, techniques that do not require direct contact with the respondent, such as telephone interviews and questionnaires completed online, significantly increased in popularity compared to computer-assisted face-to-face interviews, which were previously the norm. The combination of survey methods enabled satisfactory levels of sample completion (over 50%) and reasonably high panel retention (typically, around 70-80% of the preceding wave). This required a substantial amount of work from those carrying out the survey, and made the samples used in the BKL research different from the samples of other surveys conducted in Poland. This paper offers a detailed methodological note at the end, which outlines the sample selection and implementation processes for each wave of the study.

During this edition of the research, save for the first year of the pandemic, Poland enjoyed relatively high economic growth, coupled with a gradual decline in unemployment, an increase in the real level of wages, both average and minimum, accompanied by low inflation for many years. The overall price level began to increase more sharply during the pandemic, particularly from 2021, due to disruptions of global supply chains, internal disturbances and limitations on corporate activity, as well as expansive fiscal and monetary policies intended as countermeasures for economic contraction and high levels of unemployment. Inflation skyrocketed in 2022, exacerbated by the effects of the war in Ukraine, as well as pre-existing factors. This resulted in a temporary reduction of real wage levels, which the labour market is gradually recovering from in 2023.

In the current year, we are facing a weakening of the economy, which is a temporary and expected result of the process of reducing inflation resulting, among others, from the anti-inflation measures implemented by the National Bank of Poland (a cycle of interest rate increases, from 0.50 in July 2021 to 6.75 in August 2022), and weakened economic situation in the foreign markets that are key for the Polish economy, particularly in Germany. Despite the current labour market challenges, we have a thriving employee market with the lowest level of unemployment on record. The registered unemployment rate was 5% in June 2023 and the Labour Force Survey indicator stood at 2.9% in the first quarter of 2023, a stark contrast to the figures from before ten years, when, in the first quarter of 2013, the former was 13% and the latter 12%. This is confirmed by a rise in the number of employed individuals, which reflects the availability of jobs, and a decrease

in the working-age population, from 24.8 million in 2010 to 21.2 million in 2022[1]. This situation sets the context of the research conducted in the BKL Study II apart from that of the BKL Study I, which took place when the world was coping with the aftermath of the global financial crisis. The Polish economy demonstrated remarkable resilience also during that period, yet the challenges in the labour market were distinct. In the present climate, labour market institutions need to restructure their operations to be able to respond to the challenge connected with the availability of workers with the necessary skills, whose lack can considerably hinder economic growth. Educational institutions face a significant challenge, not only in equipping young people who are entering the labour market, but also in teaching the existing workers the necessary skills to cope with technological and organisational changes within companies.

The study is divided into two parts: 'Processes' and 'Resources'. Chapters grouped under the first title analyse, based on the outcomes of the BKL Study, responses to major economic and social trends. The first of the trends is the processes shaping the labour market: technological change, strategic choices in public policies related to sustainable development, geostrategic shifts in international politics, and other factors that, taken together, radically increase uncertainty in the conduct of business and the shaping of public policies. It is legitimate to examine the response of Polish companies in these circumstances. Inflation is another key factor for consideration, including the response of different sectors of the economy to inflation and perception of inflation by the public. Yet another trend is the ageing population. In this context, it is necessary to examine the participation of people approaching retirement age in the labour force, and their decisions whether or not to retire, as prolonging their participation in the labour force is one of the key ways to address labour market shortages. Given these trends and the corresponding responses, in the midst of growing uncertainty and change that resulted from the pandemic, it is worth noting the dynamics of the development of strategic human capital management in Polish companies. All of these analyses provide valuable insights into the 'Processes' that permeate the Polish economy and shape the labour market.

In the section entitled 'Resources', we provide an overview of different aspects of human capital in Poland. The classification was conducted based on age, health, gender, the circumstances of non-Polish immigrant workers, particularly Ukrainians, and individuals

[1] The data in this paragraph are provided by the Statistics Poland (https://stat.gov.pl).

with disabilities. All these factors greatly influence an individual's position in the job market, their skills, and their capacity and motivation to utilise and enhance the skills. Given the increasing challenges in finding workers, particularly those with required skills, it is crucial to uncover the hidden potential of labour market participants, which might be hindered by discriminatory barriers. The chapters in the second part of the study address this topic.

Our study commences with a chapter authored by Anna Szczucka, Seweryn Krupnik, and Marcin Kocór, focusing on how Polish companies adapt to the factors that shape the labour market. The introduction of new technologies, digitalisation, and automation of work, combined with public policies promoting 'green' energy transition, requires companies to adjust their human capital structure and management. The authors demonstrate, based on the results of the BKL Study, how companies, through their actions in two areas: hiring policies targeting individuals with specific skills, and developmental and innovative activities, respond to changes in the environment and the uncertainties arising from those changes. Does increased uncertainty lead to increased investment and innovation, or the opposite? Is there increasing interest in investing in employee development, or rather in searching for new resources, with a better profile that matches the employer's needs, on the job market? The authors embed the findings in a broader context of trends impacting the contemporary economy, in particular the labour market.

The next chapter, by Tomasz Geodecki and Magdalena Jelonek, is dedicated to a serious problem of both Polish and global economy, that is, inflation. In 2022, we observed an average annual increase in the level of prices for consumer goods and services by 14.4%, a level unseen since 1997. It was also the first time in many years that we witnessed a decrease in real wages. The authors analyse wage dynamics from the sectoral perspective. They also present the results of the BKL Study concerning subjective perceptions of the consequences of inflation for the standard of living, and the factors that differentiate the perceptions. They point out there is a link between lower income levels and the perceived greater decrease in purchasing power, even in cases where the nominal wage is higher than the inflation rate, and suggest there exists a connection between lower income and lower rating of one's health, job satisfaction, and commitment to skill development.

Chapter Three, by Wojciech Kubica and Jolanta Perek-Białas, shifts the focus to older individuals. Demographic changes, including the rapid ageing of the Polish society and the

decreasing working-age population, will increasingly affect the functioning of the Polish economy and its capacity for growth. To maintain a satisfactory dynamic, it will either be necessary to import workers from abroad, which has its limitations and consequences, or compensate for the decrease in the number of workers with a strong increase in labour productivity, which requires product and process innovations, as well as investments in highly productive physical and human capital. This is a very difficult challenge. It is, therefore, necessary to ensure the retention of older workers in the labour market for as long as they can work in a satisfactory and productive manner. In the same chapter, labour force participation of pre-retirement age individuals in Poland is presented and compared against other European countries. It is also discussed from the perspective of gender. Also discussed is this group's educational activity, an important factor enabling adaptation to changing job requirements, and their job satisfaction. In this context, the authors present declarations regarding retirement intentions, and identify the factors that accompany these decisions.

The next chapter, authored by Piotr Prokopowicz and Marcin Kocór, presents the picture of human capital strategic management in Polish enterprises. The authors note a clear increase in the proportion of companies that plan their activities from the perspective beyond their current needs, and an extension of the typical planning horizon to the level from before the pandemic. There have been interesting changes in the extent of the participatory decision-making model, the scope of application of the particular human resource management tools, and organisational culture models. For more detailed information on this subject, please refer to the contents of the discussed chapter.

In Chapter Five, the subject of age and health as determinants of the situation of individuals in the Polish labour market is revisited. This time, these aspects are analysed systematically by Magdalena Jelonek, Wojciech Kubica, and Barbara Worek in relation to other important factors, such as the job market situation, the earnings and job satisfaction, self-assessment of skills, and the use of education, as well as educational activity. Obviously, the relationships between self-rated health and the age are also analysed. Health is a very important factor for human capital, and the link between age and health, as well as various aspects of labour market functioning, is indicative of the significance of health and senior policies in response to the challenges arising from aging of the population.

To continue the good tradition of BKL Study publications, the relationships between various aspects of an individual's employment and gender need to be explored, so this topic is present also in this volume. As usual, Szymon Czarnik writes about the work environment of women and men, this time in collaboration with Anastazja Zakusiło. The authors begin by comparing the 'hard' characteristics of the situation of women and men in the labour market, such as the proportion of people engaged in paid work, and type of work – based on the nature of the contract with the employer. They also show differences between women's profiles depending on* the profession, which illustrates strong segmentation of the labour market, especially among individuals with lower education levels. The basis of this segmentation can be partly found in the differences between women and men's self-assessment of their skills, which the authors present in an interesting way, as well as in the preferences of employers and the relationship that exists between these assessments. Men and women do not differ significantly in their satisfaction with the earnings or their assessment of various aspects of their work, although subtle differences and overall hierarchical evaluations are analysed in this chapter.

Chapter Seven was prepared by the same team of authors as Chapter Six, with Anastazja Zakusiło as the lead author. It covers the topic of foreign workers in Poland after the outbreak of the war in Ukraine, first, Ukrainians, and then foreigners in general. Given that the data we have collected in the BKL Study is limited, as the Study is not specifically dedicated to foreign workers in the labour market, this section presents interesting information on the employment of workers from Ukraine, and foreigners in general, by Polish companies. It also points out that Polish employers are open to hiring foreigners, including for key positions.

Chapter Eight concludes the study. This does not mean that the issues it covers are least important. On the contrary, this chapter, authored by Marcin Kocór, Barbara Worek, and Ewa Ilczuk, addresses employment of individuals with disabilities. By itself, the scale of the problem is indicative of its seriousness: although only 6% of working-age individuals have a formal disabled status, a staggering 23% experience various difficulties in everyday life. Thus, by addressing the issue, we address the needs of one in every four representatives of the working-age population. Removal or mitigation of barriers that prevent many of them from working would provide them with satisfaction coming from a productive life and bring tangible benefits to the economy. The authors discuss the situation of people with disabilities in the labour market, how they assess their skills, and describe their educational activity. Without transferring key information from the chapter to the introduction, it should be

emphasised that they show how much is still to be done in this area.Traditionally, we extend our gratitude to our partners at the Polish Agency for Enterprise Development (PARP): Anna Tarnawa, Wioletta Skrzypczyńska, Maja Dobrzyńska, Rafał Pląsek, and Paulina Zadura, Head of the Analyses and Strategies Department, for their outstanding and innovative collaboration throughout the project. Furthermore, their insightful feedback on the drafts of the texts is highly appreciated.

Jarosław Górniak

Main Conclusions

Are Polish companies prepared for the trends currently shaping the labour market? Undertaking skill-building, innovation, and R&D activities

- The labour market in Poland is impacted by various factors. Most national and international analyses identify technological change leading to the automation of work, the shift towards more sustainable development, and demographic and geopolitical changes as the most important trends. In addition, the impact of the COVID-19 pandemic is still visible. The interplay of these factors affects the particular employers, thus amplifying the unpredictability of the business.
- The estimated impact of the listed factors on the labour market is significant, its ultimate size depending on Polish employers' willingness and ability to capitalise on or adjust to them. It is estimated that by 2030, due solely to automation, the jobs of over a half of the European population will have undergone significant changes (Smit, Tacke, Lund, Manyika, & Thiel, 2020).
- Analyses indicate that mismatched skills may be the most significant barrier to technological change, with 50% of workers in Europe needing to upgrade their digital skills to enhance their job performance. Individuals with the lowest digital skills are least likely to participate in training (CEDEFOP, 2022a).
- In addition to long-term trends that affect companies, the year 2022 witnessed a series of 'incidental' crises that, by their nature, amplify uncertainty for companies and pose a risk to business stability. Over the past year, entrepreneurs were severely impacted by inflation, the energy crisis, and the persistent consequences of the COVID-19 pandemic. They were slightly less likely to mention the severe consequences of the war in Ukraine and the impacts of disrupted or reduced supply chains. Nearly three-quarters of large and medium-sized employers stated that the crises had a significant or moderate impact on their business. As many as 82% of the surveyed companies were moderately or severely impacted by at least one of the crises, with a half indicating that the crises impacted their business in parallel.
- In 2022, the construction sector was one of the most heavily affected by the described phenomena. Nearly a half (48%) of large and medium-sized companies from the sector reported that, over the past year, their business was simultaneously affected by all

the crises. The energy crisis and inflation were also crucial factors in determining the situation of rapidly expanding companies.

- A sense of market unpredictability and business conditions uncertainty – these are the risk factors that reduce employers' willingness to make new investment or to scale up. In 2022, it was evident that employers did not make increased efforts to align or enhance the skills of their workers. The overall proportion of large and medium-sized companies that made investments in the development of workers skills in 2022 was slightly lower compared to the pre-pandemic and pandemic periods (86% versus 90-91% in 2018 and 2020, respectively). Although the majority of companies continued investing in human resources, a half of them reduced the variety of such investments.
- When 2018, 2020, and 2022 are compared, there is also evidence of a decline in innovation activity among medium and large companies. Compared to the pre-pandemic period, in 2022, the proportion of companies that implemented innovations in their organisation decreased by 9 pp, and the proportion of those that invested in R&D decreased by 10 pp. Sectoral differentiation of this activity is visible, both in terms of cross-sectional and dynamic aspects. The proportion of companies that initiated innovative activities in the previous year was highest in the industry and mining sector, which lends support to the hypothesis that certain firms from the sector capitalised on the opportunities arising from, among others, the upsurge in the fuel market prompted by the energy crisis.
- Innovative activity of large and medium-sized companies is rarely continuous – when comparing 2018, 2020, and 2022, only 4% of companies from this group implemented innovative change in each of these years. More than a half of the companies implemented innovation in one period only, and 28% remained non-innovative.
- Weakening of investment activity in these two areas i.e., human capital and innovation, may have a negative effect on companies' ability to adapt and capitalise on changes caused by global trends' impact on the market.
- For employers, there are essentially three main areas of skills that are of utmost importance – self-organisation skills (willingness to take responsibility, effective time-management and punctuality, work organisation skills, coping under stress), interpersonal skills (communication skills, networking skills, and working well in a team), and analytical skills (openness to learning new things, ability to analyse information and draw meaningful conclusions, both on an interpersonal and analytical level). They can be regarded as a specific foundation ensuring that the necessary human capital for the effective functioning of companies is provided.

- The importance of all skills, especially the three most required (self-organisation, interpersonal, and analytical), increased during the pandemic. Employers needed them at a higher level. Such a situation may mean that, in a crisis situation, companies experience an increased demand for skills in order to adapt to new realities more easily.
- During the pandemic, employers started attaching slightly more significance to specific skills associated with computer equipment and smartphones, resolving personal conflicts, and operating in an international environment. These are the skills related to the new needs triggered by this crisis (and, in this case, remote working).

Inflation and variations in product prices, versus changes in the economic situation of Poles

- In 2022, the HICP consumer price index was recorded at 13.2% in Poland, with year-on-year price changes amounting to 14.4%, as per the methodology of Statistics Poland. Higher price increases were only recorded in the first half of the 1990s.
- the wage growth in the recent years has more than compensated for price changes, but in 2022, nominal wages grew at a slower pace than consumer prices, leading to a 2.1% decline in real gross wages.
- In 2022, the gross wage growth in the public sector turned out to be negative and lower than in the private sector. This may be attributed to the specific nature of the public sector – its inability to quickly adjust income and expenditure during periods of rising inflation, which is not experienced by the private sector. Despite this, gross monthly wages in the public sector were higher, averaging PLN 6,994.21, compared to PLN 6,182.35 in the private sector. The 2022 average gross monthly wage in the national economy was PLN 6,346.15.
- Sectors of the economy where the proportion of private and public sector employment is substantial, such as the energy, water supply, transport, education, and healthcare sectors, in 2022, recorded a greater wage growth in the private sector. In section B: ‘Mining and quarrying industry’ a higher wage growth was recorded compared to the public sector.
- Besides real wage growth, individual perceptions of the effects of inflation may be affected by wage level. Those with high wages may perceive inflation differently than those with low wages. In rapidly expanding sectors of the economy, these are private

enterprise employees, whereas public sector employees earn comparatively higher wages in relatively less dynamic sectors.

- The majority of people surveyed in the BKL Study reported an increase in earnings between 2021 and 2022. This growth occurred slightly more frequently in state-owned companies and public institutions than in private companies. The BKL Study indicates that, compared to the private sector, the public sector offers relatively higher wages for the lowest and average earners. However, when it comes to those who expect high wages, the public sector is no longer as competitive.
- More than 70% of respondents stated that their current wages enable them to buy fewer goods and services than in the previous year. So, according to the respondents, the rise in living costs is not adequately offset by the increase in wages. Sometimes, however, an individual's perception of their financial situation may diverge from the objective factors, such as income increase surpassing the inflation rate. Surprisingly, a significant 67.9% of respondents exhibited a negative perception of their financial situation, even though their earnings increased above the inflation threshold.
- Belonging to the group of the highest or lowest earners is mainly determined by the employee's professional profile. The lowest-income group primarily comprises office workers, service personnel, retail workers, and individuals in unskilled occupations. Besides, there are other characteristics to consider that contribute to being among the lowest earners. These factors include the place of residence (particularly those residing in rural areas and small towns), age (particularly individuals under the age of 29 and those over the age of 50), education (particularly those with lower and secondary education), and gender (specifically women).
- The lowest-earning group is also characterised by a higher proportion of individuals who rate their health less favourably, and whose work did not enable them to enhance their skills. In addition, individuals who earn higher wages tend to report higher levels of job satisfaction. This correlation is observed in relation to various factors, such as promotion opportunities, job security, personal development and skill enhancement, the ability to demonstrate initiative and independence, as well as working conditions.
- According to the survey, the economic situation in the country seems to be more challenging for individuals with higher-than-average income as compared to those earning the lowest income. As compared to those with lower income, a greater proportion of individuals with higher income believe that the state of the Polish economy significantly affects their well-being. In contrast, lower-income earners exhibit a higher level of concern related to the war in Ukraine and the pandemic.

- Over 70% of individuals in the highest earning bracket experienced wage increase above the inflation threshold between 2021 and 2022. In contrast, only 42% of those in the lowest 25% income bracket reported they experienced the same increase. It is worth noting that the lowest earners are more likely to see their incomes fall, which exacerbates the negative effect of rising prices.

Engagement of older persons in the labour market and their choices regarding retirement

- Polish women and men's participation in the labour force increased between 2017 and 2022, showing a rise in the employment of individuals in pre-retirement age i.e., women aged 55-64 (from 46.9% to 56.4%) and men aged 60-64 (from 45.1% to 61.2%). Additionally, there was an increase in employment among those aged 65 and above, from 3% to 4.1% for women and from 8.6% to 9.7% for men.
- The perception of retirement among the oldest workers is changing. Among individuals aged 55-59, there has been an increase in the percentage of those who wish to retire at the earliest opportunity (from 15.6% in 2017 to 21.8% in 2022), as well as those who prefer to work for as long as possible or do not want to stop working at all (from 9.9% in 2017 to 16.2% in 2022).
- Between 2017 and 2022, the percentage of women aged 55-69 who intend to retire upon reaching retirement age decreased.
- Those who express the desire to retire as late as possible or not at all were more inclined, compared to those interested in retiring early, to say that their work is related to their education and offers them prospects for career progression. On the other hand, individuals who desire to retire as quickly as possible, were significantly more likely to perceive their occupation as negatively affecting their health.
- The proportion of workers of pre-retirement age who suspected that their employer would want them to retire when they reached retirement age declined (from nearly 40% of respondents in 2017 to under 25% in 2022).
- There has been a rise in the percentage of workers who believed that they would be required to work beyond retirement age. In 2022, slightly over a half (50.2%) of the oldest participants anticipated their employer would require them to continue working, either in a similar (30.2%) or limited (20%) scope.

- In parallel, workers' uncertainty regarding their understanding of employer expectations rose. In 2022, 24.9% of workers aged 55-64 stated that it was challenging to determine their employer's expectations regarding the extension of their employment beyond retirement age. This percentage increased from 21% in 2017.
- In 2017, nearly 41.2% of women aged 55-59 believed that their employers expected them to retire upon reaching retirement age. However, in 2022, the percentage declined significantly; the belief was expressed by only 21.8% of women from this age bracket. At the same time, over 30% of women approaching retirement age were still unaware of the expectations employers may have regarding their further professional engagement. Men at pre-retirement age were more likely than women to expect their employers to want them to continue working beyond retirement age (55.7% in 2022, 44.9% in 2017).
- Interest in working during retirement increased. In 2022, 39% of individuals aged 55-64 expressed the intention to generate additional income during retirement, which was an increase from 31.6% recorded in 2017.

Strategic human capital management in Polish companies in the face of crises

- The 2018-2022 period saw a significant shift in the strategic planning outlook of Polish companies. In 2018, 60% of medium and large companies had an action plan for more than three months ahead. However, by 2022, the figure increased to 80%.
- Among large and medium-sized companies with action plans, the 2022 length of the planning horizon is very similar to that of 2018. This implies that, in this regard, Polish companies returned to the situation before the crises.
- As regards human capital management, a decreasing number of companies are opting to engage workers in the decision-making process. In 2020, the percentage was 57%, whereas in 2022, the figure decreased to 49%.
- We are witnessing a rise in the proportion of managers who make independent decisions. In 2022, this method of decision-making was used by 51% of the surveyed companies, as opposed to just 41% in 2020.
- Among the various HR management tools, three stand out as the most popular: job descriptions (used by 38% of medium and large companies), remuneration systems based on job hierarchies and market conditions (31%), and employment plans (23%).

- A drawback to the professionalisation of human resource management is that, according to data from 2022, as many as 18% of companies do not use any specialised HR management tools.
- When comparing 2018 to 2022, there was a clear decrease in the usage of conventional HR management tools, such as job descriptions, remuneration systems, and replacement plans.
- Praise from one's supervisor remains the primary motivational tool, as reported by 53% of the surveyed companies. Depending on the size of the company, other methods are also used, to varying degrees. For medium-sized companies, popular methods of motivation include increasing the scope of decision-making (37%) and promotion (33%). Meanwhile, for large companies, promotion (47%) and occasional vouchers (38%) are common means of motivation.
- Recruitment processes still primarily rely on conventional methods, including CV analysis (used by 82% of medium and large companies), interviews (81%), and cover letters (44%). Modern methods with a higher potential for predicting worker success are used far less frequently; for example, only 3% use standardised tests for this purpose.
- Polish companies' organisational culture underwent significant changes in the past few years. In 2022, adhocracy emerged as the prevailing culture, involving increased adaptability and entrepreneurial spirit, replacing the previously dominant clan culture in which the company was regarded as family.

Age and health as key determinants of the market situation of Polish women and men

- The overall health rating for the younger (18-35) and middle (36-54) age groups is satisfactory, but it significantly deteriorates for the older age group (55+). 87% of the younger age group and 86% of the middle-aged group rate their health as good, while in the older age group, 68% of the rate their health as good.
- The BKL Study data demonstrate a clear link between education and the state of health, particularly noticeable among individuals from the middle and older age groups. In the 55+ age group, as many as 14% of respondents with lower education rated their health as poor, but none of those with higher education gave such a rating.

- Among those aged 55 and above, men are more inclined to perceive their health as poor (over 8% compared to 5% of women) or neither good nor bad (26% compared to 24% of women).
- Individuals who are less satisfied with their health are more likely to do lower-quality jobs. The jobs are not only lower-paid and less satisfying, but also offer fewer development prospects. Individuals who rate their health as poor are also more likely to have a negative perception of their work. The statement 'I believe that work has a detrimental effect on my health' is selected by 49% of individuals who perceive their health as poor and approximately 16% of those who perceive their health as good. A similar trend can be observed with regards to the perception of workload ('I have too many tasks to complete efficiently and on time') – 48% of individuals dissatisfied with their health agree with this statement, in comparison to 18% of those who are satisfied.
- Highest percentage (around 16%) of respondents who declare their mental well-being is bad or neither good nor bad is observed among young people with higher education. For middle-aged individuals, there is no clear pattern in terms of education and its impact on mental well-being. At the same time, in the oldest age group, those with higher education tend to report better mental well-being.
- Towards the end of 2022, the primary issue for Poles was the condition of the Polish economy, as almost a half (49%) indicated that it had a significant or very significant influence on their overall well-being. This was followed by the war in Ukraine (22%) and the risk of epidemics (5%).
- Fear of a pandemic is currently highest among individuals aged 55 and above. Approximately 40% of respondents indicate that this factor has a moderate effect on their well-being. Similarly, members of this age group express greatest fear of war, with 44% saying it has a moderate and 27% saying it has a high or very high impact on their well-being. Economic issues primarily concern individuals from the middle age group (aged 36 – 54).
- Individuals aged 55 and above rate most of their skills significantly lower than younger people (18-35). Most significant disparities between the older and the younger group lie in their digital proficiency, the difference being over 1.5 points on a scale from 1 to 5. Individuals aged 55 and above also exhibit less confidence compared to younger individuals when it comes to collaborating with foreigners. They also rate their capacity for acquiring knowledge significantly lower than their younger counterparts, with a difference of nearly 1 point on a scale from 1 to 5. Older persons give lower rating to their Polish language skills and eloquence. In contrast, smallest differences in skill

assessment between young and older individuals were observed in relation to skills associated with the assembly and repair of technical equipment. In this domain, the self-assessments of older and younger individuals are highly comparable.

- The disparities in self-perceived proficiency among older and younger individuals are most pronounced among those with lower levels of education and least significant among those with a university qualification. Education is thus a contributing factor that promotes a more favourable evaluation of one's abilities, although it is predominantly the younger generation with higher education that perceive themselves more positively rather than older individuals with the same education level. Individuals aged 55 and above with lower levels of education rate their skills lowest.
- Like age, health also has a significant impact on an individual's rating of their skills. For each skill covered in the BKL Study, there is a difference of at least 0.38 points between those assessing their health as good and those assessing it as poor, and the difference is statistically significant. Most significant disparities are observed in the area of physical fitness. Individuals who reported being in good health rated themselves as excellent (3.86 points), whereas those who believed to be in poor health rated themselves only as average (2.21 points on a scale from 1 to 5). Large differences of more than 1.5 points exist also for digital skills.
- Age and health not only influence our perception of our skills, but also impact our willingness to take action in developing them. Within the past 12 months, 16% of individuals who assessed their health as poor engaged in formal or non-formal learning, while for individuals who assessed their health as good the figure was 56%. Among those in the homogeneous age group (55 and above), the percentages of those engaging in formal and non-formal learning are 37% for individuals who assess their health positively and 16% for individuals who assess their health negatively.
- There is a clear connection between educational activity and self-assessment of one's skills. Formal and non-formal learners rate most of their skills significantly higher than those who are educationally inactive. Disparities between those who are actively engaged in education and those who are not are most pronounced in the oldest age group. These disparities encompass a wide range of skills, including digital proficiency, analytical skills, adaptability to learning new concepts, self-directed work organisation, and intercultural collaboration.

Working environment of women and men

- Work-related statistics generally show higher figures for men compared to women. Specifically, men have a 13-percentage point higher employment rate. Additionally, men are approximately twice as likely as women to be self-employed, work in the grey economy, and provide unpaid assistance in a family business. Furthermore, men are three times more likely to travel abroad to work.
- Women and men work in significantly different professions. In simpler terms, there are more women in professions involving working 'with people', and more men in professions involving working 'with things'. That said, nearly every broad occupational category is divided into subcategories, with an even more pronounced predominance of one gender. As a consequence of this internal categorisation, it is effectively impracticable (save for elaborate micro-studies) to compare women and men undertaking 'the same jobs'.
- When it comes to self-employment, men are considerably more likely than women to work in industry, construction, transport, fuel sales, trade, and vehicle repair. Conversely, women are significantly more likely than men to work in professional services, education, and healthcare.
- As regards self-assessment of skills, women have the greatest advantage in administrative skills and artistic skill. The skills in which men have an advantage – and a very clear one – are availability, understood as the willingness to travel and work irregular hours, machine operation, and machine repair and assembly. More than a half of employers stated that gender does not influence their process of recruiting new workers.
- Most employers spontaneously deny having a preference for a particular gender when recruiting for a specific position. Among those with such a preference, men were strongly preferred in jobs that do not require even a secondary level of education. Where tertiary education was required, gender became almost completely irrelevant. The skills that were highly valued by employers and seen as most desirable in the case of women were artistic and interpersonal skills (as well as the ability to learn new things). On the other hand, the skills that were highly appreciated and seen as most desirable in the case of men were physical fitness, availability (understood as readiness for work-related travel), and the ability to assemble and repair machines and technical equipment, the last assessed as particularly desirable.
- Individuals who have a contract of employment declared their job satisfaction was relatively high in several respects, with contacts with colleagues, relations with superiors, job security, the content of work, the working conditions, and the opportunity to make

decisions independently and take initiative usually rated highest. The level of earnings was found to be the primary factor contributing to lowest satisfaction. Interestingly, it was in this respect that a more noticeable gender disparity became apparent. Women, who on average earn less than men, also report their satisfaction with their pay is lower compared to men. This distinction was more pronounced in the public sector.

- Workers feel that their working environment is positive. They can find a sense of purpose and use their knowledge and skills. Men are slightly more likely to express dissatisfaction due to being assigned tasks that are below their level of skill and encountering situations that pose a threat to their health. Between 2017 and 2021, the sense of being able to implement their ideas grew among both women and men. At the same time, the average willingness to change jobs, the challenges associated with finding work-life balance, and the incidence of situations posing a risk to workers' health declined.
- A big majority of workers, of both genders, positively assessed their superiors with regards to respect shown to subordinates, involving subordinates in decision-making processes that affect their work, and fair performance appraisals. Importantly, these assessments were virtually independent of the gender of superiors and subordinates.

Foreign workers in Poland after the outbreak of the war in Ukraine

- In general, Polish companies are open to employing foreigners. In recent years, labour shortages in the Polish labour market have been addressed by the recruitment of workers from Ukraine. To a great extent, this process has impacted sectors such as industry, construction, and commerce, which provide a significant number of employment opportunities that do not require high professional qualifications. As a result, migrants from Ukraine are often employed below their skills or education.
- The outbreak of the war in Ukraine in February 2022 impacted the size and composition of the workforce from Ukraine, leading to an increase in their presence in the Polish labour market. In connection with these processes, most Polish employers also expect an increase in the importance of skills that facilitate cooperation in teams consisting of people of different nationalities.
- A vast majority (85%) of full-time employees who work with Ukrainians state that the number of Ukrainians they work with is 10 or fewer. Despite this, in the majority of cases where full-time workers were asked about the number of their Ukrainian colleagues

they declared there were at least three, and one in three respondents had more than five Ukrainians in the team. This data demonstrates the tendency of Ukrainian workers to select specific work establishments.

- Groups of Ukrainian workers are characterised by a homogeneous composition in terms of gender. In over a half of the cases, these groups are comprised exclusively of either women or men. As is the case of Polish workers, there is a noticeable gender-based occupational segregation among workers of Ukrainian origin. Women are more inclined to work in retail, catering, healthcare, and professional services, while men are more likely to be employed in construction, transport, and industry.
- In addition to industry and construction, companies that are considering the recruitment of foreigners for crucial roles often operate in sectors associated with mining, transportation, social services and healthcare. Predominantly, these are the positions of industrial and craft workers, machine operators and assemblers, and workers doing simple jobs. The highest number of these companies is situated in the Western and Central regions, whereas the lowest number is found in the Southern region.
- Companies that are considering hiring a foreigner for a key position tend to require less experience from candidates, and, as a result, are less likely to encounter recruitment problems. On average, these companies also engage in more internal measures to enhance workers' skills.
- Companies that are open to hiring a foreigner for a key role are likely to anticipate that, in the next three years, this role will require a greater focus on general skills such as responsibility, self-reliance, resourcefulness, and creativity. Additionally, it may require the ability to collaborate with individuals of different nationalities and skills related to occupations where foreigners are more commonly employed, such as repairing and assembling technical equipment and doing simple calculations.

The situation of individuals with disabilities in the labour market based on BKL Study data

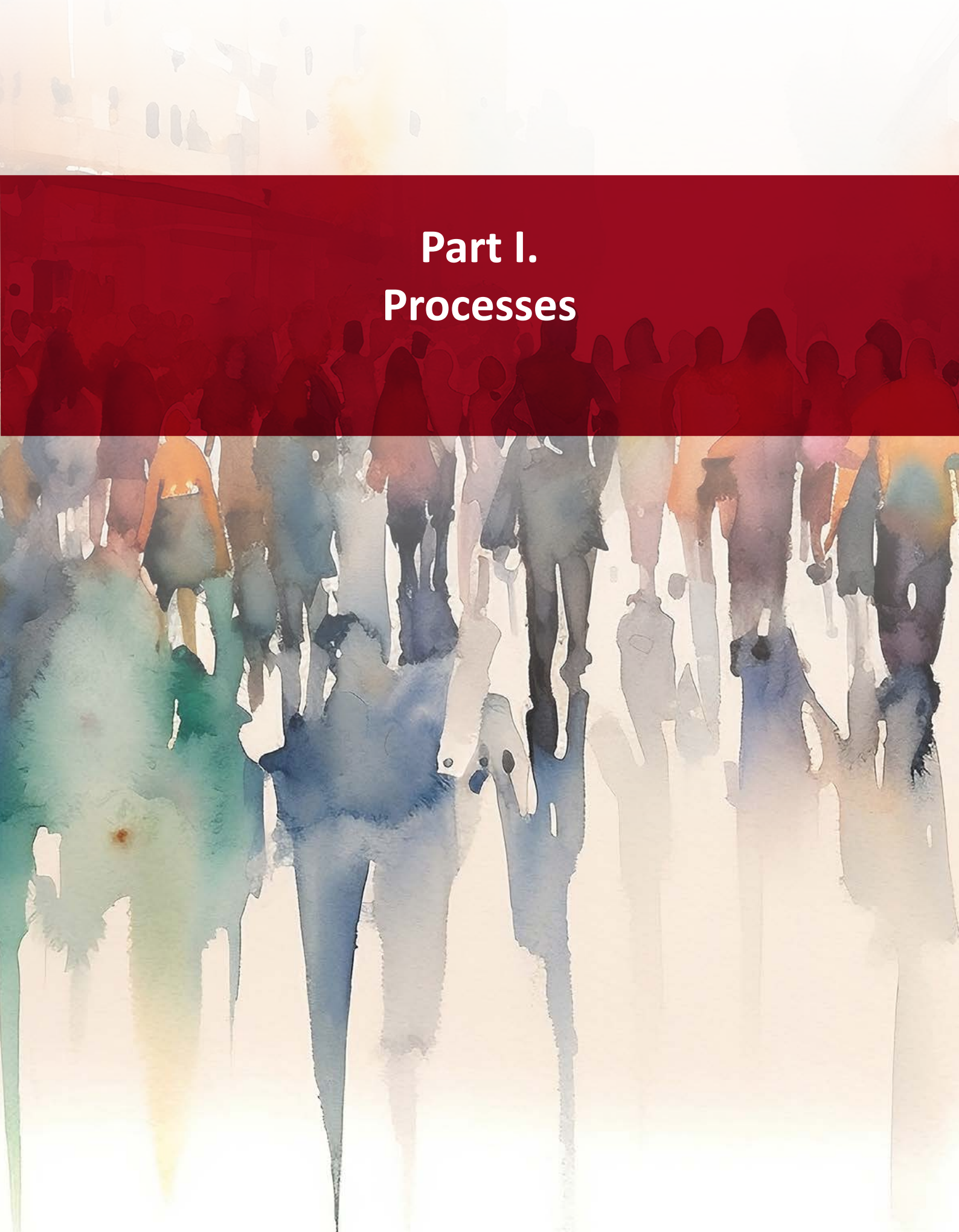
- Individuals with disabilities are more likely to be employed under less favourable conditions. They are less likely to work under an employment contract (40% compared to 63% for individuals without disabilities) or run a business or farm (9% compared to 17%). At the same time, a larger proportion of people with disabilities provide unpaid

help to a family business or farm (17% compared to 12%) and participate in various activities in non-governmental organisations (50% compared to 33%).

- The form of labour force participation is considerably affected by the level of certified disability. Only 34% of individuals with severe disabilities declare they are employed under an employment or civil-law contract, compared to 76% of individuals without disabilities.
- Working individuals with disabilities are more likely to be employed in blue-collar occupations: as skilled workers and machine and plant operators, or as unskilled workers. Individuals with disabilities comprise 53% of this group, while those without disabilities comprise 35%. Additionally, they are less likely to be specialists, such as managers, professionals, technicians, and middle-level staff, with only 23% of working individuals with disabilities in these roles compared to 42% of those without disabilities.
- Regardless of their form of employment, individuals with disabilities earn on average PLN 1,000 net less per month than individuals without disabilities, regardless of their form of employment.
- In the case of individuals with disabilities, their wage expectations are lower. Their declared satisfactory wage is almost PLN 900 lower than that of non-disabled individuals.
- Overall, individuals with disabilities rated all the general skills they were asked about lower. Most significant negative differences, to the disadvantage of individuals with disabilities, were observed in the following areas of skills: physical fitness, operation of a computer/tablet/smartphone, and operation of specialised computer programmes. Besides, these differences became more pronounced with age (older individuals with disabilities rated their skills lower) and level of education (individuals with disabilities with lower levels of education rated their skills lower).
- Not only do individuals with disabilities rate their skills lower than non-disabled individuals, but they are also significantly less likely to develop them through formal, non-formal, or informal learning. In the past 12 months, only 55% of individuals with disabilities engaged in educational activities compared to 81% of non-disabled individuals. The level of educational activity also varies depending on the degree of disability; the more severe the disability, the lower the level of educational activity.
- A lower level of educational activity is demonstrated not only by individuals with a certified disability but also by those without a medical certification, who face significant challenges in their day-to-day functioning (biological disability). In the past 12 months, 77% of individuals with biological disabilities enhanced their skills in some way. The level

of educational activity in this group is even lower than among individuals with certified mild disability, where 71% were educationally active.

- Disabilities constitute a significant barrier to various activities, with formal education being most severely impacted. Individuals with disabilities are two and a half times less likely to engage in formal education than the non-disabled. Individuals with disabilities are also characterised by a considerably lower level of education than individuals without disabilities: the percentage of Individuals with disabilities who completed tertiary education stands at 8% versus 30% for non-disabled individuals.
- Working individuals with disabilities are several times more likely to develop their skills than economically inactive individuals with disabilities. This applies not only to work-related and work-based learning, but also non-work-related courses, training, and, to a slightly lesser extent, informal learning. In terms of educational engagement, working individuals with disabilities share more similarities with working individuals without disabilities than with economically inactive individuals with disabilities.
- As the primary reason for not engaging in formal or non-formal learning, individuals with disabilities cite the lack of job motivation (63%), followed by poor health (36%), and the belief that further education at their age is pointless (19%).
- Not only are individuals with disabilities less likely to enhance their skills through engagement in formal, non-formal, or informal learning, but they are also less likely to express the desire for such development. In fact, more than a half (53%) stated that they do not intend to develop their skills in the following twelve months.



Part I.
Processes

1. Are Polish companies prepared for the trends currently shaping the labour market? Undertaking skill-building and innovative activities

Introduction

The last few years have been marked by rapid changes in various aspects of social and economic life, which were caused by consecutive global shocks. These were initiated by the COVID-19 pandemic, which disrupted the global supply chain and triggered economic recession, and were further aggravated by Russia's unexpected attack on Ukraine. These phenomena had a significant impact on the transformation of trends that shape the labour market in general and the functioning of companies in particular. This chapter is dedicated to the changes that occurred in the activities of Polish entities in recent years, as demonstrated by the results of the BKL Study. Have Polish companies taken steps to adapt to these changes? Are they prepared for them? And how have they responded to the recent shocks?

In order to address these questions, we will first have a look at the trends that influenced the labour market in recent years, and demonstrate how these trends changed due to various shocks, such as the pandemic and the war. In light of the aforementioned trends, questions have been asked regarding the perceptions, activities, and strategies of Polish companies. The further part of the chapter provides answers – already based on BKL Study survey data – to four key questions about Polish companies. How are their skills needs shaping up? How did the earlier shocks impact their operations in 2022? How do they invest in staff skills? What are their R&D and innovation activities? In our analyses, we primarily use the data from the latest year covered by the BKL Study survey, 2022, which covers solely medium and

large enterprises, specifically those employing a minimum of 50 individuals. For the purposes of comparison, for this particular sample, we will use the corresponding findings from 2020 and 2018, which consist of weighted cross-sectional data obtained from medium and large companies. Therefore, when discussing companies in general, their responses to the factors described, and the transformations they have experienced throughout the successive editions of the survey, we will be referring to medium-sized and large entities (with a few exceptions as mentioned in the text). As some of these companies also constitute the panel sample of employers in the BKL Study survey (the same entities are surveyed in each survey cycle), it is possible to present the dynamics of change observed at individual company level. Such data is described in the sources as a 'panel' (panel data is not weighted; the years compared are stated below the chart). It should be emphasised, however, that the panel sample does not reflect the situation in the entire population of companies, but only in the segment of large and medium-sized companies, and the described results refer to this group of domestic enterprises[2].

Factors affecting the labour market

The future of the Polish labour market will be determined by several factors. Dębkowska et al. (2022) have meticulously catalogued and examined 41 social, technological, economic, ecological, political, cultural, and legal factors. Most studies **identify technological change reflected in the automation of work, the green transformation, demographic change, and geopolitical change as key factors (Dębkowska et al., 2022; World Economic Forum, 2023). It is estimated that by 2030 the work of more than a half of Europeans will have changed significantly solely due to labour automation (Smit et al., 2020).**

The impact of these trends on the labour market can be examined at three levels. Firstly, they will impact specific occupations, for instance, the demand for work in mining will decrease, while the demand for work in nursing will increase. Secondly, they will change the nature of tasks in the current positions, thus affecting the corresponding demand for skills. This, in

[2] The survey of companies was conducted solely on a sample comprising medium-sized and large companies. A total of 1,018 companies were surveyed in this wave, out of which 681 were also surveyed in 2021. This represents a 66.9% retention rate for the panel, surpassing the target of 51%. The baseline survey was conducted from 14 October 2022 to 23 December 2022 using mixed mode: CAPI and CATI, with telephone interviews accounting for 83%. The panel is based on a sample of companies drawn in 2017.

turn, will affect the need for modification in education and development activities within companies. Therefore, these changes will strengthen the building of a sense of security in the labour market, based not on one's position, but rather on one's skills and one's ability to develop them consistently (McKinsey, 2018). Thirdly, they will impact the entire business of companies, forcing organisations and their workers to demonstrate increased adaptability. An example of the impact of this last level is the increased geographical concentration of value chains, resulting from the COVID-19 pandemic and the Russian attack on Ukraine. This trend may persist, if the conflict with China escalates (World Economic Forum, 2023).

The impact of trends varies by region. New jobs are being created, particularly in urban areas, and particularly in the largest cities. This tendency will continue to grow (Smit et al, 2020)

Technological change

The technological changes that are transforming the labour market are now progressing at an unprecedented pace. In 2018, McKinsey estimated that nearly a half of Poland's working time is used for tasks that can be automated by 2030 using the available technological solutions. The same institution estimated that the solutions' implementation could, thanks to increased productivity, result in a 15% higher GDP for Poland in 2030 (McKinsey, 2018). At the same time, their actual implementation depends on a number of factors, such as digital infrastructure, technological and digital skills (of workers and consumers), and demographics (Dunkerley, 2022).

Over 85% of organisations surveyed by the World Economic Forum worldwide identified the introduction of new technologies and digitalisation as forcing change in the organisation. Big data analytics, cloud computing, and artificial intelligence were the most frequently mentioned technologies. More than 75% of the surveyed organisations intend to implement them between 2023 and 2028. Similar proportions of organisations are planning to implement digital tools in commerce and enhance employees' skills and management. At the same time, it is worth noting that these changes have, thus far, been somewhat slower than anticipated (World Economic Forum, 2023). Between 2020 and 2021, nearly a half of workers in Europe witnessed the implementation of novel digital technologies in their workplace, and 35% needed to learn how to use them. Development of employee skills, including during the COVID-19 pandemic, was frequently conducted as online training.

Between 2020 and 2021, 60% of workers in Europe participated in online training at least once, although online education and training in Poland is clearly less popular than in other parts of Europe (CEDEFOP, 2022a).

Analyses conducted prior to March 2023 indicate that out of the 230 million jobs in the EU, 22% (51 million) are at risk as a result of automation. Trade, accommodation and food services, the arts, transport, manufacturing, and mining are considered to be the sectors most at risk. The changes described will have strongest impact on those less educated, the younger generation, and men (McKinsey, 2018; Smit et al., 2020). These prospects make many individuals concerned, as they fear they may lose their employment. According to CEDEFOP, in 2021, 40% of the workers surveyed in Europe expressed concerns about losing their jobs within the following 12 months. Of these individuals, approximately fifty percent blamed their fears on advancements in new technologies (CEDEFOP, 2022a). Fear of new technologies-related job loss is higher among younger workers (PwC, 2022). At the same time, numerous workers, particularly those who had not been exposed to new technologies before, were unaware of the impending change (CEDEFOP, 2022a).

Despite this, the overall impact of automation on the labour market is likely to be positive, but will depend on the pace of change. Analyses conducted by European institutions indicate that the impact of automation on the labour market will primarily result in reassignment or restructuring of jobs, rather than their elimination (CEDEFOP, 2022a; Dunkerley, 2022; World Economic Forum, 2023). Effective use of the available technologies in the economy requires a revolution in skills (CEDEFOP, 2022a). Europeans' current skills in this area are low, and so far their improvement has been insufficient (PARP, 2022). Analyses indicate that mismatched skills may be the most significant barrier to technological change, with 50% of workers in Europe needing to upgrade their digital skills to improve their performance at work. At the same time, only approximately 25% have actually received sufficient training. Individuals with the lowest digital skills are least likely to participate in training (CEDEFOP, 2022a). It can be assumed that some individuals are improving these skills, albeit through less structured activities. Poles' ICT skills are significantly lower than the average for OECD countries (McKinsey, 2018), and the fear of technological change-related job loss is among the highest in Europe (CEDEFOP, 2022a).

Automation will also lead to the creation of new jobs, which will occur through three mechanisms. Firstly, higher productivity will generate demand. Secondly, automation needs

to be managed by competent personnel, such as data analysts. Thirdly, interactions with other trends, such as demographic changes or the greening of the economy, will result in a rise in demand for particular jobs (McKinsey, 2018). Estimates from the U.S. Bureau of Labor Statistics indicate that among the 10 occupations that will see greatest increase in demand between 2021 and 2031 are both leisure occupations (chefs, those involved in the film industry, professional athletes) and occupations related to handling and analysis of new technologies (wind turbine technicians, data analysts, information service professionals, statisticians). But the first position is occupied by nurses (with the number of jobs expected to grow by 46%) (U.S. Bureau of Labor Statistics, 2022).

These changes and their perception gained new momentum with the introduction of the updated generative AI model in the form of the GPT-4 chatbot in March 2023. The model reached over 1 million users within five days of its release. Its breakthrough features include the potential for a wider range of applications, the production of new content that is essentially indistinguishable from the results of human work, and the relatively straightforward operation, facilitated by the introduced interface (Hatzius, Briggs, Kodnani and Pierdomenico, 2023). It has been found that the tasks involved in gathering, processing, and communicating information are more susceptible to automation than physical labour. Even prior to March 2023, approximately 75% of the companies surveyed by the World Economic Forum intended to incorporate artificial intelligence in their operations in the upcoming years. This is the case for the majority of companies in the electronics, information, and technology services sectors, with over 90% planning to do so. It can be assumed that this rate has increased since March 2023. 50% of companies expected that this would lead to an increase in employment, while 25% expected a decrease (World Economic Forum, 2023). Goldman Sachs analysts estimate that approximately two-thirds of jobs in the US and Europe can be automated to some degree. Furthermore, they suggest that artificial intelligence has the potential to perform up to a quarter of the tasks currently performed by humans (Hatzius et al., 2023). Numerous studies conduct such analyses for the particular industries and jobs (Pouliakas, 2021). The macroeconomic impact can potentially result in an up to 7% growth in gross domestic production (Hatzius et al., 2023). **Like in the case of any other technology, the impact of the current changes will depend on the speed of their implementation, which is determined by various other factors. In this context, Polish enterprises' willingness to develop the skills of their employees, carry out research and development, and implement innovation is of immense importance.**

Sustainability and twin transformation

The trend towards a more sustainable economic development will continue to be key in the coming years (Dunkerley, 2022; World Economic Forum, 2023). **The combined impact of technological change and increased importance of sustainability is commonly known as twin transformation. The latter trend will be expressed, among other things, through the implementation of environmental, social responsibility, and corporate governance (ESG) standards in companies, changes in demand, and the adoption of circular economy.** The net impact on total jobs is expected to be neutral (Dunkerley, 2022), although analyses conducted for the European Green Deal alone show an additional 2.5 million jobs in the European Union by 2030 (Cedefop, 2021). 'Energy Policy of Poland until 2040' assumes that 300,000 jobs will be created in industries related to renewable energy sources (RES), nuclear energy, electromobility, network infrastructure, digitalisation, and thermal modernisation of buildings (Ministerstwo Klimatu i Środowiska, 2021). Other studies consider these figures grossly underestimated (Konfederacja Lewiatan, 2022).

An important case for twin transformation, which illustrates the complex nature of the relationship between its two components, is the automotive industry. While countries of Central Europe generally have much less robotised production processes than the rest of the continent, the automotive sector is a positive exception, although this is primarily thanks to multinational companies choosing to establish their production plants in Central Europe. It is unclear how the proliferation of electric cars will impact the balance of power in the sector and the investment decisions of these corporations, also in the context of the development of Chinese production and export of electric cars, and geopolitical tensions. At the same time, it is acknowledged that the production of electric cars requires a smaller workforce, while driving the demand for jobs involving novel skills (CEDEFOP, 2022b).

The pace of change will depend not only on technological innovation but also on cultural factors and political decisions. Research shows that companies' environmentally-friendly attitudes are increasingly important to their workers. (PARP, 2022). While the direction of change appears to be certain, it is difficult to accurately predict the pace and rhythm of change, as it depends on public policies and politics. A prime example of these fluctuations can be the photovoltaic industry in Poland, and in Europe as a whole, as the growth of the sector is heavily dependent on decisions regarding public support (Żylińska, 2020).

Demand for certain professions will decrease, while demand for others will increase. The first group will comprise professions related to mining and oil processing, while the second will consist of those related to circular economy or, for instance, sustainability analysts, who will be required in many sectors. Polish Confederation Lewiatan (Konfederacja Lewiatan, 2022; 2021) has developed comprehensive forecasts for occupations in the fields of energy, mining, transport, construction, and agriculture. The Śląskie Voivodship will witness the disappearance of the highest number of mining-related jobs in all of Europe (Alves Dias et al., 2018). Notably, men are more susceptible to the impact of fluctuations in the job market. On the one hand, they are more likely to lose their jobs, on the other hand, there will be growing demand for occupations that are now often socially perceived as more suitable for men (Cedefop, 2021).

Additional contributing factors

Another significant trend is the demographic change (World Economic Forum, 2023), which encompasses various phenomena. First and foremost, there is a decline in the working population – it is estimated that by 2030, the number of working individuals in Poland will decrease by between 4 and 9%, which ranks the highest percentages in all of Europe (Cedefop, 2020; ILO, 2023) and is linked to the overall ageing of the population, which will impact both supply and demand in the labour market. Another phenomenon, the most unpredictable one, is the change of migration patterns, which can potentially interact with the two phenomena referred to before. A significant influx of young individuals to Poland has the potential to mitigate the consequences of the ageing population. The impact of demographic change is described more comprehensively in a dedicated chapter of the report.

When discussing the condition of the labour market, it is important to highlight two significant factors that have been impacting the Polish labour market for a considerable period of time: the COVID-19 pandemic, and Russia's aggression against Ukraine. In the World Economic Forum's 2022 International Survey, nearly a half of companies continued to identify COVID-19 as a significant factor impacting the labour market. Interestingly, the percentages of companies that rated its impact as positive and the percentage of those that rated it as negative were similar (2023). These seemingly opposing views are easily explained by the fact that COVID-19's influence on the labour market involved various mechanisms.

The most significant economic impact was the occurrence of demand and supply shocks, which resulted in a substantial increase in inflation (ILO, 2023). At the same time, the shocks translated into shorter geographical distances of the supply chains, which was and still remains a significant opportunity for many companies. For example, in June 2023, Intel announced its plans to invest in a microprocessor factory in the Dolnośląskie Voivodship, an investment of record value in the Polish history, amounting to USD 4.6 billion (money.pl, 2023). Furthermore, COVID-19 popularised remote work and distance learning using digital tools (Agrawal, Smet, Lacroix, & Reich, 2020). Following this, digital transformation and the development of the relevant skills gained momentum (CEDEFOP, 2022a).

From the international perspective, the Russian invasion of Ukraine is viewed as a component of a wider trend linked to the escalating geopolitical divide (World Economic Forum, 2023). For Polish companies, this mainly resulted in rising inflation and an energy crisis. Another factor in this category, with a potentially significant impact, is the heightened tension in the relations between the Western world and China.

Employers' demand for skills

In order to effectively adapt and respond to the emerging trends, Polish companies must, in addition to implementing appropriate strategies – as outlined in the other chapters – also possess sufficient human capital resources, namely, employees with the required skills. A certain indication of employers' preparedness for the demands of the labour market is their declared requirements in the area of skills – the skills they require from their employees. At this point, it is worth examining the requirements they formulated from a broader perspective. **In the previous edition of the BKL Study, covering the 2010-2014 period, employers were asked about the skills they expected from the employees they were recruiting. Regardless of the position or year of the survey, employers repeatedly emphasised the importance of three categories of skills** (Kocór and Strzebońska, 2014):

- **professional skills** – related to the performance of job-specific tasks, considered as important by a half of the companies;
- **self-organisation skills** – related to self-organisation of work, taking initiative, decision-making, meeting deadlines and resilience to stress, considered as important by one in four companies;

- **interpersonal skills** – such as teamwork, communication skills and ease of networking, considered as important by one in six companies.

These skills, which fall under the twelve previously mentioned categories of generic skills (Strzebońska and Dobrzyńska, 2011), **were also described by employers as difficult to acquire**. When examining their definitions, it becomes evident that, **during that period, companies prioritised finding employees who had the necessary skills to perform their job-related tasks proficiently, could effectively manage their work, and were capable of effective communication with both superiors and colleagues**. Therefore, such set of skills can be considered as fundamental for each profession, one that enables workers to effectively perform their tasks. At the same time, workers' possession of such general, core skills would enable companies to respond efficiently to changing business conditions.

In the present BKL Study 2017-2023, categorisation of generic skills whose importance companies were asked to evaluate was broadened. But essentially, the classifications from both editions of the study – 2010-2014 and 2017-2023 – are based on the same breakdown of generic skills. It is interesting to see how employers' assessment of their importance has changed. It seems that employers still consider similar skills as crucial (for specific requirements, refer to the table in the appendix to the chapter). As with the BKL Study 2010-2014, **employers considered the following skills as important**:

- Willingness to take responsibility,
- Time management and meeting deadlines,
- Independent organisation of work,
- Communication skills,
- Ease of networking,
- Learning new things,
- Coping with stressful situations,
- Teamwork,
- Analysing information and drawing conclusions.

This set of skills currently considered as important includes similar general and fundamental skills that ensure seamless performance of professional tasks in various roles, which also promotes companies' adaptability to change. The latter can be confirmed by the notably evident – taking into account the scales comprised five points only – **increase in the significance assigned to these very skills that occurred between 2019 and 2020, that is,**

prior to and following the COVID-19 pandemic (although virtually all skills examined during the initial year of the pandemic were regarded as more important). This trend continued in the subsequent year, 2021, which marked the second year of the pandemic. It was confirmed also by the opinions of the smallest employers, with up to 50 employees, who valued this set of skills more than in 2018. Overall, it can be said that the importance that employers attributed to all skills – including those systematically regarded as key – increased. However, it is evident that **the shock caused by the pandemic, along with its various consequences** – such as disrupted supply chains, growing popularity of remote working, and the accelerated digitisation of various aspects of work and life – **resulted in yet another small change in employers' perceptions of other skills as well**. Namely, during the period from 2020 to 2021, in the second year of the pandemic, employers attached somewhat greater importance to skills like:

- ability to cooperate with individuals of different nationalities,
- technical equipment assembly and repair skills,
- willingness to travel frequently and change the place of work,
- machines, tools, and technical equipment operation,
- specialised computer programmes operation,
- computer, tablet, and smartphone operation,
- administrative and record-keeping skills,
- conflict resolution skills.

This slight increase in the importance[3] attributed by companies to these skills may indicate a shift towards adapting to pandemic conditions, which necessitate the use of IT equipment, resolving conflicts among the staff, and working in an international environment.

In the most recent edition of the study, rather than being asked to rate their current importance, employers were asked to estimate how the importance of generic skills in key positions will change over the next three years (Table 1.1).

[3] Although the differences were small, they were statistically significant, which means that, given the random nature of the sample, they can be generalised to all Polish economic entities.

Table 1.1. Change in importance of skills over the next 3 years (average on a scale from 1 – will significantly decrease, 2 – will slightly decrease, 3 – will not change, 4 – will slightly increase, 5 – will significantly increase)

Skills	50-249	250+	General
Coping with stressful situations	3.75	3.75	3.75
Willingness to take responsibility	3.76	3.69	3.75
Learning new things	3.72	3.70	3.72
Ingenuity, creativity	3.66	3.71	3.67
Teamwork	3.67	3.70	3.67
Independent organisation of work	3.65	3.70	3.66
Time management and meeting deadlines	3.64	3.72	3.65
Ease of networking	3.63	3.58	3.62
Cooperating with individuals of different nationalities	3.63	3.61	3.62
Analysing information and drawing conclusions	3.60	3.66	3.61
Communication skills	3.60	3.59	3.6
Specialised programmes operation	3.58	3.61	3.59
Machines and equipment assembly and repair skills	3.59	3.56	3.58
Fluency in Polish	3.57	3.61	3.58
Computer/tablet operation skills	3.57	3.57	3.57
Machines, tools, and equipment operation	3.53	3.67	3.55
Administrative and record-keeping skills	3.51	3.54	3.52
Willingness to work non-standard hours	3.50	3.49	3.50
Work coordination skills	3.48	3.51	3.49
Conflict resolution skills	3.49	3.46	3.49
Physical fitness	3.48	3.50	3.48
Advanced calculation skills	3.45	3.39	3.44
Willingness to travel frequently	3.46	3.35	3.44
Simple calculation skills	3.41	3.46	3.42
Artistic skills	3.35	3.35	3.35
N	756	137	893

Source: BKL – Employer Survey 2022.

As the midpoint of the scale, which indicates no change in a given area, is set at '3', **employers are of the opinion that all the skills examined will increase in importance in the years to come**. However, when comparing how companies evaluate the significance of future skills and how they evaluated their relevance for crucial positions over the years, it is evident that **the same categories of skills consistently remain important**:

- **self-organisation skills** – coping with stressful situations, willingness to take responsibility, self-organisation of work, time management, and meeting deadlines;
- **interpersonal skills** – teamwork, networking ease, cooperating with individuals of different nationalities, communication skills.

However, what has somewhat changed, is which particular skills from these areas are seen as likely to increase in importance. According to employers, stress resilience and teamwork will be valued more. But these are only minor changes within these two still important skills categories.

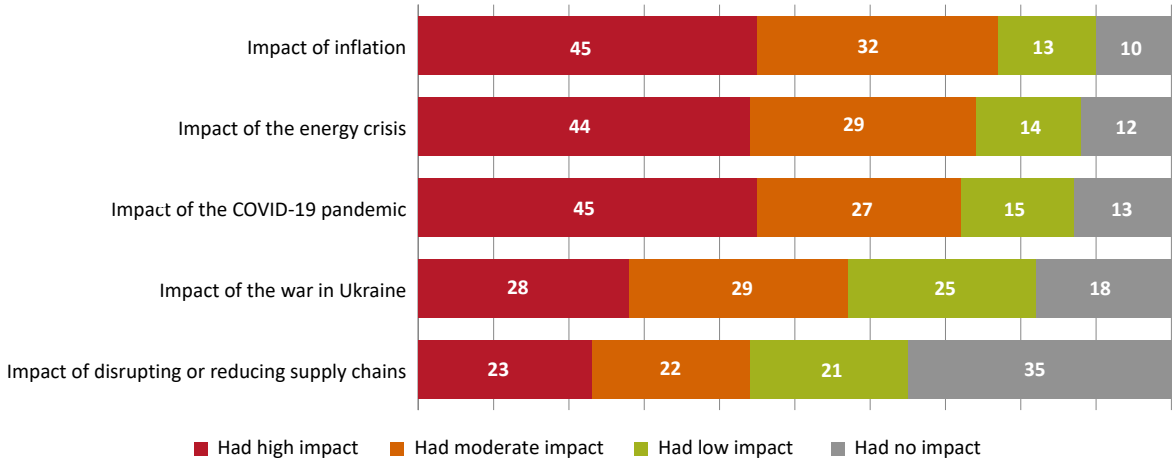
On the other hand, it should be emphasised that **according to employers, cognitive skills will also be important in the future**. These include inventiveness, creativity, analysing information, drawing conclusions, and **digital skills**, such as specialised software operation and computer and tablet operation skills. At the same time, employers continue to emphasise that these skills require the ability to learn new things. This could suggest that they are beginning to anticipate changes that will result from the market trends that have been described above.

The impact of shocks on the operations of Polish companies

In addition to trends whose impact on companies over a given time horizon is relatively predictable, entrepreneurs also have to deal with a number of shocks that are difficult to predict, thus resulting in an unstable environment and uncertainty regarding business conditions. This, in turn, can impact companies' willingness and potential to make strategic investments in development, including innovation and the development of skills of their human resources, to respond to the key trends that are shaping the business landscape. Therefore, when analysing the investment activity of companies, it is also necessary to consider the current economic conditions that influence the investment sentiment and choices of entrepreneurs. This is particularly relevant, as 2022 was marked by several significant economic shocks. The BKL Study presents data on subjective perception of entrepreneurs (both large and medium-sized) regarding the influence of different factors on their business in 2022. **A significant 82% of the surveyed companies reported having**

experienced a medium or substantial impact of at least one of the shocks. Over the past year, entrepreneurs have been severely impacted by inflation, the energy crisis, and the lasting consequences of the COVID-19 pandemic. Nearly three-quarters of large and medium-sized employers stated that these shocks had a significant or moderate impact on their business (Chart 1.1). Slightly smaller, yet still commonly felt business repercussions, were caused by the war in Ukraine (57%), followed by the disruption or reduction of supply chains (45%). It is worth noting that **these factors often impacted companies in parallel – nearly a half of company managers (48%) indicated they faced a high or medium simultaneous impact of at least four of the factors in 2022**.

Chart 1.1. Impact of the events in Poland and around the globe on the activities of large and medium-sized companies in 2022 (%)



Source: BKL – Employer Survey 2022, N = 952.

While almost all of the described phenomena were more strongly felt by large companies than by medium-sized companies, the biggest disparities are observed in the case of disrupted or reduced supply chains (a 13-pp difference) and the energy crisis (a 11-pp difference). From sectoral perspective, the situation is somewhat more varied (Table 1.2). In 2022, the construction industry was one of the most heavily affected by the described phenomena, with nearly a half (48%) of large and medium-sized companies from this sector reporting that, over the past year, they simultaneously experienced the effects of all the shocks on their business. But the biggest number of entrepreneurs from the industry reported they faced challenges related to high inflation (89%) and the energy crisis (80%). These two phenomena were also more likely to have a significant impact on large and

medium-sized companies from the retail sector, and the accommodation and catering sector (87% and 79% respectively), although the latter sector was still heavily affected by the past COVID-19 pandemic (83%). The shock caused by the pandemic also continued to significantly affect the operations of the surveyed companies from the healthcare and welfare sector (84%) and the education sector (82%). The education sector, apart from being affected by the effects of the pandemic, was relatively less affected by other shocks than the other sectors. This can be attributed to its significantly lower reliance on supply chains, and a higher proportion of public entities in the sector, factors that made it easier to manage the energy crisis and inflation. However, the latter two phenomena (energy crisis and inflation) were also crucial factors in determining the situation of rapidly expanding companies[4]. The impact of inflation was mentioned by as many as 92% of companies from this category (compared to 19 pp less among stagnant companies), while 86% reported a medium or high impact of the energy crisis (72% in the group of stagnant companies). This may be attributed to the necessity of reducing the number or scale of investment so as to adapt to the new, more austere economic conditions. However, it should be noted that this impact may also have had a positive dimension. In 2022, a significant proportion of high-growth companies was represented by companies operating in the industry and mining sector (42%). At least in part, this can be attributed to the temporary economic prosperity caused by the energy crisis, predominantly, the limitations on fuel imports from Russia.

[4] The company's development indicator was constructed based on three activities undertaken: 1) pursuing an active recruitment policy in a specified calendar year, 2) carrying out implementations of innovations in the company in a specified calendar year, 3) planning implementations of innovations in the upcoming year. For the purpose of analysis, the indicator has three values: stagnation – indicating the absence of any of the listed activities, moderate development – indicating the declaration of one or two activities, and strong development – indicating meeting all three conditions.

Table 1.2. Impact of the events in Poland and around the globe on the activities of large and medium-sized companies in 2022 by size, growth rate, and industry (%)

	Impact of the COVID-19 pandemic		Impact of the war in Ukraine		Impact of disrupted or reduced supply chains		Impact of the energy crisis		Impact of inflation		Total	N
	None/ Smal	Large/ Medium	None/ Smal	Large/ Medium	None/ Smal	Large/ Medium	None/ Smal	Large/ Medium	None/ Smal	Large/ Medium		
Medium-sized companies (50-249)	28	72	44	56	58	42	28	72	24	76	100	676
Large companies (250+)	30	70	40	60	46	55	17	83	16	84	100	276
Stagnation	30	70	39	61	51	49	28	72	27	73	100	492
Moderate development	27	73	47	53	62	38	26	74	19	81	100	387
Strong development	22	78	49	51	58	42	14	86	8	92	100	73
Construction & transport	35	65	32	68	34	66	20	80	11	89	100	152
Education	18	82	49	51	70	30	40	60	30	70	100	182
Trade, accommodation, and catering	17	83	40	61	58	43	21	79	13	87	100	122
Healthcare & welfare	16	84	40	60	48	53	22	78	20	80	100	212
Industry & mining	44	56	43	57	52	48	22	78	26	74	100	146
Professional services	30	70	49	51	60	40	26	75	29	71	100	138
Total	28	72	43	57	56	44	26	74	23	77	100	952

Source: BKL – Employer Survey 2022.

The effects of these shocks include an increase in business costs, increased wage pressures and employee costs, and reduced production due to interrupted supplies, which results in **a sense of unpredictability in the market and uncertainty about business conditions**. **These risk factors diminish an employer's inclination to make new investments or expand investment scope** (Polish Economic Institute, 2023a, 2023b). The section below provides an overview of the 2022 investment scale of large and medium-sized companies, specifically focusing on their development in two key areas: investment in employee skills development and innovation activities.

Recruitment strategies of companies

As the aforementioned changes in the skills expected to be important in the future imply, employers are generally cognisant of the implications of at least some of the described trends and are modifying their skill-related requirements in order to accommodate the trends. They also appreciate the role of continuous development and learning in the adaptation process. Despite this, **results of the BKL Study indicate that employers are not intensifying their efforts to find relevant and develop employee skills**. In part, this may be due to the negative sentiment towards investment that has arisen as a result of the shocks experienced in 2022.

This is evident, among others, when there is a perceived lack of skills within a company. Although, in such a situation, the prevailing solution in medium and large companies in is still to provide appropriate training to the current employees (61%), closely followed by recruiting new employees with the necessary skills (27%), there have been noticeable changes when compared to the pre-pandemic period (2018) (Table 1.3). Employers representing large companies were more inclined than before to recruit employees who were a good fit for the job (28%, up by 8 pp compared to 2018), and less inclined to invest in developing the skills of their existing employees (59%, down by 11 pp). The selective approach i.e., looking for highly-qualified candidates in the job market may initially involve higher costs. However, in a scenario where wages are under pressure and employee costs are not balanced by employee productivity, a highly-qualified employee is not only immediately capable of performing the tasks efficiently, but also eliminates the need for additional investment in a lengthy skill acquisition process. Besides, the time required to acquire the essential skills can impede the functioning of high-growth companies. They need appropriately skilled human resources to implement innovation, which leads them to conduct a more thorough search in the market – for individuals who already have the necessary knowledge and skills. These skills may pertain to job-related tasks that are new to the company or the market, technologies, or they may even be social skills that are difficult or time-consuming to develop. Therefore, amongst large and medium-sized companies experiencing significant growth, there is a higher proportion (49%) of those that, when faced with a shortage of expertise within the company, look for employees with the required skills in the market. In 2018, this group also experienced the most significant shift in their preferred approach to addressing the company's competence gaps. Such gaps can be filled either by using internal resources e.g., training the existing staff or reorganising

their roles, or by acquiring external resources i.e., new employees who have the required skills, or can be trained accordingly. For high-growth companies, there has been a significant shift towards quickly acquiring external knowledge and skills. The trend of hiring new employees with the necessary skills increased by 25 pp compared to 2018.

Table 1.3. Medium and large companies most common response to skills shortages in 2022, and changes against 2018 (%)

	2022 (%)					Change in 2022/2018 (pp)				N	
	Training of existing employees	Looking for new staff with the right qualifications and skills	Hiring and then training of new staff	Reorganising the company to make better use of existing skills	Total	Training of existing employees	Looking for new staff with the right qualifications and skills	Hiring and then training of new staff	Reorganising the company to make better use of existing skills	2022	2018
Stagnation	69	20	3	9	100	0	-4	1	3	505	432
Moderate development	54	32	6	9	100	-17	8	2	6	422	454
Strong development	49	49	1	0	100	-20	25	-3	-2	83	130
Construction & transport	66	26	2	7	100	-8	6	-2	4	160	165
Education	51	41	3	4	100	-14	11	2	2	191	190
Trade, accommodation, catering, support services	59	24	10	8	100	-8	1	3	4	129	147
Healthcare & welfare	58	32	2	9	100	-18	14	0	4	222	200
Industry & mining	69	17	3	10	100	0	-5	1	4	160	170
Professional services	63	26	1	10	100	-14	6	-2	10	148	144
Medium-sized companies (50-249)	62	27	4	8	100	-8	3	1	4	721	735
Large companies (250+)	59	28	3	10	100	-11	8	0	3	289	281
Total	61	27	4	8	100	-9	4	1	4	1010	1016

In some of the cases, the percentages do not add up to 100% due to rounding to whole values.

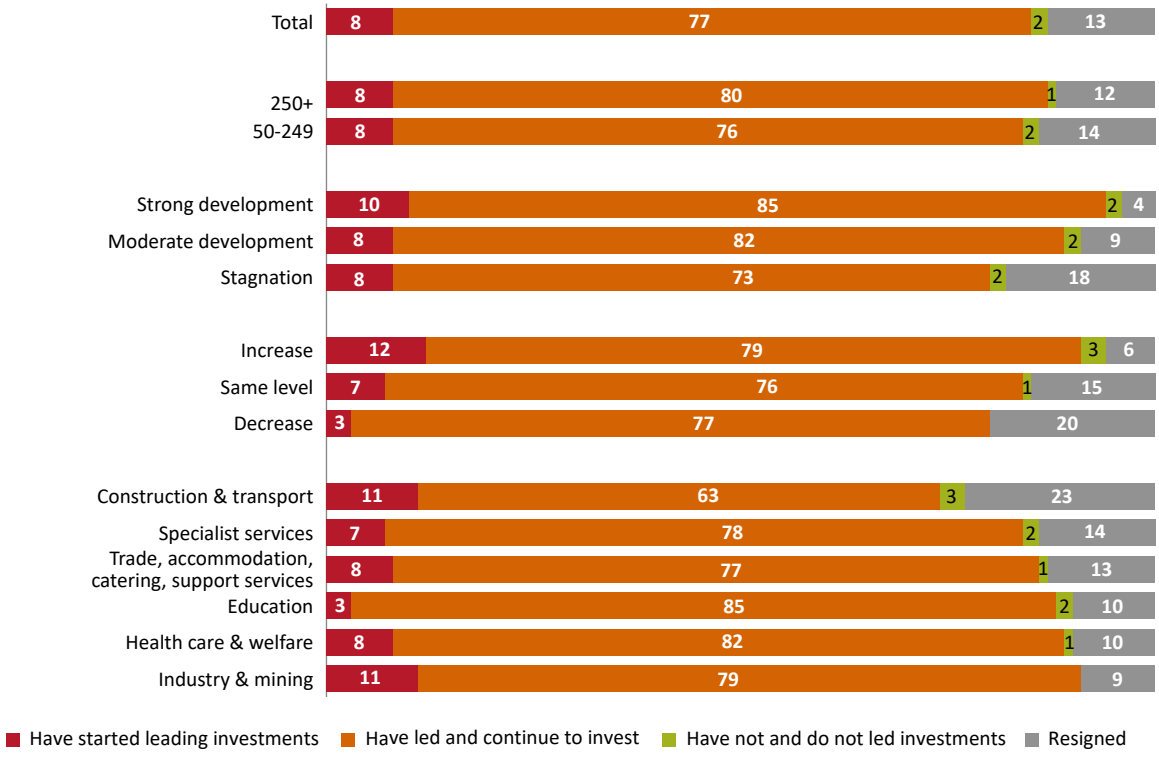
Source: BKL – Employer Survey 2018, 2022.

The overall proportion of large and medium-sized companies that invested in employee skills development in 2022 was also lower compared to the pre-pandemic and pandemic periods. In 2018 and 2020, the percentage stood at a close 90% and 91% respectively. However, in 2022, it dropped to 86%.

This is not a substantial decrease, but is noticeable enough to be worth mentioning. Two mechanisms appear to be clashing here. The first mechanism is connected with the fact that, in circumstances of uncertainty and heightened risk, one of the adaptation strategies may involve reducing the planned and actual investment, including investment in human capital development. On the other hand, investing in human capital has a direct impact on different aspects of a company's performance. It can positively affect a company's capacity for innovation (IPF, 2002), enhance employee productivity and overall company's performance (Dearden et al., 2000; IPF, 2002), and strengthen the company's ability to manage and overcome challenging situations (Yarovaya et al., 2021). This is confirmed by the data for medium and large companies (Chart 1.2). Some of the companies that invested in human resources during the pandemic, in 2020, have now completely abandoned further investment in this area (13%). From sectoral perspective, this was most frequent in the case of companies from the construction and transport sectors (23%), which were most severely affected by the shocks of 2022. **Discontinuation of further investment in human resources was more common also among stagnant companies (18%)**, i.e., ones that gave up innovation activities in 2022, had no plans for them in the following year, and did not hire any new employees. **Companies that experienced slower growth than in 2020** (due to reduced investment in innovation and/or recruitment) **were significantly more likely than others** (20% compared to 6% of companies whose growth rate increased during the same period) **to discontinue investment in employee skills as well, which reflects the correlation between these two types of investments in company operations**.

At the same time, some of the companies that did not invest in human resources in 2020 decided to do so in 2022. Their percentage was 8% i.e., 5 pp lower than the percentage of companies opting out, which translated into the lower overall value of the indicator for companies investing in skills development in 2022. **Investments in skills were more likely to be initiated by entities that between 2020 and 2022 also showed an increase in the company's growth rate**.It should be noted that the percentage of companies that did not invest in skills development in any way, in any of the years compared, is negligible (2%). But this is not surprising given that the data covers only large and medium-sized entities, where high employee turnover necessitates even incidental or basic training activities. Companies from the education sector and strong growth companies have the highest proportion of entities that have maintained continuity in this field (85%).

Chart 1.2. Change in large and medium-sized companies investment in employee skills development in 2022 compared to 2020 (%)



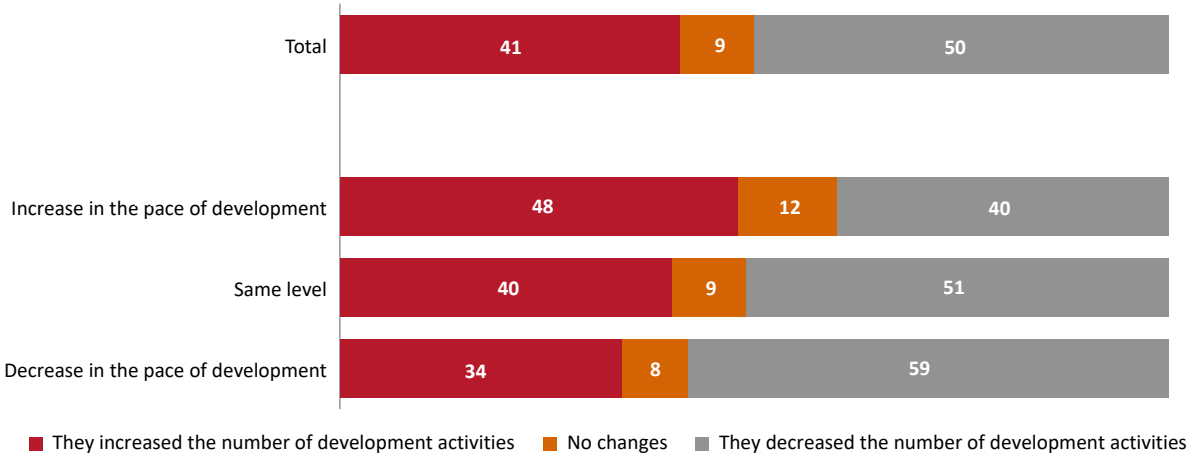
In some of the cases, the percentages do not add up to 100% due to rounding to whole values.

Source: BKL – Employer Survey 2020-2022 (panel), Nmin (development index 2022 – strong development) = 52.

Development activities undertaken by companies

Changes can also be seen in the scale of development activities carried out in 2022 compared to 2020. A bigger proportion of large and medium-sized companies reduced the number of development methods used (50%) than expanded the range of activities conducted (41%) (Chart 1.3). Once again, the connection with the pace of company development is revealed. Those companies whose development accelerated implemented a wider range of development activities (48%). At the same time, entities whose development slowed down limited the number of forms of investment in personnel (59%).

Chart 1.3. Change in 2022 compared to 2020 in the number of skills development forms used by medium and large companies depending on their growth rate change (%).



Source: BKL – Employer Survey 2020-2022 (panel).

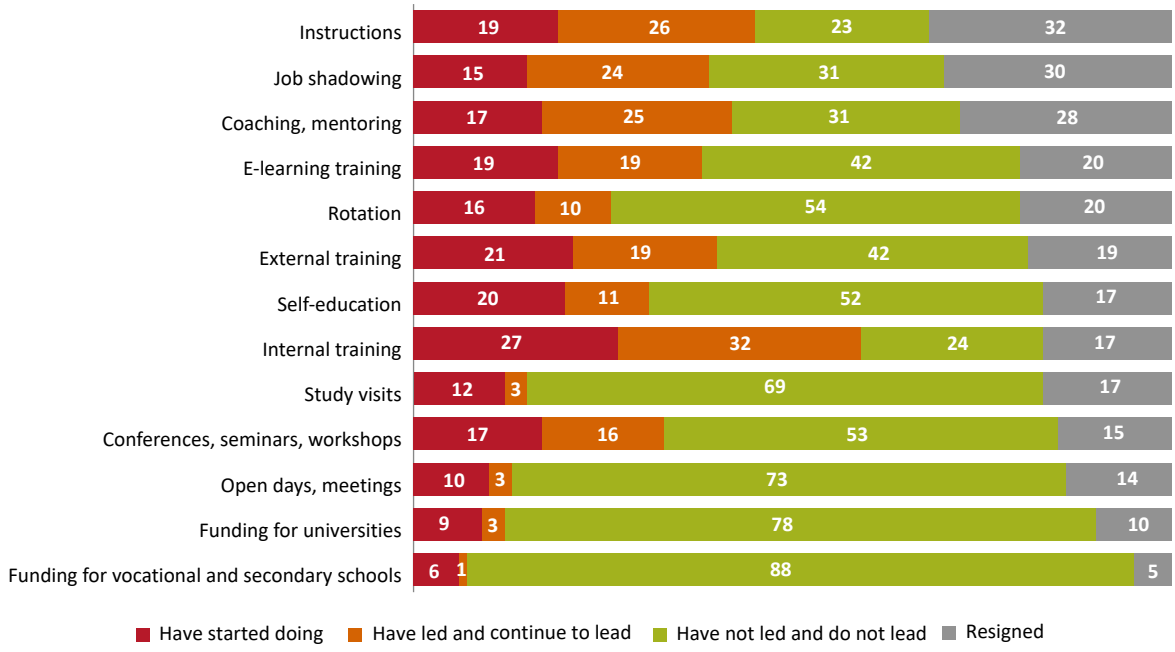
The employers surveyed are much less likely to invest in activities carried out outside than in the workplace. A large majority are those who did not carry out such activities (financing of employees' vocational and secondary education, higher education, study visits, participation in conferences, seminars, and workshops) in 2020 and still do not do this.

From the perspective of changing popularity of various forms of skills development between 2020 and 2022, the percentage of companies that discontinued such activities is almost equal to the percentage of those that initiated them (Chart 1.4). Although it is worth noting that **in 2020 there were various restrictions on participating in external development activities due to the COVID-19 pandemic, which obviously affected participation, in 2022, after the end of the pandemic, increased interest in these activities was not observed.**

A decline in investment is evident in the case of workplace-based activities – companies were most likely to discontinue conducting trainings (32%), job shadowing (30%), as well as coaching and mentoring (28%). The percentages of companies that initiated such activities were significantly lower (19%, 15%, and 17% respectively). Construction industry entities, which were also most likely to declare that their business was severely affected by the shocks, reduced this kind of investment most. At the same time, these forms of employee skills development remain among the most popular in companies.

The only form of employee skills development that showed a clear upward trend was internal training, which involves using the skills and abilities of the organisation's employees. This confirms the ongoing trend of companies shifting their focus from external to internal training. The trend has been evident since 2018, marking a shift from the opposite pattern observed in the earlier years. In contrast, despite the ongoing digitization trend and the widespread use of online training, it is noteworthy that domestic companies are not significantly inclined to adopt this form of employee development. The percentage of large and medium-sized companies using the solution in practice remained at the same level as during the pandemic, in 2020, averaging 39% (higher in the education, modern services, and healthcare sectors). At that time, a significantly higher number of companies than before the pandemic were implementing such solutions (14 pp more than in 2018), but since then, their popularity, though it has not decreased, has not increased either, although their usage is higher in other European countries (CEDEFOP, 2022a).

Chart 1.4. Change in the popularity of skills development forms used by medium and large companies between 2020 and 2022 (%)



Source: BKL – Employer Survey 2020-2022 (panel),
Nmin (e-learning training) = 656.

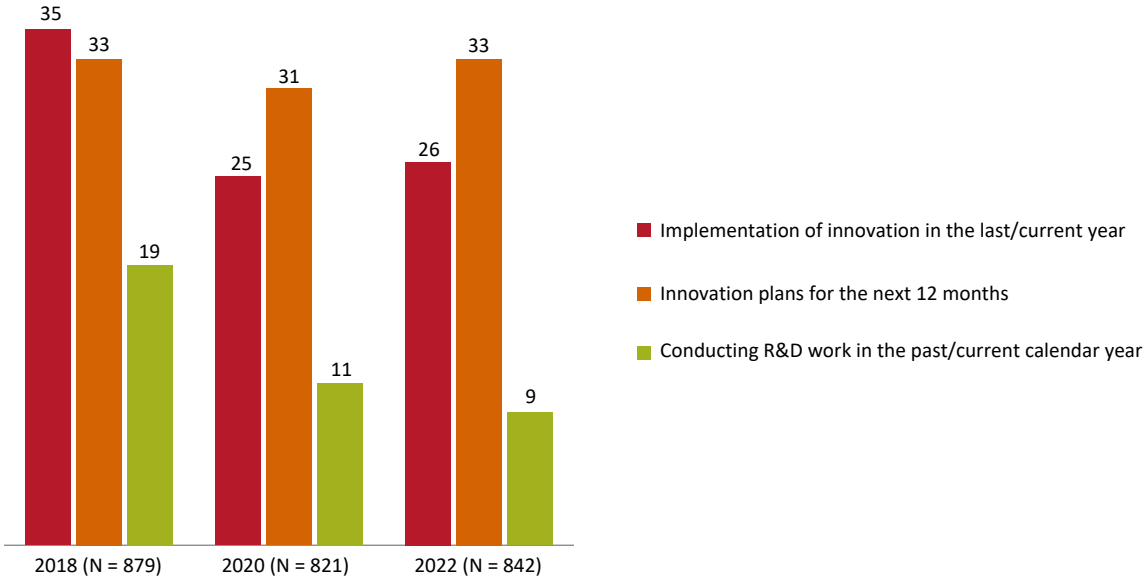
Level of innovation and R&D activities

The risk of investment reduction resulting from the uncertainty regarding the timing of shocks may also apply to investment in research and innovation, especially as it is conditioned by investment in human capital, which slightly declined in 2022 compared to the previous years. **From the comparative perspective for 2018, 2020, and 2022, there is also evidence of a decline in innovation activity among companies**[5] (Chart 1.5). Compared to the pre-pandemic period, the proportion of companies that implemented innovation in their organisation in 2022 decreased by 9 pp, and the proportion of those that invested in R&D decreased by 10 pp. **However, it should be remembered that apart from stability of the economic environment and economic conditions, a significant factor contributing to the weakening of this activity and its further decline may be the running out of public support, which is one of the key factors stimulating companies' investment in this area.** This is not a very optimistic scenario, as it can be expected that low innovative and R&D activity of domestic companies will weaken the pace of change and companies' adaptation to the global market trends.

The industries that stood out in 2022 in terms of innovation implementation and R&D activities were the industry and mining sectors, and specialised services. In the case of mining, this may be related to both the dynamics of changes caused by the energy crisis and the green transformation.

[5] In 2018, questions regarding the implementation of innovation and R&D activities referred to the year preceding the survey, while in 2020 and 2022 they referred to the survey year.

Chart 1.5. Innovative activity and R&D activities in medium and large companies before, during, and after the pandemic (%)



Source: BKL – Employer Survey 2018, 2020, 2022.

However, what most significantly differentiates the activity in both of these areas is parallel investment in employee skills. Companies which were actively developing their staff were much more likely than those inactive in this area to declare they implemented innovation (29% compared to 9%) and conducted R&D activities (10% compared to 2%). Companies' development depends on the role of innovative activity in the business strategy, while the effectiveness of innovative activity is dependent on qualified human resources, which makes the two types of investment strongly interconnected. Appropriate action and investment can bring about a synergy of effects in the area of development.

In terms of innovative activity dynamics, when the pre-pandemic 2018 activity of the same companies is compared with their activity after in 2022, inactive companies are clearly predominant – over a half of the surveyed large and medium-sized companies did not implement any innovation in either of the two periods (Table 1.4). The second largest group of companies (24%) consists of entities that implemented innovations in 2018, but did not do this in 2022. Another 14% of companies are ones that did not implement innovations in 2018, but introduced them in 2022. Only one in 10 companies declared they implemented innovations in both periods.

It should be noted that **medium-sized companies were more likely than large companies to be passive in the area of innovation** (56% against 43%), **but it was large companies that were more likely to discontinue implementations in 2022** (by 10 pp). Such a scenario may have several causes. This group of companies may have recently become a beneficiary of intensive public support aimed at large entities, which allowed them to carry out their plans in this area and utilise their own resources allocated for this activity. It may also result from lack of access to attractive public support for innovative and R&D activities. Besides, it should be noted that large companies, more often than medium-sized companies, emphasised the impact of shocks on their current economic activities. Uncertain economic situation could have reduced their investment readiness.

From sectoral perspective, the percentages of companies inactive in innovation implementation are highest in the healthcare sector (60%) and the education sector (55%), followed by professional services (48%) i.e., sectors of the so-called new economy heavily dependent on knowledge. On the other hand, the fact that the proportion of companies that initiated innovative activities is highest in the sector of industry and mining lends support to the hypothesis that certain firms from this sector capitalised on the opportunities arising from, among other factors, the upsurge in the fuel market prompted by the energy crisis.

Implementing innovation in a company is a strategic activity that requires funds and appropriate conditions for implementing change, including human capital. Therefore, it requires proper planning at company level. Companies that had action plans beyond 3 months were more likely to implement continuous innovation (12% compared to 2%), less likely to discontinue investment (21% compared to 36%), and more likely to undertake them in the past year (15% compared to 8%).

Table 1.4. Change in the implementation of innovation in medium and large companies in 2022 compared to 2018 (%)

	They discontinued the implementation of innovation	They remained inactive	They maintained innovation activity	They started implementing innovation	Total	N
Medium-sized companies (50-249)	21	56	10	13	100	438
Large companies (250+)	31	43	10	16	100	164
Construction & transport	26	57	7	10	100	97
Education	19	55	12	15	100	124
Trade, accommodation, catering, support services	34	44	10	11	100	79
Healthcare & welfare	22	60	7	12	100	120
Industry & mining	19	46	16	20	100	97
Professional services	28	48	9	14	100	85
They did not have an action plan beyond three months	36	54	2	8	100	116
They had an action plan beyond three months	21	52	12	15	100	478
Total	24	52	10	14	100	594

Source: BKL – Employer Survey 2018, 2022.

It is true that a comparison between two points in time does not allow conclusions on **incidental nature of domestic companies' innovative activity**, but when three years (2018, 2020, and 2022) are compared, it can be cautiously assumed the hypothesis is more legitimate. Among the surveyed medium and large companies, 28% did not implement a single innovation in the analysed years, 74% introduced an innovation in only one year, 21% implemented innovations in two of the analysed years, while only 5% implemented innovations in all the three years . When the level of these changes is examined more closely, in 2022, over a half of large and medium-sized companies declared they implemented innovative changes at company level or at local market level at most. 14% of the surveyed innovative companies declared they implemented innovative changes at international level, while the remaining 30% declared they implemented innovative changes at national level.

Summary

Employers are prepared to deal with uncertainty. Adaptation to a changing environment is at the core of their operations and determines the gaining of competitive advantages. At the same time, as the recent years and the above review of trends affecting the labour market show, most employers have been operating in a period of increased uncertainty resulting from the interaction of a variety of factors. The most important consequence of the described trends will be the need to change the scope of tasks and the way in which they are performed on the existing positions. Employers predict that, in the next five years, almost a half of the jobs will require different skills (World Economic Forum, 2023). This implies huge changes in the labour market and in the area of skill development.First of all, a significant increase in demand for employees with higher and new skills (CEDEFOP, 2022b).

Polish employers have a certain general and universal vision of competency resources of employees – individuals who have specific professional skills, while also being able to organise their work and operate in a social environment. Latest research and employers' answers to the question of how they imagine the skills of the near future show that they are aware of at least some of the trends and are changing their requirements regarding skills to accommodate the trends. Therefore, in addition to these universal skills, they emphasise the increasing importance of cognitive abilities, digital skills, and working in an international environment. They also appreciate the role of continuous learning and employees developing their skills.

At the same time, employers will need an even greater than before understanding of the factors that influence their operations, achieved through analytical thinking, appropriate selection and analysis of data, and preparation of their employees for greater variability. The latter need will reinforce the trend of ensuring psychological and physical well-being of employees (PARP, 2022). This is also visible in Polish employers emphasising the importance of coping with stressful situations.

International research shows that lack of individuals with the right skills is a greater constraint for employers than lack of capital. The most common strategy for dealing with this challenge is to develop internal talent development procedures (World Economic Forum, 2023). The results of the BKL Study confirm that, in the case of Polish medium and large enterprises, investing in the development of current employees is the dominant strategy for

addressing skills' shortages. At the same time, employers are increasingly opting for acquiring the necessary skills in the market rather than addressing the shortages by developing their workforce internally. This is particularly characteristic of rapidly growing companies. However, it does not mean that this group of companies does not invest in employee training and development at all. Rather, in a situation of dynamic development driven by innovation implemented in the company, the ability to quickly address skills gaps by finding the right candidates outside the company may be crucial. This ensures the candidate's immediate effectiveness and reduces the risk of skills' deficit's negative impact on the company's innovation process.

However, overall, Polish medium and large companies' investment in personnel has decreased, which is reflected in both the lower percentage of companies engaging in such practices, and the limitation of the scale and diversity of the methods of employee development used by the companies. This is not a desirable scenario, especially in the context where investment in personnel is linked with investment in innovation, whose effectiveness depends on high-quality human capital. This mutual relationship is visible also in the results of the BKL Study. The level of innovation activity in companies remains low, which is reflected in both the small percentage of companies that systematically implement such solutions, and in the small size of the group of entities that invest in research and development. This situation results from many factors, including the running out of public support and the increasing negative sentiment arising from the uncertain market conditions and unfavourable economic climate. At the same time, low investment in these two areas will limit domestic companies' resilience to transient shocks and their potential to adapt and compete in a changing reality in the longer run.

World Economic Forum research indicates that, as a response to the trends described in this chapter, employers from 46 countries most often expect their governments to provide financial support for skills development. The less frequently mentioned responses included: labour law flexibility, tax incentives, general improvement of the system of education, and changes in migration policy (World Economic Forum, 2023). Experts point to an even wider range of necessary actions by the public administration. They mention, among other things, addressing skills shortages, increasing access to work in regions where the number of jobs is rapidly growing, providing separate support for regions and industries with declining job opportunities, and increasing the participation of employed individuals in the population (Smith et al., 2020)

Not only economic reasons but also social cohesion are cited as justifications for the state's involvement in this area. Some experts express concern that the described changes may bring about increased social inequalities (CEDEFOP, 2022a; Dunkerley, 2022)., benefiting individuals who are already in a privileged position, as they more often acquire relevant skills and have better prospects for the future. The increase in social inequalities can, in turn, increase the unpredictability of the political situation.

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Annex

Table 1.5. Skill requirements of employers (average on a scale from 1 – not necessary to 5 – very necessary)

Skills	2018			2019				2020			2021			
	50-249	250+	Total	2-49	50-249	250+	Total	50-249	250+	Total	2-49	50-249	250+	Total
Willingness to take responsibility	4.19	4.1	4.18	3.84	3.81	4.01	3.84	4.2	3.98	4.17	4.19	4.11	4.16	4.16
Time management and keeping deadlines	4.13	4.03	4.11	3.91	3.76	3.94	3.86	4.06	3.87	4.03	4.15	4.06	4.07	4.12
Independent organisation of work	4.12	4	4.1	3.82	3.69	3.77	3.78	4.04	3.82	4.01	4.11	4.07	4.02	4.09
Being communicative	4.12	3.95	4.09	3.82	3.72	3.8	3.79	3.96	3.76	3.94	4.06	3.96	4	4.02
Ease of networking	4.05	3.87	4.02	3.77	3.7	3.78	3.75	3.92	3.71	3.89	3.98	3.87	3.91	3.94
Learning new things	3.93	3.88	3.92	3.63	3.6	3.79	3.63	3.96	3.79	3.93	4.05	4.02	4.02	4.04
Coping with stressful situations	4.03	3.89	4.01	3.6	3.69	3.75	3.64	3.87	3.76	3.86	3.91	3.96	4.01	3.93
Teamwork	3.98	3.96	3.98	3.5	3.64	3.76	3.55	3.93	3.69	3.9	3.88	3.91	3.92	3.89
Analysing information and drawing conclusions	3.8	3.84	3.8	3.56	3.58	3.74	3.57	3.88	3.8	3.87	3.86	3.91	3.99	3.88
Ingenuity, creativity	3.87	3.65	3.84	3.58	3.5	3.62	3.56	3.74	3.49	3.71	3.93	3.81	3.9	3.89
Being fluent in Polish	3.7	3.47	3.66	3.16	3.2	3.33	3.18	3.59	3.29	3.55	3.73	3.7	3.7	3.72
Using a computer, tablet	3.43	3.45	3.43	3.24	3.18	3.4	3.23	3.53	3.47	3.52	3.69	3.66	3.75	3.68
Physical fitness	3.34	3.37	3.35	3.25	3.17	3.41	3.23	3.41	3.4	3.41	3.56	3.42	3.49	3.51
Performing simple calculations	3.21	3.31	3.22	3.08	3.06	3.27	3.09	3.5	3.34	3.48	3.62	3.53	3.51	3.58

Skills	2018			2019				2020			2021			
	50-249	250+	Total	2-49	50-249	250+	Total	50-249	250+	Total	2-49	50-249	250+	Total
Administrative work and record-keeping	3.1	3.07	3.09	3.02	3.01	3.16	3.03	3.35	3.12	3.32	3.48	3.49	3.54	3.48
Operating machines and technical equipment	3.19	3.32	3.21	2.95	2.85	3.22	2.93	3.11	3.09	3.11	3.45	3.31	3.5	3.4
Operating specialised programmes	3.06	3.25	3.09	2.94	2.86	3.08	2.92	3.17	3.01	3.15	3.37	3.3	3.53	3.35
Resolving conflicts	3.29	3.18	3.28	2.84	2.98	3.06	2.9	3.16	2.86	3.12	3.13	3.27	3.31	3.19
Cooperating with individuals of different nationalities	2.84	2.89	2.85	2.95	2.74	2.88	2.88	2.9	2.89	2.89	3.39	3.15	3.43	3.31
Coordinating the work of others	3.12	3.08	3.12	2.83	2.89	2.96	2.86	3.09	2.81	3.05	3.14	3.18	3.29	3.16
Willingness to work non-standard hours	3.07	3.22	3.09	2.87	2.82	2.9uter7	2.86	2.97	2.91	2.96	3.14	3.07	3.2	3.12
Willingness to travel frequently	2.58	2.77	2.6	2.66	2.53	2.65	2.62	2.59	2.5	2.58	2.98	2.86	2.92	2.94
Performing advanced calculations	2.61	2.78	2.64	2.49	2.42	2.52	2.47	2.68	2.42	2.65	2.78	2.76	2.85	2.77
Assembling and repairing machines and equipment	2.49	2.59	2.5	2.49	2.34	2.4	2.44	2.46	2.35	2.45	2.77	2.73	2.78	2.75
Artistic skills	2.11	2.15	2.11	2.22	2.15	2.33	2.2	2.34	2.22	2.32	2.56	2.43	2.38	2.51
N	888	147	1035	2294	1052	193	3539	948	148	1096	2260	1197	188	3646

Source: BKL – Employer Survey 2018-2021.

2. Assessment of the economic situation from an individual perspective during a period of accelerated price growth

Introduction

2022 saw noticeable acceleration in the growth of prices for consumer goods and services (inflation). An important factor in this growth were the rising prices of energy carriers and food, due to the war in Ukraine, and the previously disrupted supply chains, due to the pandemic (see, for example, Stiglitz and Regmi, 2022). In the election year in Poland, a discussion erupted about the extent to which the war ('putinflation') affects price dynamics, as maintained by representatives of public institutions (National Bank of Poland, Inflation Report, March 2023), and to what extent these factors are of secondary importance (Hagemajer and Tyrowicz, 2022), and, perhaps, partly provoked by the wrong, delayed response of the Monetary Policy Council (Filar, 2023), which affected the demand-related sources of inflation. OECD economists (2022) suggested monetary policy should be tightened to lower the expectations regarding inflation.

According to Statistics Poland (2023) research conducted in May 2023, it appears that Poles' expectations regarding inflation have shifted towards lower[6]. As workers' expectations of a high inflation can lead to wage growth pressure, thus fuelling the spiral of growing prices and wages (cf. e.g. Stiglitz and Regmi, 2022), and as they significantly depend on an individual's financial situation and on wages in the sector where the individual is employed, the aim of this chapter is to analyse Poles' subjective perception of inflation.

[6] Indeed, according to the Statistics Poland, in the following months of 2023 (January-August), the monthly price indices for consumer goods and services compared to the same month of the previous year (=100) were as follows: 116.6, 118.4, 116.1, 114.7, 113.0, 111.5, 110.8, 110.1. The HICP index for the corresponding reference period was (in %): 15.9, 17.2, 15.2, 14.0, 12.5, 11.0, 10.3, 9.5.

Special attention has been paid to the dynamics of consumer prices and the differences between wages in the private and the public sector. The increase in wages in the latter sector, linked to the greater bargaining power of its employees in the past, proved to be an important source of demand-pull inflation (Da Fonseca, 1998; Johnston, 2012). The sources of households' expectations regarding inflation may also prove significant. It is noted that although these expectations may not be rational in the colloquial sense, i.e. they are not based on personal analyses, they are shaped by the media and analyses of professionals, whose arguments can be rational (Carroll, 2003).

The chapter offers a brief overview of prices of consumer goods and services in Poland in 2017-2022, followed by a comparison of real wages in the private and public sectors during that period. The next part presents the factors that influence wages, and Poles' subjective perception of their financial situation during the period of rising inflation, based on the sector in which they were employed, their professional status, and their wage level. The conclusions from the study present challenges for the public policy as well.

In this chapter, two types of data are used. The first part uses the data from Statistics Poland, while the second part uses the data from the Human Capital Study. In the latter case, the analysis is based on panel studies of the BKL population, comparing two selected measurement points, i.e. 2021 and 2022. It was decided analysis should be limited to these two points in time so as to capture the processes that took place during a period of a significant increase in prices in Poland. Individuals employed under a contract of employment were selected for the analysis, mainly to increase the comparability of results within the particular subcategories of study participants.

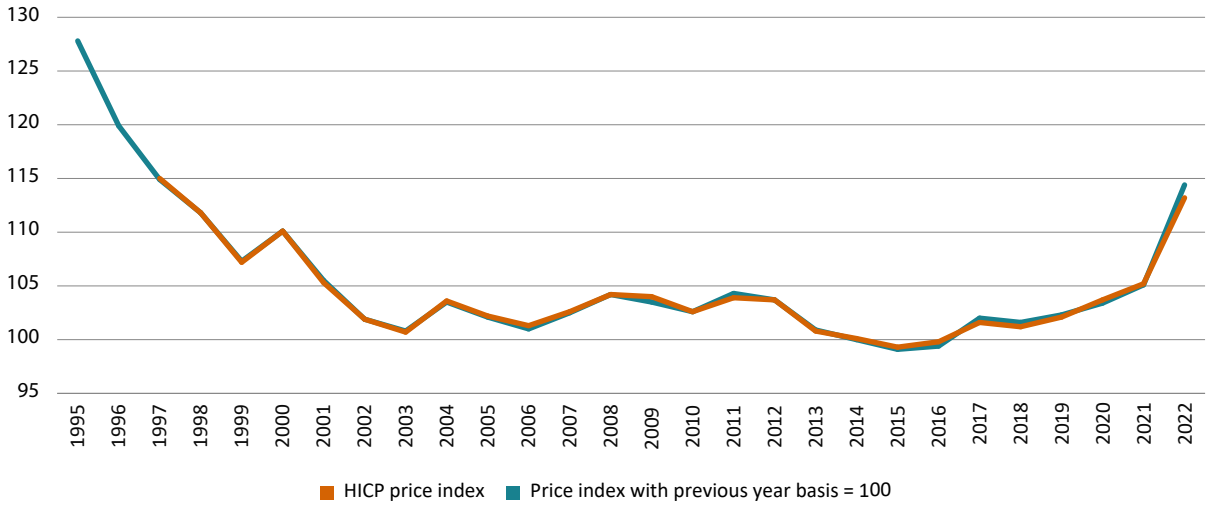
Consumer price index versus average wages in Poland between 2017 and 2022

The process of price changes in the economy is commonly referred to as inflation. It is usually associated with changes in the prices of consumer goods and services, i.e. goods and services purchased by households, although public statistics also measure and publish price indices for agriculture, industry, construction, etc.

The most popular measure of inflation is the Consumer Price Index (CPI). EU countries have adopted the United Nations' Classification of Individual Consumption According to Purpose for calculating consumer price indices. Since the late 1990s, harmonised indices of consumer prices (HICP) have also been published by Statistics Poland[7]. The consumer price index measures changes in the prices of a representative basket of goods and services, so an individual's perception of price changes may also depend on the extent to which they purchase goods and services represented in the basket.

In 2022, the HICP index reached 13.2%, and, according to Statistics Poland methodology, the change in prices was 14.4% year-on-year (Chart 2.1). **A comparable level of inflation has not been recorded since 1997, when the HICP index started to be used in Poland and the EU, although high inflation was not uncommon before.** In the 1980s and during the systemic transformation, it was common for the annual growth rate of consumer prices to exceed 15%, reaching 351% and 685% in 1989 and 1990, respectively.

Chart 2.1. Consumer price indices for goods and services in Poland in 1995-2022 (previous year = 100)



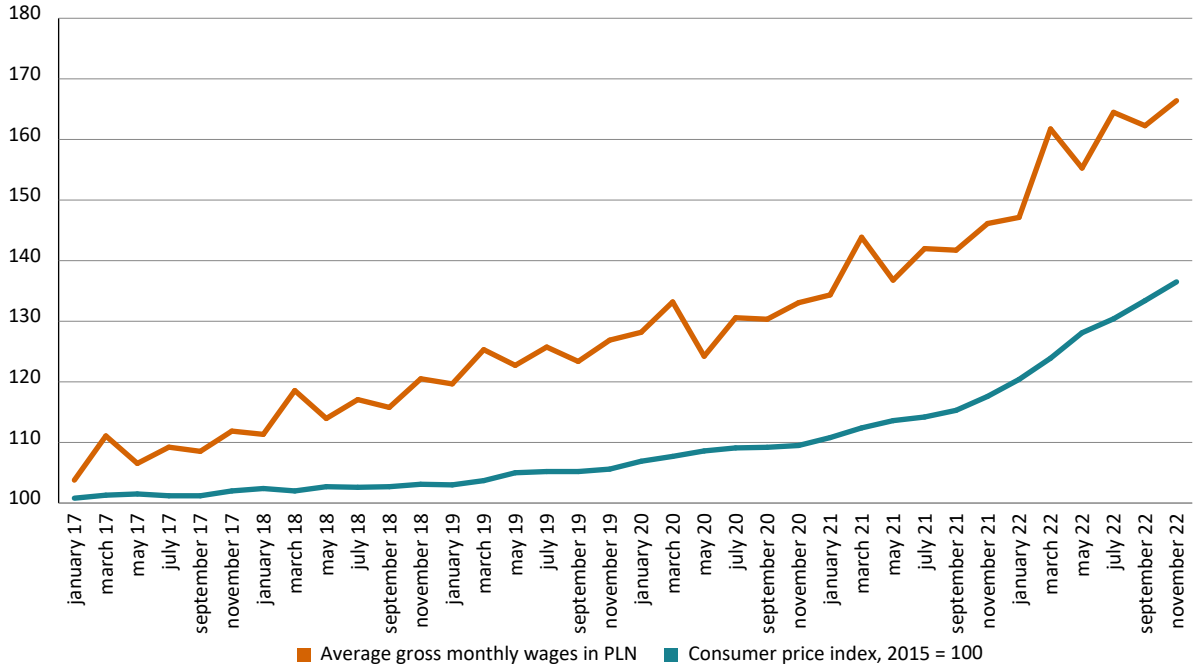
Source: Statistics Poland 2023.

If nominal wages did not change, the increase in prices of goods and services would lead to a decrease in the purchasing power of citizens, meaning they could buy fewer goods

[7] More on this topic: https://stat.gov.pl/metainformacje/opis-wskaznikow-gus/wielkosci-i-wskazniki-oglaszane-gus/wskaznik-cen-towarow-i-uslug-konsumpcyjnych

and services with their monthly wages. However, due to economic growth and workers' demands regarding wages in the face of rising prices, nominal wages generally increase faster than inflation, resulting in an increase in real wages (after accounting for inflation). **During 2015-2022, average monthly gross wages grew faster than consumer prices, resulting in a favourable trend for citizens in terms of the wage and price indices** (Chart 2.2.).

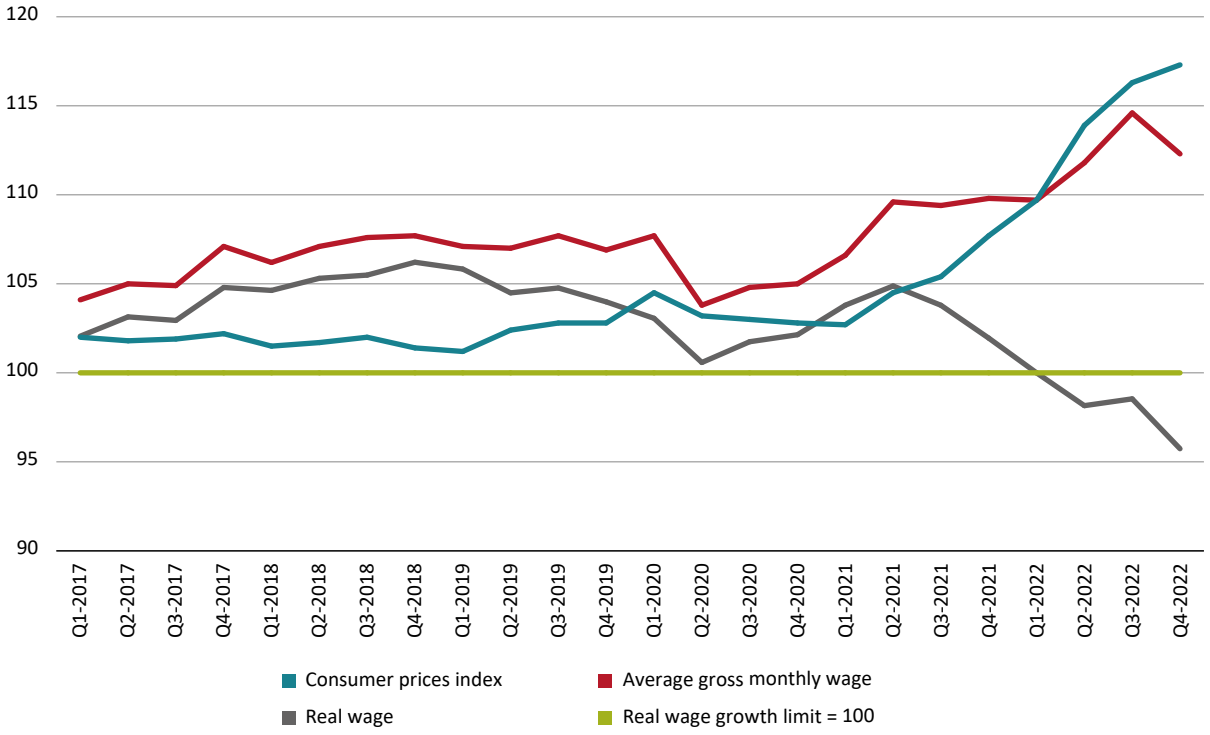
Chart 2.2. Consumer price indices and average monthly gross wages in subsequent months of 2017-2022 (2015=100)



Source: Statistics Poland 2023.

Sometimes, however, the increase in prices may be faster than the growth in nominal wages, resulting in a decrease in real wages. This happened in 2022. Chart 2.3 presents quarterly (to smooth the trend) indices of consumer goods and services prices and gross monthly wages, and the development of real wages calculated as the ratio of wage growth to price growth (x100). **In the later quarters of 2022, the growth in prices of consumer goods and services was faster than the growth in nominal wages, leading to a decrease in real wages.** President of Statistics Poland's announcement on the real increase in the average wage in 2022 compared to 2021 showed a decrease in the value of this index; the index stood at 97.9, a 2.1% decrease in real wages compared to 2021.

Chart 2.3. Quarterly indices for consumer goods and services prices and gross monthly wages (corresponding period of the previous year = 100)



Source: Statistics Poland 2023.

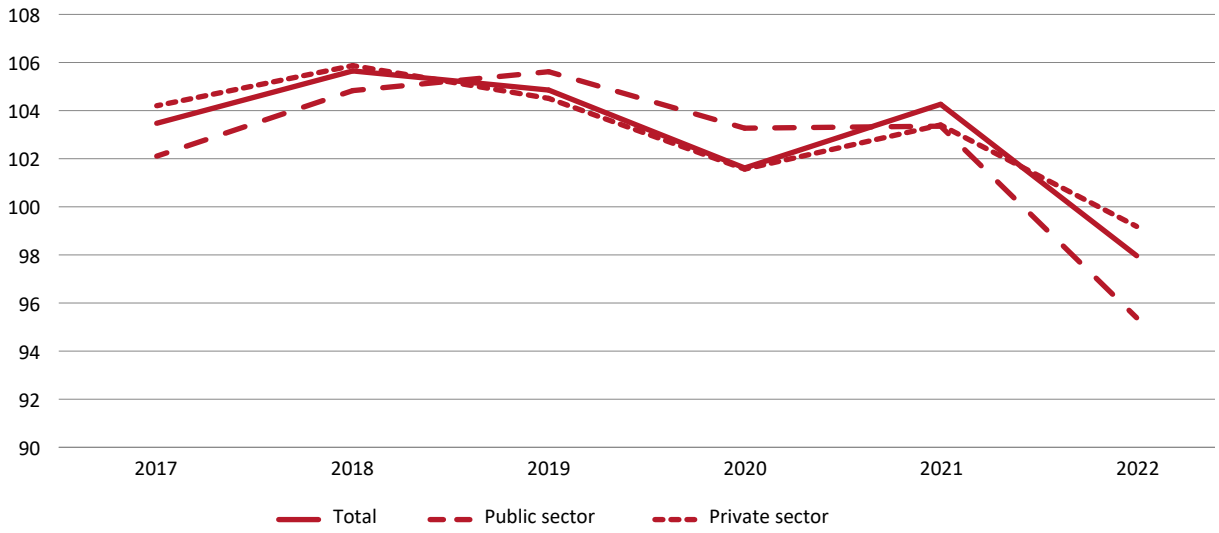
Differentiation of real wages by ownership sector in selected sectors of the national economy in 2017-2022

Statistics Poland data on employment and gross wages enable an analysis of real wages during a period of rising inflation, broken down by ownership sector and differentiating between the public and the private sector. In 2022, the average gross monthly salary in the national economy was PLN 6,346.15, with a noticeable difference between the public and the private sector: PLN 6,994.21 and PLN 6,182.35, respectively (Statistics Poland 2022, Table 5).

The development of the average monthly wage dynamics in a given year compared to the previous year, in the whole national economy (Chart 2.4.), shows that **although in 2017-2021**

the public sector's wage growth dynamics did not significantly differ from the overall wage growth dynamics, and even exceeded it periodically, in 2022, it proved negative and lower than in the private sector (Chart 2.4.). This should not come as a surprise, as the nature of the 2022 period of rising inflation, coupled with the public sector's systemic inability to quickly adjust the incomes and expenditures to the changing market conditions, resulted in the public sector's wage growth lagging behind inflation and rapid market adjustments present in the private sector.

Chart 2.4. The dynamics of average gross monthly wages in Poland by ownership sector in 2017-2022 (previous year = 100)*

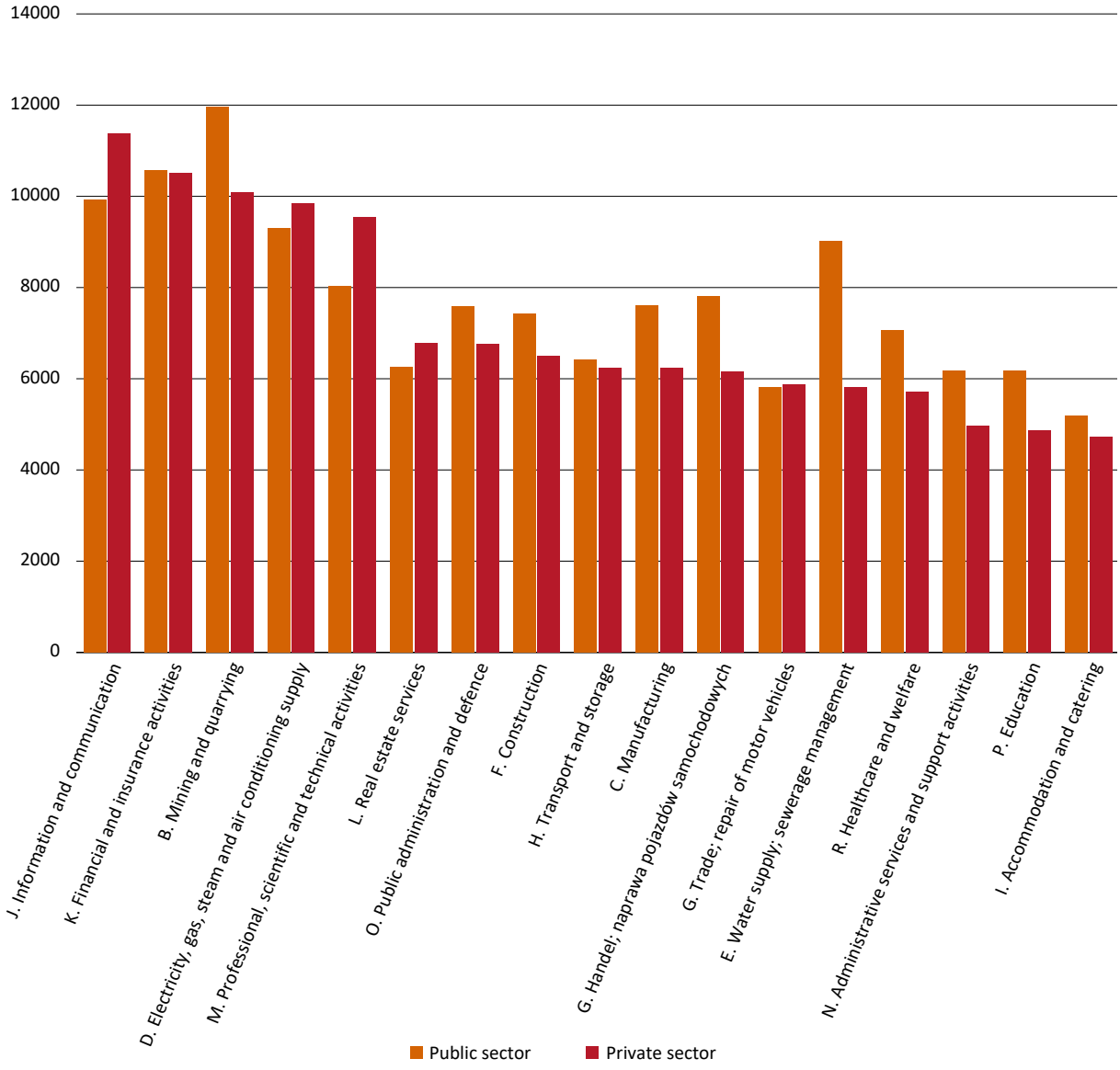


Source: Statistics Poland 2023.

* The data on wages covers entities of the national economy with 10 or more employees, and budgetary entities regardless of the number of employees.

Examination of differences in wages between the public and private sector according to sections of the PKD (Polish Classification of Activities) shows that while wages in sections characterised by high market demand for their goods and services are higher in the private sector than in the public sector, in sections where the market dictates lower wages, the public sector offers higher wages than the private sector (Chart 2.5.). In other words, **apart from the dynamically developing sectors of the economy, wages in the public sector are generally higher**.

Chart 2.5. Average gross monthly wages in the sections of the PKD in Poland by ownership sector in 2022



Source: Statistics Poland 2023.

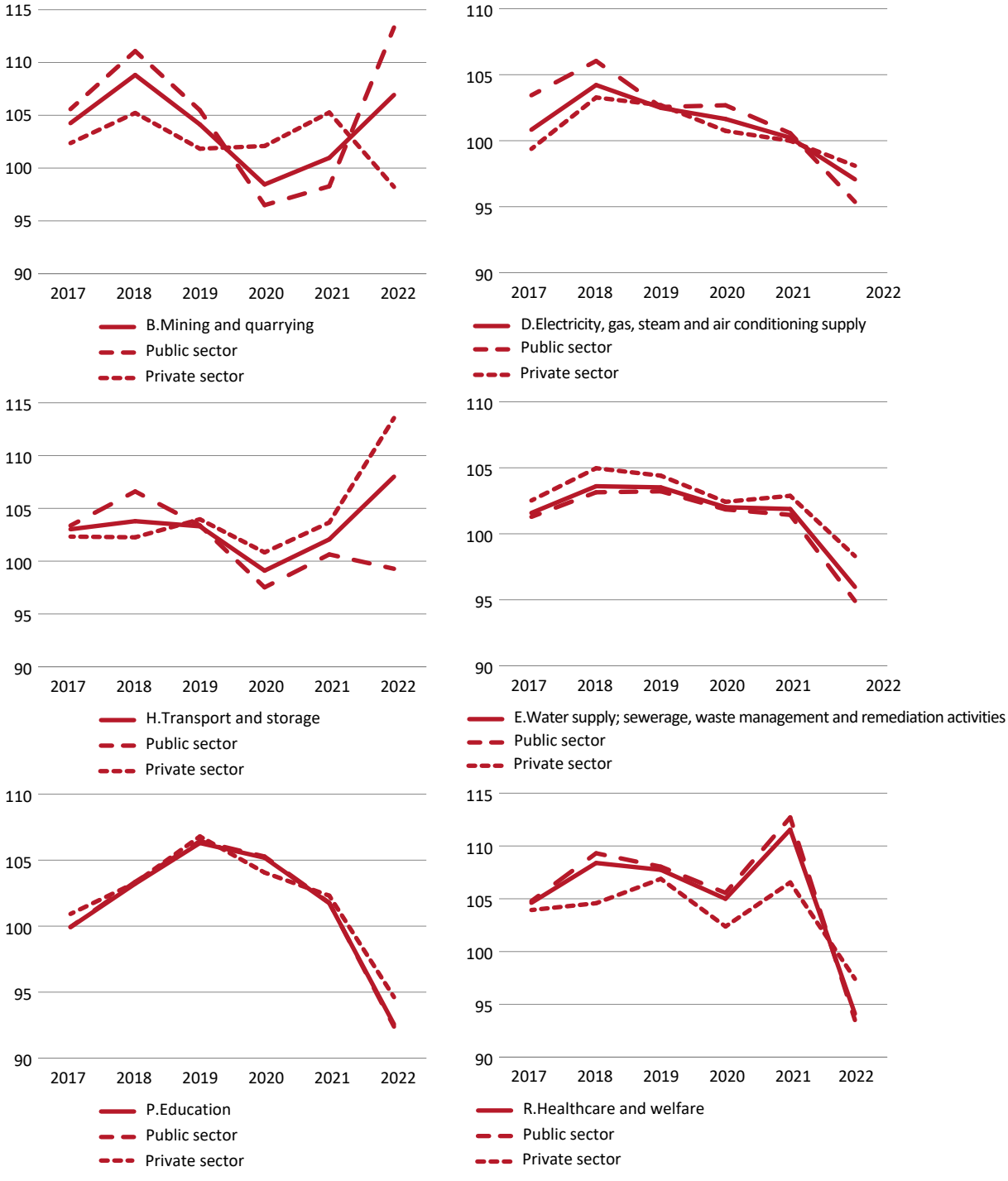
* The data on wages covers entities of the national economy with 10 or more employees, and budgetary entities regardless of the number of employees.

In some sections of the PKD classification, like manufacturing industry and construction, private ownership is predominant (over 97% of employees), while in others, like public administration and national defence, public ownership is predominant (over 99% of employees). Therefore, when making conclusions on wage differences between the public

and the private sector, one should choose sectors where ownership is mixed. These are: section B – mining and quarrying (58% of employment in the public sector), section D – electricity, gas, steam and air conditioning supply (42%), section E – water supply; sewerage, waste management and remediation activities (67%), section H – transportation and storage (32%), section P – education (87%) and section R – human health and social work activities (78%).

The dynamics of real gross wages in the sections of the PKD classification where the public sector is a major employer confirms the observation that wage adjustments to higher inflation rates are slower in the public sector. This is the case even though these sections are characterised by the highest percentage of employees who are trade unions members (see Statistics Poland data on social dialogue partners – employers' organisations and trade unions in 2018 (preliminary results)).

Chart 2.6. The dynamics of real average gross wages in selected sections of the national economy in 2017-2022 (previous year = 100)



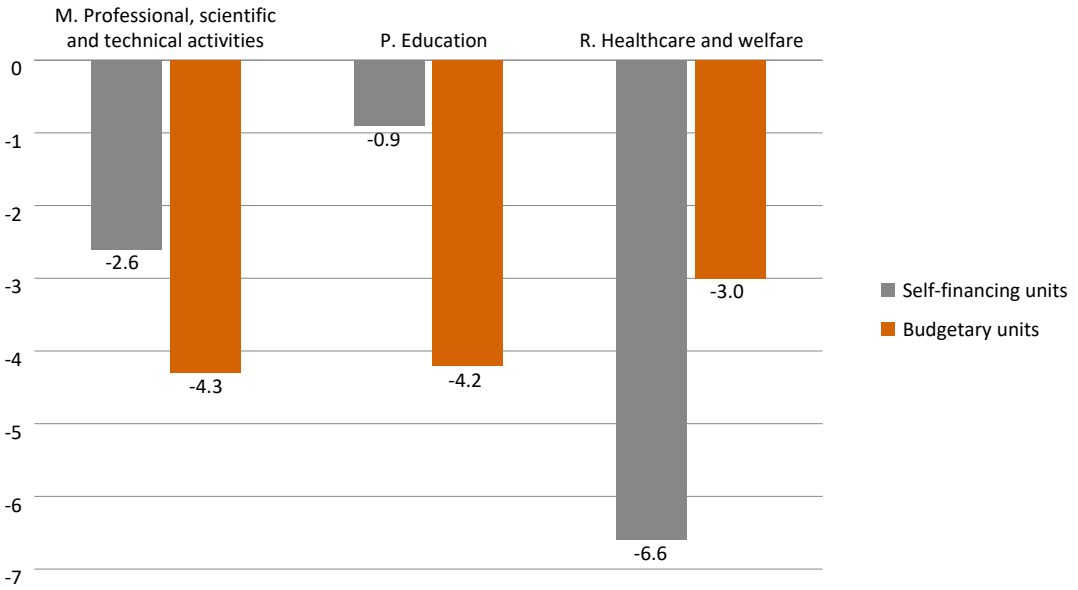
Source: Statistics Poland 2023.

* The data on wages covers entities of the national economy with 10 or more employees, and budgetary entities regardless of the number of employees.

In six of the sectors of the economy shown in Chart 2.6., except for mining and quarrying, gross real wages not only increased slower than in the private sector, but also slower than the prices of consumer goods and services, which means a decrease in real wages in the public sector and greater impact of inflation than in the private sector. In the latter sector, despite the lack of trade unions, employers are forced to maintain a constant balance between cost control, including employment-related costs, and, in the face of labour shortages and the fear that employees might find better jobs in other companies, attractiveness of wages. The situation in the mining and quarrying sector was specific in 2022, as, despite the long-term strategy of phasing out of coal mining, mines increased production and employment. The reason for this was the high demand for and high prices of coal due to the outbreak of war in Ukraine.

At the same time, alongside wages' dynamics, another factor that was highly likely to affect the assessment of individual economic situation among Poles was the level of wages. For instance, a 6% reduction in real wages may be less painful if the gross salary is PLN 6,700 than a 3% reduction when the salary is PLN 4,950. Due to the higher marginal utility of lower wages (entirely used for consumption, as opposed to higher wages), the loss of a portion of real income may be less painful for higher-earning workers.

Chart 2.7. The dynamics of real wages in selected sections of the PKD classification according to forms of financing in 2022 in relation to 2021 (%)



Source: Statistics Poland 2023.

* The data on wages covers entities of the national economy with 10 or more employees, and budgetary entities regardless of the number of employees.

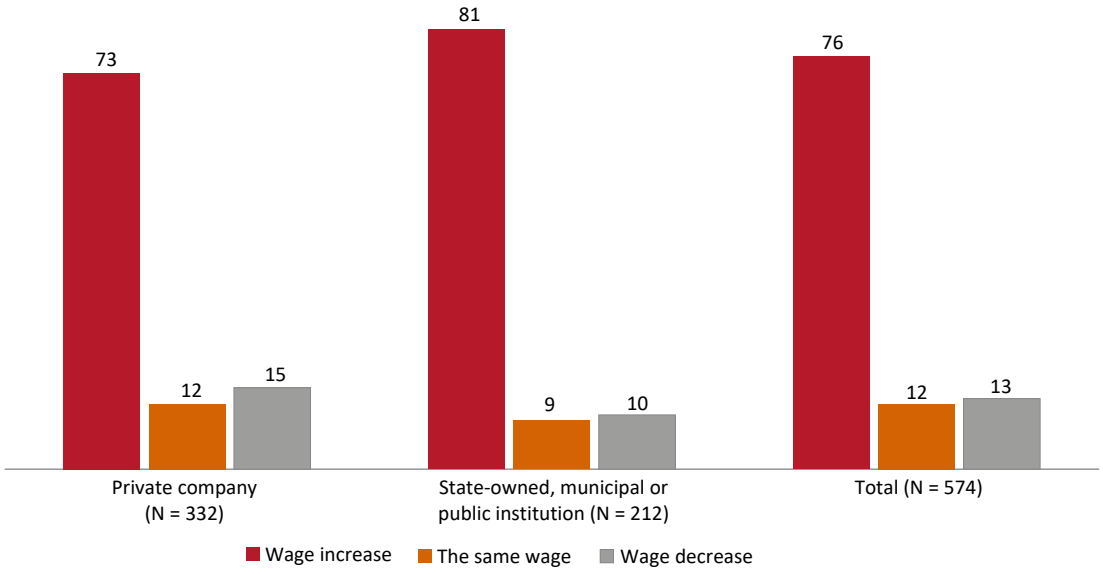
Wages and Poles' subjective assessment of their financial situation in the light of BKL Study data

In conditions of rising inflation, it is difficult to assess one's financial situation and the development of one's real wages, since, especially short-term, changes in prices and wages do not occur simultaneously. However, such an assessment forms the basis for expectations regarding inflation and may play a significant role in negotiating wage increases with employers. Therefore, subjective assessment of one's current and future financial situation may have a significant impact on ongoing price increases. To describe the development of such an assessment in Poland, data from the BKL Study conducted in 2022 was used. It should be noted that in order to increase the comparability of results in the particular

subcategories of respondents, the analysis conducted on BKL data was limited to individuals employed under a contract of employment. Another factor was the income, which was analysed as net income (due to the phrasing of the question in the BKL Study) calculated based on the declarations of employees of in micro, small, medium, and large enterprises. Therefore, certain discrepancies can be expected in relation to Statistics Poland data presented in the initial part of the chapter. However, these discrepancies should only concern the nominal value of the income, and not the general trends.

As shown in Chart 2.8., **wages of a vast majority (over 75%) of respondents increased between 2021 and 2022, the increase occurring slightly more often in state-owned companies and public institutions than in private enterprises**. Employees of state-owned companies also less frequently declared their wages decreased over the past two years.

Chart 2.8. Change in the average monthly net wage between 2021 and 2022, depending on the place of employment (%)*



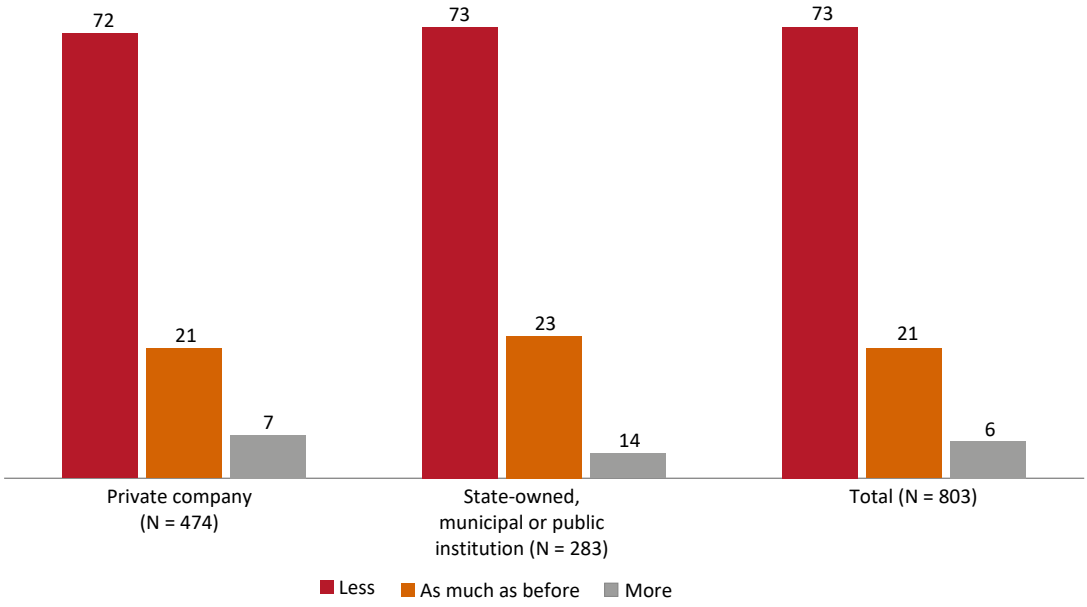
Source: BKL – Population Survey 2021, 2022 (panel).

* Data for employees employed under a contract of employment in 2022.

According to respondents, the increase in wages seems to only partially compensate for the rising cost of living. **Regardless of the sector, a vast majority of respondents feel the impact of inflation on their financial capabilities.** Over 70% believe that with their current salary they can buy less than a year before, about 21% declare nothing changed in this regard, and

6% declare their situation improved (Chart 2.9.). This data is consistent with the previously mentioned decrease in real wages of Polish employees in 2022 (prices growing faster than nominal wages).

Chart 2.9. Assessment of changes in purchasing power of wages depending on place of employment (%)*



Source: BKL – Employer Survey 2022 (panel)

* Data for employees employed under a contract of employment in 2022.

An increase or stabilisation of wages changes the perception of one's financial capabilities. It is quite obvious that individuals who earned more in 2022 than in 2021 were more likely to declare that in 2022 they could buy as much or even more with their wages, especially when the increase was above the average annual inflation for 2022 i.e. above 14.4% (Table 2.1). Quite surprising can be the assessments of individuals who, even though their wages did not change, or decreased, declared they did not feel their purchasing power declined. This group, though small, may be indicative of the existence of a certain subjectivity in perceiving one's financial situation. Similar subjectivity is visible among those whose wages significantly increased (above the inflation threshold) who still have a negative perception of their financial capabilities. This fairly large group (approximately 70% of those whose income increased above the average annual inflation) shows that the perception of one's financial situation and its changes often depends not only on objective factors,

such as real growth in the cost of living, but is also deeply rooted in general beliefs shaped by external factors.

Table 2.1. Change in wages between 2021 and 2022 and declarations how much the respondent could buy with their current wages compared to the previous year (%)*

	Less	As much as before	More	Total	N
Wage increase	70	22	8	100	404
The same wages	90	10	0	100	62
Wage decrease	88	12	0	100	59

Source: BKL – Employer Survey 2021.2022 (panel).

* Data for employees employed under a contract of employment in 2022.

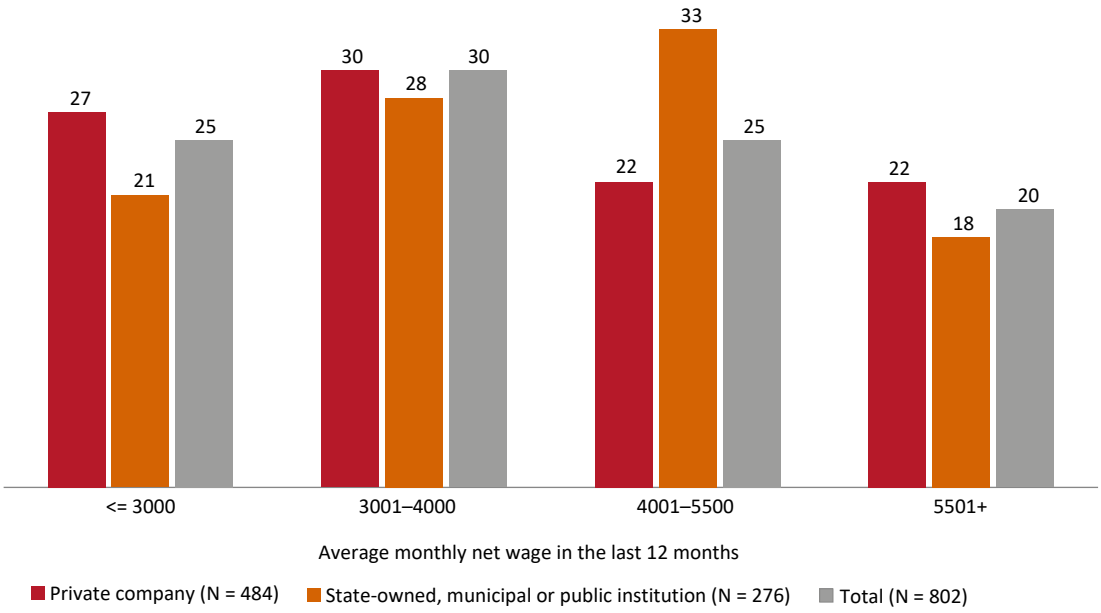
Therefore, respondents' objective financial situation should be explored, taking into account their current wages and the ratio of their monthly wages to the corresponding wages of other employees. For this purpose, based on the 2022 BKL data, the median of respondents' net income and the first and third quartiles of their wages were estimated. These statistics correspond to the following values: the threshold below which 25% of the respondents earn (1st quartile), the threshold below which 50% of the respondents earn (2nd quartile, i.e. median), and the threshold above which 25% of the highest earners earn (3rd quartile). These values were, respectively: 1st quartile – PLN 3,000, 2nd quartile – PLN 4,000, and 3rd quartile – PLN 5,500. These points were then treated as boundaries defining individuals with low (up to PLN 3,000 net) and high (above PLN 5,500 net) income.

It should be added that the BKL data confirms the generally better situation of employees from the public sector, but this only applies to employees with the lowest and average wages. The value determining the 25% lowest earners in the public sector is PLN 250 higher than the corresponding value for the 25% lowest earners in the private sector (PLN 3,250 compared to PLN 3,000). Similarly, the median net income is higher (by PLN 200) in the public sector (PLN 4,200 PLN compared to PLN 4,000). The values defining the top 25% earners in the private and public sectors reverse this trend. Highest earners earned higher incomes in the private sector (the 3rd quartile for the private sector is PLN 5,500, while for the public sector it is PLN 5,000). In other words, **the public sector offers relatively**

higher wages for the lowest and average earners, but it is not competitive in the case of individuals with very high wages.

The described relationship is even more visible in Chart 2.10., which shows the percentage of individuals employed in enterprises with different forms of ownership belonging to the highest and lowest earning groups. Employees of private companies are more likely to find themselves in very different groups, with 27% earning up to PLN 3,000 net, compared to 21% of those employed in the public sector, and 22% being among highest earners, compared to 18% of those employed in the public sector.

Chart 2.10. Employment in a private/public company and respondent's wages (%)*



Source: BKL – Employer Survey 2022 (panel).

* Data for employees employed under a contract of employment in 2022.

From the perspective of public policies, a particularly interesting group are lowest earners. Therefore, it is worth asking who is more likely to belong to this category. Belonging to the group of highest and lowest earners was primarily determined by the employee's professional profile. The group with a net income above PLN 5,500 mainly consisted of managers and professionals (61%), while the lowest earners were office, service, and

sales workers (36%), and manual labourers (15%)[8]. The remaining occupational categories represent similar percentages in both groups, so it can be assumed that within these categories there is a large variation in wages within the particular occupations (Table 2.2.).

Considering the remaining factors, it should be noted that **lowest earners tend to include higher percentages of people living in rural areas and small towns, individuals aged 29 and below and individuals aged over 50, people with lower (i.e. primary or vocational) and secondary education, and a significantly higher percentage of women**. Among lowest earners, there is also a higher percentage of those who rate their health less favourably and those who believe their work did not enable them to improve their skills (Table 2.2.).

Lower earners' lack of satisfaction with the possibility of improving their skills is partly indicative of double exclusion i.e. exclusion in terms of income and education among this group. In general, lowest earners are also most likely to do lowest quality jobs. Job satisfaction is higher among individuals who earn more. They are more satisfied with their wages, promotion opportunities, job security, personal development and skill improvement opportunities, possibility to demonstrate initiative and independence, and working conditions. The only areas where the assessments do not significantly differ between lower and higher earners are satisfaction with social relations in the workplace (colleagues and immediate supervisor) and the ability to balance work with personal life and other responsibilities. The latter is even rated slightly lower by higher earners (4% of 'rather dissatisfied' among those earning less compared to 13% among those earning above PLN 5,500 net per month).

[8] For more on the classification of occupations used, see: http://www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_172572/lang--en/index.htm

Table 2.2. Characteristics of lowest earners (those earning below PLN 3,000 net) and highest earners (those earning above PLN 5,500 net) (%)*

Factor	Factor variants	<= 3000	5501+
Place of residence	Village	38	32
	City/town with up to 19,000 inhabitants	19	14
	City/town with 20,000 – 99,000 inhabitants	19	17
	City/town with more than 99,000 inhabitants	23	37
	Total	100	100
Age	18–29	26	10
	30–39	25	38
	40–49	23	30
	50+	26	22
	Total	100	100
Gender	Man	34	72
	Woman	66	28
	Total	100	100
Education	Lower	36	7
	Lower (primary and vocational)	42	21
	Higher	22	72
	Total	100	100
Occupation in employment	Managers and professionals	9	61
	Technicians and associate professionals	16	16
	Office workers; service and sales workers	36	2
	Farmers, horticulturists, foresters and fishermen; industrial and craft workers; machine and plant operators and assemblers	24	19
	Workers performing simple jobs	15	2
	Total	100	100
Work allowed to improve skills	No	49	25
	Yes	50	75
	Total	100	100
Health assessment	Bad	4	2
	Neither good nor bad	21	11
	Good	74	86
	Total	100	100
N		197	160

Source: BKL – Employer Survey 2022 (panel).

* Data for employees employed under a contract of employment in 2022.

Considering the subject of the chapter, i.e. inflation and its impact on the financial situation of Poles, it may also be interesting to note that the country's economic situation seems to be more stressful. Surprisingly, however, not for lowest earners, but for those with above-average incomes (Table 2.3.). A larger percentage of higher earners (55%) than lowest earners (47%) declared that the state of the Polish economy had a significant impact on their well-being. The situation looked different regarding the war in Ukraine and the epidemic threat, in whose case lower earners expressed greater concerns. The war in Ukraine has a significant impact on the well-being of lowest earners (26% compared to 19% of highest earners), and the epidemic threat raises significant concerns for 8% of those earning below PLN 3,000 net and only 1% of those earning above PLN 5,500. To summarise, the main concerns for Poles in the second half of 2022 were primarily economic issues and the state of the Polish economy, with the war in Ukraine being a secondary concern; the pandemic also played a secondary role during that time. However, **those who earn more were more likely to be concerned about the economic situation, while those with lower incomes were more likely to be concerned about the war in Ukraine and the epidemic threat**.

Table 2.3. Assessment of the impact of concerns related to various factors on respondents' well-being among lowest earners (below PLN 3,000 net) and highest earners (above PLN 5,500 net) (%)*

Impact assessment	Epidemic threat		War in Ukraine		State of the Polish economy	
	<= 3000	5501+	<= 3000	5501+	<= 3000	5501+
Low	63	78	34	50	17	18
Moderate	29	21	40	32	36	27
Strong	8	1	26	19	47	55
Total	100	100	100	100	100	100
N	197	160	197	160	197	160

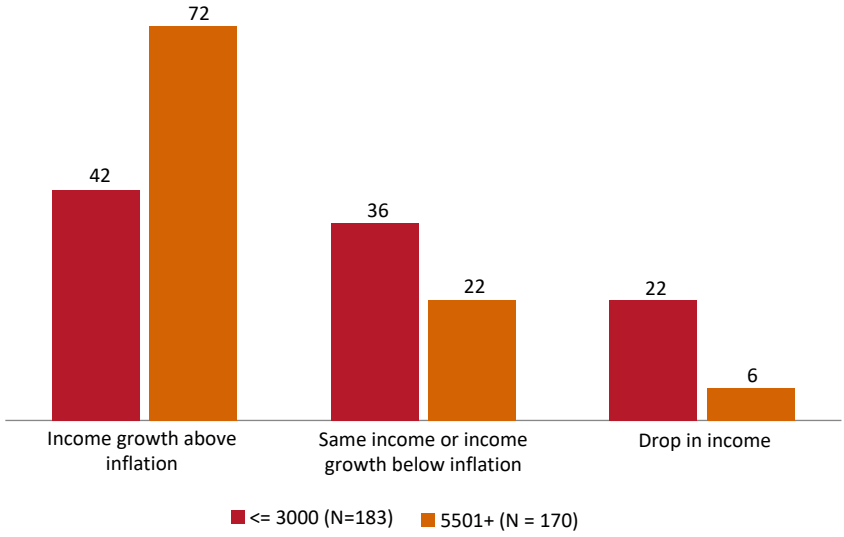
Source: BKL – Employer Survey 2022 (panel).

* Data for employees employed under a contract of employment in 2022.

Finally, the relationship between the level of wages (based on belonging to the group of 25% lowest and 25% highest earners) and the change in income (adjusted for inflation) between 2021 and 2022 was explored. This data is presented in Chart 2.11, and seems disturbing, as **it indicates that a wage increase that compensates for inflation is significantly more likely among highest earners**. Wages of 72% of highest earners rose above the inflation threshold

between 2021 and 2022, while among the 25% of lowest earners, 42% reported wage increase above the inflation threshold. At the same time, **lowest earners are more exposed to wage decrease, a factor that exacerbates the negative effect of rising prices**. It seems that in periods when prices are rising, employees with unique skills and a competitive edge in the job market have a better chance of negotiating their wages, and can use inflation as an effective argument to increase their wages even beyond the inflation threshold at the time. Individuals who are less competitive in the market and belong to the lowest-earning group are in a definitely worse situation. In their case, compensation above the inflation threshold is not always possible. Frequently, they are actually at risk of additional financial loss.

Chart 2.11. Belonging to the 25% lowest and 25% highest earners and change in income between 2021 and 2022 related to 2022 inflation (%)*



Source: BKL – Population Survey 2021, 2022 (panel).

* Data for employees employed under a contract of employment in 2022.

Summary

In summary, several key issues addressed in this chapter deserve attention. Firstly, in 2022, the consumer price index (inflation) increased to 14.4% year-on-year. The accompanying increase in nominal wages did not compensate for the rise in prices, resulting in a decrease in real wages for the first time in many years – on average, by approximately 2%[9].
The decrease in average gross wages was more felt in the public sector than in the private sector. As highest wages were earned by employees in rapidly growing sections of the private sector, while the public sector offered higher wages in its less dynamic sections, those employed in the latter felt the increase in prices more strongly. Higher and growing wage differences between the private and the public sector, especially in IT and professional services, can attract highly qualified professionals and managers, which reduces the competitiveness of the public sector as an employer, leaving it attractive to middle and lower earners.

Secondly, among industries with the highest percentage of employees in the public sector, only mining saw an increase in real wages, in both the public and the private sector, which can be related to the increased demand for energy sources due to the war in Ukraine.

Thirdly, according to respondents, wage growth was more likely to occur in the public sector, although data on real wages suggest that, in 2022, the growth did not catch up with the rise in prices and was lower than in the private sector. The BKL study confirms that, in the general perception (over 70%), employees' current wages allow them to purchase fewer goods and services than the year before. However, it should be noted that the perception of one's financial situation may differ from the objective conditions, such as wage growth above the level of inflation. As many as 67.9% of respondents, although their earnings increased above the inflation threshold, perceived the change in their financial capabilities negatively. One of the reasons may be respondents comparing themselves to others and their financial situation. Another factor may be the influence of the mass media focusing on economic issues. General social perceptions and expected further price increase may lead to negative assessment of one's financial situation, despite objective improvement in the situation

[9] In the following months (January-August) of 2023, the increase in wages in the business sector compared to the same month of the previous year was according to the Statistics Poland was as follows (in %): 13.5, 13.6, 12.6, 12.1, 12.2, 11.9, 10.4, 11.9. Comparing this data with the inflation data (see the beginning of the chapter) means that at least in the business sector, there was a decrease in real wages in the first five months of 2023, and from June 2023, a slight increase in real wages was noted.

of many respondents. This can lead people to expect higher inflation, which fuels wage demands and feeds the inflation spiral.

Fourthly, it should be remembered that belonging to the group of highest or lowest earners is mainly determined by the employee's professional profile. The lowest-income group primarily comprises office workers, service personnel, retail workers, and individuals in unskilled occupations. There are also other characteristics defining this group, i.e. place of residence (rural areas and small towns), age (below 29 or above 50 years old), education (lower education (i.e. primary or vocational) and secondary education), gender: (women).

The lowest-earning group also comprises a higher proportion of individuals who rate their health less favourably and believe their work did not enable them to enhance their skills, which is indicative of a double exclusion, in terms of wages and educational development opportunities in this group. Besides, it has been noted that individuals who earn more tend to report higher levels of job satisfaction. This correlation is observed in relation to various factors, such as promotion opportunities, job security, personal development and skill enhancement opportunities, the possibility to demonstrate initiative and independence, and working conditions.

Fifthly, according to the survey, the economic situation in Poland seems to be more challenging for individuals with higher-than-average incomes compared to lowest earners. A greater percentage of individuals with higher incomes state that the condition of the Polish economy significantly affects their well-being, as compared to those with lower incomes. In contrast, as regards the war in Ukraine and the pandemic, lower-income earners exhibit a higher level of concern. This may be due to the fact that they may be more susceptible to the negative effects of job loss, deterioration of living conditions, and unsatisfied basic needs.

Sixthly, it is disturbing that the results indicate that wage growth that compensates for inflation is significantly more likely among highest earners than among lowest earners. Between 2021 and 2022, 72% of individuals from the highest-earning group experienced a wage growth above the inflation threshold. In contrast, only 42% of individuals from the 25% lowest-income group reported they experienced such an increase. It should also be noted that lowest earners are more likely to see their income decrease, which exacerbates the negative effect of rising prices.

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3. The engagement of older people in the labour market and their choices regarding retirement

Introduction

A challenge faced not only by Poland but by contemporary Europe as a whole is the ageing of the society (increasing proportion of older people in the population). The demographic processes occurring in Poland, including lower fertility rates leading to population aging, are and will continue to dynamically impact the labour market. In order to mitigate the effects of the shrinking population of young people, the number of older people in the workforce needs to be increased – both those of pre-retirement age, and those who already reached retirement age but are ready to continue working. Job activation of the oldest groups of workers should be the goal of public policies, but to make it possible, understanding what representatives of these age groups think about retirement seems crucial.

There are many analyses available on the labour force participation of Polish women and men in the context of demographic changes (Kotowska and Sztanderska, 2007; Kotowska et al., 2008; Chłoń-Domińczak, 2010; Czarnik and Turek, 2015;). Labour force participation is explored in such research as LFS survey, or SHARE (Survey of Health, Ageing and Retirement). However, studies on the nature and determinants of labour force participation of individuals at pre-retirement age (55-59 for women and 60-64 for men) and retirement age (60 and older for women and 65 and older for men) can provide additional context for the discussion of the reasons for retiring, and the reasons for continuing employment. The Human Capital Study (BKL Study) data (from 2017 and 2022) provide a unique opportunity to enrich knowledge in this area.

Therefore, the subject of analyses presented in this chapter is labour force participation of older workers, and their reasons and plans regarding retirement or continuation of employment. First, the context of demographic processes is presented, which forms the

basis for demonstrating the importance of the topic for labour market analyses. Based on data published by Statistics Poland, Eurostat, and the Social Insurance Institution (ZUS), the employment of individuals at pre-retirement and retirement age in Poland is outlined. In the next part, aspects related to labour force participation of the oldest workers are discussed, including their educational activity and work satisfaction as potentially important factors contributing to the desire to continue employment. In the last part of the chapter, the focus is on analysing the attitudes of Polish women and men towards retirement. The analysis shows what employees think about retirement, how work environment and education influence the decisions in this area, and how employers' expectations regarding employees' retirement decisions are perceived. The chapter presents the results of analyses conducted on data collected in 2017 and 2022 panel studies. The chapter aims to show changes that have taken place over the recent years, hence the decision to compare the results from a chosen period.

Demographic changes as a challenge for the labour market

The ageing of societies is a well-identified and observed process, not only in Poland (Chłoń-Domińczak et al., 2014). However, in the case of Poland, changes in the demographic structure, including the accelerated process of population ageing and shrinking, as well as shrinking of the workforce, were identified earlier (Hoff, 2011; Kotowska and Sztanderska, 2007; Kryńska et al., 2010; Wiktorowicz, 2013), and were also the subject of interest of the BKL study (Turek, 2013). How to make best use of the potential of older workers (aged 55-64) and individuals aged 65 and above has been the subject of numerous studies looking for solutions that would effectively compensate for the consequences of demographic processes, for instance by extending labour force participation (Motel-Klingebiel, 2019; Naegele and Walker, 2021; Wiktorowicz, 2018).

Analyses of demographic processes can be multi-faceted, which is why, for the purposes of this chapter, selected demographic indicators have been used. A good introduction to presenting demographic changes is a reference to the median age in Poland. In 2017, at least 50% of the Polish society was not older than 40.9 years, but just 5 years later – in 2022 – the median age reached 42.3 years (Statistics Poland, 2023). To compare, the median

age of women in the group was 44 years (in 2022), indicating that the female population in Poland is already relatively older than the male. The lower (than for men) statutory retirement age for women and women's average longer life expectancy mean that public policies' adjustment (including the labour market and education) to an ageing population with a bigger representation of women is needed.

Considering the working-age population (up to 59 years old for women and up to 64 years old for men), it can be observed (Table 3.1) that this group has significantly declined (excluding migrants, including those who arrived after 24 February 2022). The population of both women and men aged 15-54 has declined, as has that of women (aged 55-59) and men (aged 60-64) approaching retirement. At the same time, the population of post-working age individuals has increased (60 and older for women, 65 and older for men).

Table 3.1. Total population in Poland by age group and gender (N).

Gender	Age	2017	2022	Change 2017–2022
Women	15–54	10 230 499	9 861 277	–369 222
	55–59	1 350 523	1 130 834	–219 689
	60+	5 424 333	5 694 523	270 190
Men	15–59	11 734 725	11 160 462	–574 263
	60–64	1 298 329	1 151 513	–146 816
	65+	2 570 930	2 951 674	380 744

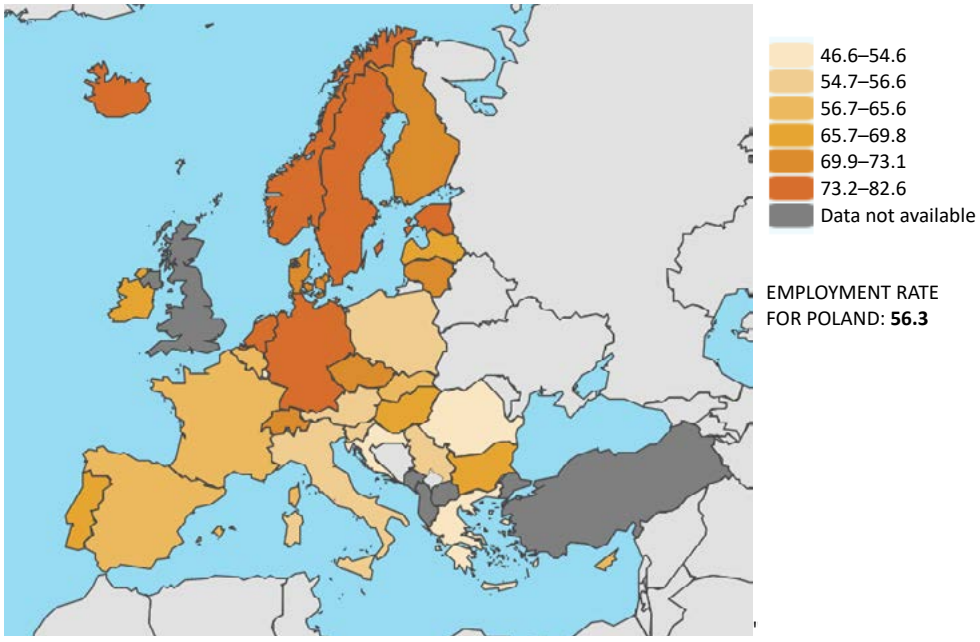
Source: Own study based on: Statistics Poland 2023.

In the past, the size of the working-age population significantly exceeded that of the post-working-age population. However, in the short period analysed (2017-2022), there has been a noticeable downward trend in the working-age group (down by almost 370,000 for women and by over 570,000 for men), accompanied by a significant increase in the number of people at retirement age in Poland (up by around 270,000 for women and by around 380,000 for men).

Labour force participation of individuals at pre-retirement age in Poland

The primary indicator which can be used to determine the employment of pre-retirement age individuals is the older persons employment rate[10]. In 2017, the employment rate for individuals aged 55-64 in Poland was 46.9%, undistinguished by gender (noting that women can retire at 60), while in 2022, it increased to 56.3%. The highest employment rate in this age group is observed in Northern Europe (e.g. Iceland, Sweden), where over 80% of individuals aged 55-64 were active in the labour market in both 2017 and 2022. Achieving such labour market participation as in the above countries makes it possible to mitigate the effects of decreasing labour resources (Map 3.1).

Map 3.1. Employment rate of individuals aged 55-64 in European countries, 2022 (%)



Source: EUROSTAT 2022

When analysing the employment of pre-retirement age individuals in Poland, additional breakdowns, based on age and gender, are worth examining (Table 3.2). Analysis of the

[10] Employment rate – determines the percentage of working-age population in general or in a specific age group (as in this case) who are employed (i.e. The employment rate of older workers is calculated by dividing the number of persons in employment and aged 55 to 64 by the total population of the same age group).

presented indicators reflects the increase in labour market participation among older individuals in 2017-2022. Overall employment rate of persons aged 55-64 increased by almost 10 pp during that period, although it should be noted that this is mainly the result of an increase in male employment (from 56.7% in 2017 to 69.5% in 2022). Interestingly, although the retirement age for women in Poland is 60 years, the employment rate also increased in the group of women aged 55-64 (from 38% in 2017 to 44.6% in 2022). This was mainly women of pre-retirement age (55-59) that contributed to this growth, as almost 70% of them were active in the labour market in 2022.

Based on the analysis of employment rates **in 2017-2022, significantly increased labour market participation of Polish women and men is evident, both in the pre-retirement age group (from 56.3% to 68.7% for women aged 55-59, and from 45.1% to 61.2% for men aged 60-64) and in the 65 and older age group (from 3% to 4.1% for women, and from 8.6% to 9.7% for men).**

Table 3.2. Employment rates by age and gender in Poland (2017-2022) (%)

Gender	Age	2017	2018	2019	2020	2021	2022
Total	50+	32.6	32.4	32.2	32.6	34.7	35.1
Women	50+	26.0	25.7	25.4	25.8	27.7	27.9
Men	50+	40.9	40.8	40.7	41.2	43.6	44.2
Total	55–64	46.9	47.7	48.3	50.4	54.7	56.3
	65+	5.2	5.2	5.4	5.6	6.2	6.4
Women	55–59	56.3	58.7	60.7	62.6	67.2	68.7
	60–64	21.1	20.0	19.4	21.4	23.2	24.2
	55–64	38.0	38.1	38.3	40.0	43.1	44.6
	65+	3.0	3.1	3.4	3.5	4.3	4.1
Men	60–64	45.1	47.3	49.3	52.5	58.9	61.2
	55–64	56.7	58.3	59.4	61.9	67.4	69.5
	65+	8.6	8.4	8.4	8.6	9.1	9.7

Source: study based on data from the LFS (Labour Force Survey) and Statistics Poland (materials of the Exclusion and Inequality in Late Working Life project, www.eiwoproject.org).

The increase in older individuals' labour force participation reflected in the rates cited above is also evident in the results of the BKL Study (2017 and 2022). In 2022, respondents were more likely than in 2017 to indicate that they engaged in some form of work in the 3 months prior to the survey (Table 3.3).

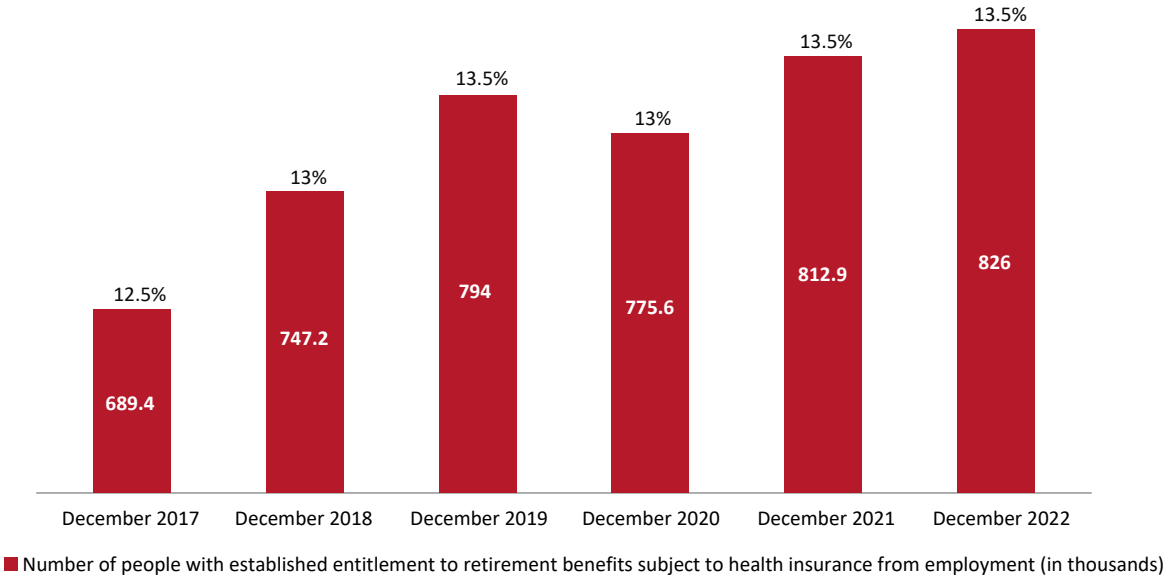
Table 3.3. Percentages of women and men of pre-retirement and retirement age who indicated that they worked in the 3 months prior to the survey (%)

Gender	Age	2017	2022
Women	50–59	54.0	67.2
N2017 = 830	55–59	47.1	67.2
N2022 = 259	60–69/60+	9.5	15.0
Men	50–64	44.5	52.3
N2017 = 729	55–64	39.8	52.0
N2022 = 239	65–69/65+	13.2	13.8

Source: Own study based on: BKL – Population Survey 2017, 2022 (panel).

An increase is also visible in labour market participation among the surveyed individuals at retirement age, a tendency that is reflected in official statistics as well. According to Social Insurance Institution (ZUS) data, between 2017 and 2022, the number of working pensioners increased by over 120,000. At the same time, the total number of pensioners increased, but the proportion of working pensioners to pensioners receiving benefits paid by the Social Insurance Institution (ZUS) still increased from 12.5% at the end of 2017 to 13.5% at the end of 2022 (Chart 3.1.).

Chart 3.1. Working pensioners and the proportion of working pensioners to pensioners receiving benefits paid by the Social Insurance Institution (ZUS), 2017-2022, (N, %)



Source: Own study based on: ZUS 2017-2022

Percentages above the bars stand for the proportions of working pensioners to pensioners receiving benefits paid by the Social Insurance Institution (ZUS) in a given year.

Educational activity of pre-retirement age individuals

Among other things, labour force participation is conditioned by one's attitude towards self-learning (Górniak et al., 2022). The indicators in Table 3.4 show an increasing level of informal learning activity among individuals of pre-retirement and retirement-age (aged 55-69). In 2022, around 70% of the surveyed representatives of this age group declared that they were participating in informal learning, while in 2017, almost a half did not engage in any form of educational activity.

Table 3.4. Informal learning of individuals aged 55-69 (%)

Way of learning	2017			2022		
	Women	Men	Total	Women	Men	Total
From internet sources	22.2	22.2	22.2	46.3	40.0	43.3
From books, magazines, or other printed materials	36.0	22.6	29.7	41.5	30.5	36.2
From TV programmes, radio shows	28.6	22.6	25.7	36.8	26.8	32.0
From family members, or together with them	15.3	9.6	12.6	26.0	21.6	23.9
From friends, acquaintances, colleagues, or together with themi	14.4	10.6	12.6	25.0	20.0	22.6
Using computer programmes	7.6	8.2	7.9	15.7	15.8	15.7
Visits to museums, exhibitions, galleries	12.2	3.9	8.3	15.6	12.6	14.2
Meetings in organisations, associations, interest groups	7.8	3.2	5.6	6.9	5.3	6.1
Through volunteering or other charitable work	3.3	1.9	2.7	6.8	3.2	5.1
None of the above	45.4	52.6	48.8	27.5	34.2	30.7
N	658	585	1243	205	190	395

Source: BKL – Population Survey 2017, 2022 (panel).

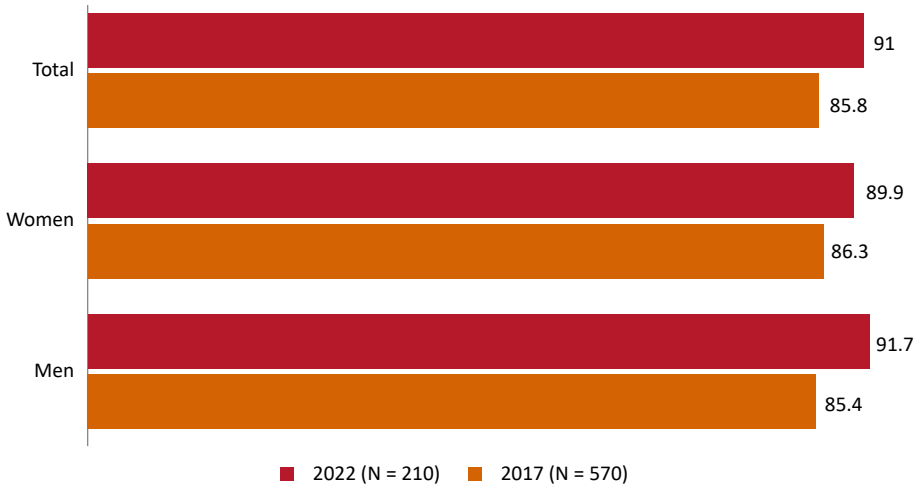
Among various informal ways of increasing knowledge and skills, learning from online resources is currently most popular among individuals aged 55-69. Its popularity visibly increased between 2017 and 2022 (from 22.2% in 2017 to 43.3% in 2022). The upward trend can certainly be associated with the pandemic, which necessitated the development of digital skills and use of the Internet (Perek-Białas and Zwierzchowski, 2022).

Other popular educational methods and resources include printed materials, learning from television and radio programmes, and learning from those close to us (family, friends). The least popular form of acquiring knowledge for the age group in question remains learning through volunteering and charity work, although even this method slightly increased in popularity between 2017 and 2022. Overall, 72.5% of the surveyed women and almost 66% of the surveyed men learn informally. Such educational activity translates into other forms of activity, including professional activity significant for demographic processes (Magda et al., 2014).

Job satisfaction of pre-retirement age individuals

Economic activity, apart from being the result of employees' internal motivations, can also be stimulated by the work environment. Important factors include career prospects, wages, and relationships with the superiors, all of which contribute to overall job satisfaction. Employees participating in the BKL Study were asked the following question: 'How satisfied are you with your current job, taking into account the work itself, its conditions, and the pay?' The percentage of people aged 55-69 satisfied with their jobs increased over the years (from 85.8% in 2017 to 91% in 2022). In this age group, men are more likely to declare they are satisfied with their jobs (91.7% versus 89.9% in 2022) (Chart 3.2). The already high percentage of people aged 55-69 who feel respected by their supervisors has also increased. In 2022, almost 95% (in 2017 – 93.5%) declared that their supervisors treated them with respect.

Chart 3.2. Percentage of women and men aged 55-69 who are currently satisfied with their jobs* (%)



Source: BKL – Population Survey 2017, 2022 (panel).

* Individuals satisfied with their current jobs i.e. those who answered 3 'rather satisfied' or 4 'very satisfied' on a four-point scale: from 1 – 'not too satisfied' to 4 – 'very satisfied'.

Decisions about retirement

Changes in the labour market among individuals at pre-retirement and retirement age can also be observed through their attitudes towards retirement. Based on the data in Table 3.5, two directions of change are evident: **there has been an increase in both the proportion of those who want to retire as early as possible (21.8% in total in 2022 compared to 15.6% in 2017) and those who want to work as long as possible, or do not want to stop working at all (16.2% in total in 2022 compared to 9.9% in 2017)**. On the one hand, we are definitely dealing with a share of older persons who are in good shape and want to continue pursuing their plans, and, therefore, continue employment. On the other hand, it is likely that some of the older participants, approaching retirement age and aware of their financial situation, realise that they cannot afford to retire. At the same time, there is also a group of those who may be tired of working under the current conditions and, as the opportunity arises, plan to use it and opt for retirement as soon as possible.

When analysing the data presented in Table 3.5, another element is worth noting: **between 2017 and 2022, the percentage of women aged 55-69 who plan to retire at retirement age decreased**.

Table 3.5. Expected retirement age among those aged 55-69 (%)

The moment of retirement	Women	Women	Men	Men	Total	Total
	2017	2022	2017	2022	2017	2022
At retirement age (M = 60, M = 65)	49.6	44.2	54	56.7	52.1	51.8
As soon as possible	13.7	23.4	17	20.8	15.6	21.8
As late as possible	8.9	13	5.8	14.2	7.2	13.7
I don't want to retire	4.1	1.3	1.7	3.3	2.7	2.5
The age given is above the retirement age (F>60, M>65)	14.4	9.1	7.5	–	10.5	3.6
The age given is below the retirement age (F<60, M<65)	0.7	–	9.2	0.8	5.6	0.5
It's hard to say	8.2	9.1	4.7	4.2	6.2	6.1
Total	100	100	100	100	100	100
N	270	77	359	120	629	197

Source: BKL – Population Survey 2017, 2022 (panel).

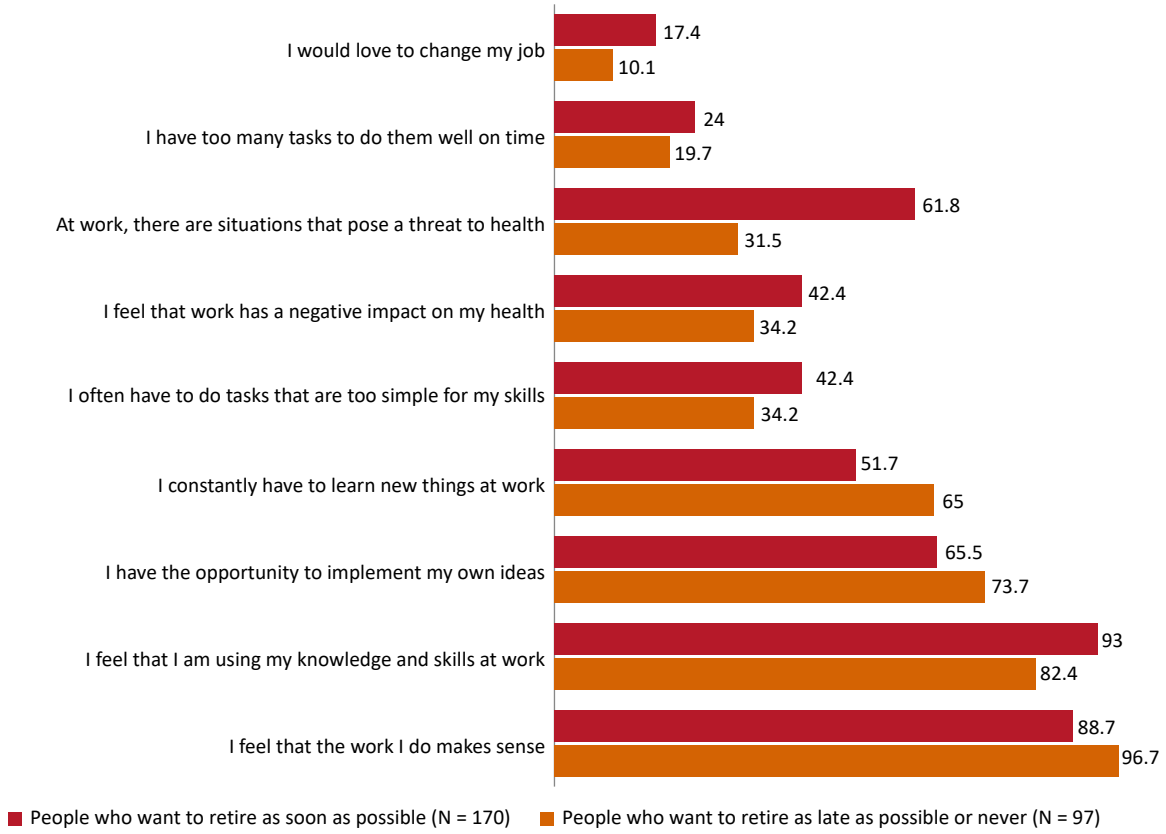
When observing the above-mentioned changes, it is worth exploring the differences between people who want to retire as soon as possible and those who want to retire as late as possible, or not at all. One of the differentiating factors in this regard may be the working conditions. Information on this subject is provided in Chart 3.3[11].

Looking at how the respondents evaluate their work, it is clear that the main factor differentiating the group that wants to work as long as possible from those who want to retire as soon as possible are health-related issues. Nearly 62% of those who dream of retirement are working in jobs that involve situations which put their health at risk, and 42% of this group feel that their work has a negative impact on their health (among those who want to work as long as possible, this is respectively 32% and 34%).

Another significant differentiating factor is whether employees perceive their work as interesting and providing development opportunities. People who want to retire as late as possible or not at all are much more likely to declare that they still have to learn new things at work, have more opportunities to implement their ideas, and are less bored, as they less frequently have to perform tasks that are below their skills level.

[11] Due to the size of the sample, the analysis was conducted for all working individuals without dividing them into age groups.

Chart 3.3. Attitudes towards retirement and working conditions (%)



Source: BKL – Employer Survey 2022 (panel).

An important factor that contributes to differences in the way of thinking about retirement is education. People who want to work as long as possible are better educated. Two out of three people who want to work as long as possible have at least secondary school education (66%), while among those wanting to retire as soon as possible, this percentage is 46%. The connection between one's work and one's education is also important. 88.5% of people who want to retire as late as possible or not at all declare that they work in line with their education, while among those who hope to retire as early as possible it is 60%.

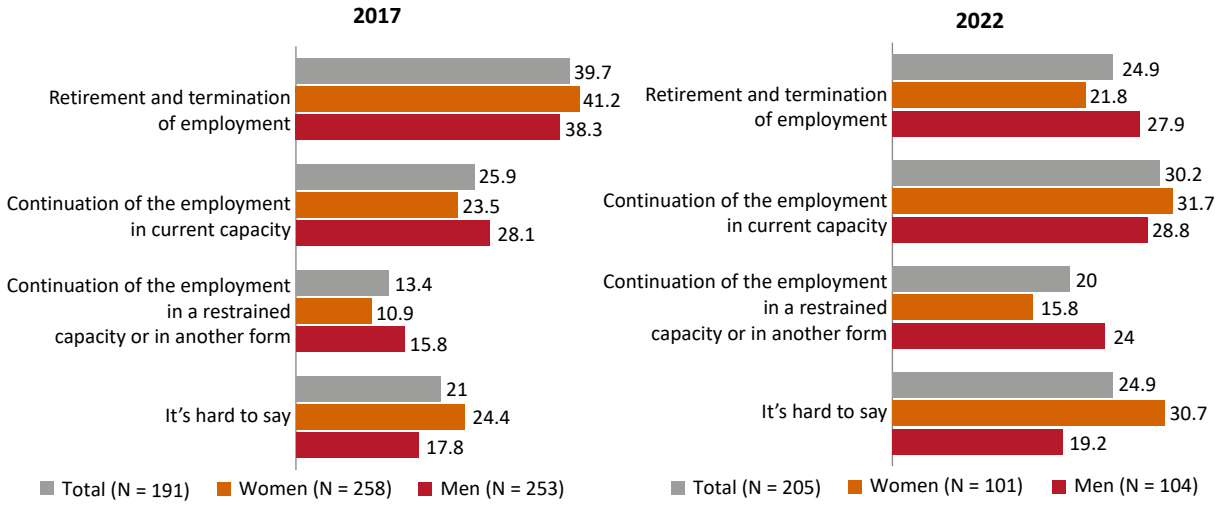
The change in thinking about retirement is also clearly reflected in the response to the question about the employer's expectations upon the employee's reaching of retirement age. **There is a clear decline in the share of employees who believe that their employer will want them to retire and end their employment (from almost 40% of respondents in 2017 to less than 25% in 2022). The percentage of employees who expect to continue working full-time or part-time is increasing, regardless of gender (Chart 3.4 and 3.5).**

When analysing the data presented in the figures, it can be observed that the effect of the retirement policy change (which allows women to retire at 60) has caused a clear shift in women's thinking on what their employers will expect when they reach retirement age. **The percentage of women who expect to have to retire decreased by almost a half (from 41.2% in 2017 to 21.8% in 2022), the percentage of those who expect to continue working increased, but uncertainty about employer expectations also grew (in 2022, over 30% did not know what expectations their employers may have). Men are more likely than women to expect that their employers will want them to continue working beyond retirement age.**

Regardless of gender, uncertainty on this topic is growing. In 2022, every fourth employee indicated that it is difficult to say what their employer's expectations will be when they reach retirement age. This means that employees close to retirement age often do not know what plans their employers have for them and what to expect when they reach retirement age. This may result both from the fact that employers communicate their plans to employees poorly, and from employees' low awareness regarding planning their job activity (or lack thereof) after reaching retirement age.

It should be noted that, overall, slightly over a half (50.2%) of the oldest participants expect their employers will require them to continue working either similar (30.2%) or reduced (20%) hours.

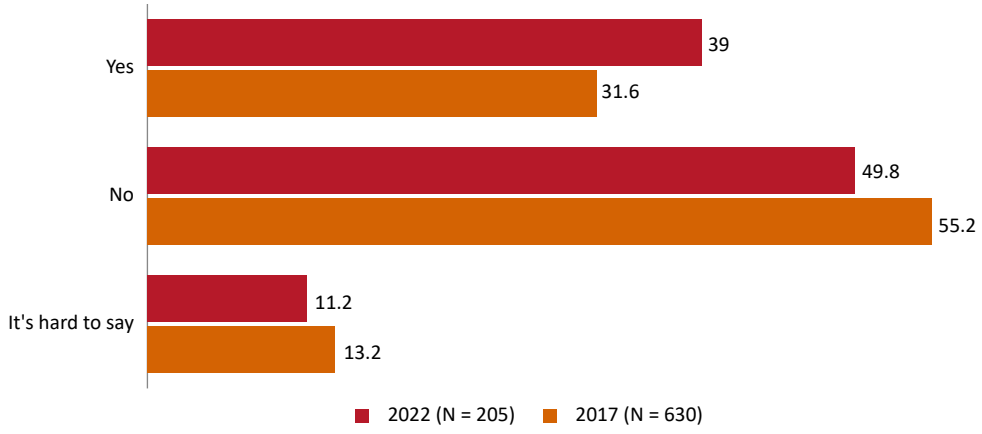
Chart 3.4 and 3.5. What will your employer expect you to do when you reach retirement age? – women aged 55-59 and men aged 55-64 in 2017 and 2022 (%)



Source: BKL – Population Survey 2017, 2022 (panel).

The change in thinking about retirement is also illustrated by the percentage of people aged 55+ who plan to work during retirement (Chart 3.6). **In 2022, only a half of respondents declared that they had no such plans, 39% were planning to take on additional work, while 11% were still undecided. In comparison to 2017, this shows an increase in interest in working during retirement.**

Chart 3.6. Do you expect to have a side job during retirement? – women aged 55-59 and men aged 55-64 surveyed together (%)



Source: BKL – Population Survey 2017, 2022 (panel).

The increased interest in working after reaching retirement age can be seen as positive. A higher percentage of older workers willing to stay employed after the age of 60 (women) and 65 (men) may help mitigate the effects of demographic changes such as ageing of the population and an increase in the number of people of retirement age.

Summary

The ongoing demographic changes, including the ageing of the population, carry multiple consequences. Attracting attention to the ongoing processes in human capital analyses is important for understanding and adapting to the changing trends. One of the topics closely related to the ageing society are oldest workers' decisions regarding retirement and oldest workers' thinking about retirement. When summing up the analyses presented in this chapter, several essential conclusions should be noted.

Firstly, successive cohorts of women and men in Poland approaching retirement age are showing greater workforce participation than in the past. Also, more people of retirement age are opting for additional employment.

Secondly, people of late middle age and retirement age are increasingly showing a desire to educate themselves. This constitutes a confirmed motivation for the willingness to take on further challenges, also at work (Turek and Worek, 2016).

Thirdly, employees are attaching less importance to the statutory retirement age and are deciding when to retire based on their own professional experiences.

Fourthly, when analysing how the work environment can influence decisions regarding retirement, it should be emphasized that individuals who want to work as long as possible are more likely than those interested in early retirement to indicate that the work they do is related to their education and provides them with development opportunities. Conversely, those who want to retire as soon as possible were significantly more inclined to perceive their occupation as jeopardizing their health.

Fifth, already a half of the pre-retirement age employees believe that their employers will want them to continue working beyond retirement age. Awareness of such expectations

can increase employees' willingness to stay in the workforce for longer, despite having the right to retire. However, some employees do not know what their employers' expectations in this respect are, which indicates that the rules of employers supporting employees, with consideration to employees' age (the so-called age management; Turek and Perek-Białas, 2013, Varlamova, Perek-Białas, 2022) are not fully known.

Sixth, analyses of opinions regarding the possibility or necessity of leaving the labour market before reaching retirement age, and continuing employment despite being retired, may provide insights into what employers should focus on in their communication with employees (not only the older ones), so that employees can remain professionally active regardless of age, and want to do so.

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4. Strategic human capital management in Polish companies in the face of crises

Introduction

Strategic Human Capital Management (SHCM) has long been recognised as a key element of business strategy for companies due to its direct impact on organisational performance (Pfeffer, 1994). According to the human capital theory (Becker, 1964), employees are not only resources, but also significant capital that can be invested in and developed to increase productivity and business success. Strategic Human Capital Management can be treated as a comprehensive approach to long-term human capital management, encompassing a range of practices such as recruitment, selection, motivation, training, and employee development (Lepak & Snell, 1999).

Recent events clearly show that a strategic approach to human capital management must be characterised by a high degree of flexibility in the face of dynamically changing external factors, such as economic, political, and social challenges (Bamberger, Meshoulam, & Biron, 2014). The COVID-19 pandemic, for example, has forced rapid changes in the organisation of work, which in turn has required businesses to adapt in the areas of both business models and tools used for managing and motivating employees (Collings, McMackin, Nyberg, & Wright, 2021).

Importantly, the approach to strategic human capital management can vary greatly depending on the size of the company. Small, medium, and large enterprises often face different challenges and opportunities in managing their human capital, which requires different strategies (Cardon & Stevens, 2004). For example, small businesses may not have the resources for large-scale SHCM initiatives, but they can offer a more flexible work environment. In contrast, larger companies may have more resources, but they face much more complex challenges related to the scale of their operations.

One of the key areas in human capital management is the use of high-performance work practices (HPWP), whose impact on the effectiveness of enterprises has been empirically confirmed (cf. Combs et al., 2006). Practices such as measuring the effectiveness of HR activities, using standardised methods for recruitment and selection, and involving employees in decision-making have significant consequences for organisations. They influence key success indicators (Tamkin, 2004), increase market pressure and educate employees, as well as enhancing the transparency of management systems (Bamberger, Meshoulam, & Biron, 2014).

Understanding these factors and their impact on the SHCM in Polish companies provides valuable insights for both management researchers and practitioners. Analysis of the results of the latest, 2022 edition of the BKL Study presented in the later part of the chapter aims to illustrate these aspects, while also offering a comprehensive picture of the evolving trends and practices in strategic human capital management in Poland.

The BKL Study provides valuable information, insights, and recommendations regarding human capital management strategies of Polish enterprises. In this chapter, we present an analysis of the evolution of these strategies, with particular emphasis on the recent years, which have brought multiple challenges in the economic, political, and social spheres, while also trying to look towards the future of human capital faced with the challenges posed by the present.

When describing the strategic condition of human capital management in 2022, we focus primarily on elements that have proven particularly important in recent years – such as the flexibility of these strategies, and enterprises' adaptability to changes. We also try to answer the questions that emerged relatively recently. Do companies adopt a long-term or short-term perspective in times of uncertainty? How do crises – like the pandemic, war, and economic crisis – impact human capital management in organisations? How have human capital management strategies evolved in small, medium, and large enterprises over the recent years? Focusing on these questions, we try to point out both the dimensions of business activities that remained stable and those that dynamically changed.

This BKL report is a summary of research from 2022, focusing on medium and large companies, as well as the previous edition of the study, from 2021, which also included small businesses. Where possible, we present the results from the last five years, from 2018

to 2022, broken down by size categories; however, when comparing the group of medium and large companies together, the comparisons cover the years 2018, 2020, and 2022 (panel surveys were conducted in these years on companies employing 50 or more employees). We are convinced that this perspective enables better understanding of the trends in the area of strategic human capital management in Polish enterprises, as well as better understanding and more effectively management of this domain.

Long-term planning

One of the most important dimensions of an organisation's functioning is the time horizon, which determines the scope of its activities. **The analysis of BKL data from 2018-2022 shows a clear upward trend in the percentage of companies planning their activities long-term i.e., beyond 3 months**[12]**.** As observed in the previous years, a similar increase in this area was noticeable across all size-based categories of companies in the post-pandemic period. It is particularly noteworthy that despite the BKL methodology-related lack of data for some of the years, when the smallest entities (with 2-49 employees) were not surveyed, they show a significant increase in long-term planning – by 21 pp between 2019 and 2021 (Table 4.1). Medium-sized enterprises (50-249 employees) and large enterprises (250+ employees) also recorded significant increases in the percentage of companies planning their activities for periods longer than three months. Between 2018 and 2022, the growth was 21 pp for medium-sized companies, and 18 pp for large companies. All this confirms the growing trend of long-term planning among businesses of various sizes.

[12] Long-term goals and long-term perspective are understood in the BKL Study as plans extending beyond 3 months. This is a convention related to the desire to capture differences in planning across the widest possible range of business categories (assuming the typical perspective of long-term planning in management sciences, it would apply to negligible percentage of companies).

Table 4.1. Percentage of enterprises with an action plan for more than 3 months, by employment size (%)

Company size	2018	2019	2020	2021	2022
2–49	x	38	x	59	X
50–249	59	55	67	75	80
250+	63	66	77	78	81
Total	60	45	68	65	80
N	582	1515	722	2329	802

Source: BKL – Employer Survey 2018-2022.

Note: In the case of 2018, 2020, and 2022, the category 'total' includes only medium and large companies[13].

Long-term planning trends varied depending on the sector (Table 4.2). In 2022, as many as 87% of companies in the education sector had plans for a period longer than 3 months – highest percentage among all the sectors overall. Interestingly, in the case of companies with 250 or more employees, all the education sector companies surveyed as part of the BKL Study had long-term plans. This clearly shows that representatives of the sector, in the face of rapid changes related to the pandemic, opted for stability and predictability provided by long-term planning.

On the other hand, the smallest percentage of companies planning for the long term was observed in the trade, accommodation, catering and support services sector, where only 65% of large and medium-sized companies had plans for periods longer than 3 months. This is also a sector where the share of companies planning long-term growth increased least in the recent years (Table 4.2). This result may be a consequence of the specific nature of the sector where long-term plans may be perceived as ineffective in light of the need to respond to rapidly changing market conditions.

For medium-sized enterprises (50-249 employees), the percentage of those with a long-term action plan increased between 2021 and 2022 in all industries except for the trade, accommodation, catering and support services industry. The most significant increase was observed in the healthcare and welfare sector, where the percentage of companies with a business plan for over 3 months increased from 68% in 2021 to 79% in 2022.

[13] In the tables placed in the section under the category 'total', the data is calculated for all companies participating in the survey in a given year. It means that in 2019 and 2021, the aggregate data also includes small companies, which is worth considering in interpreting the results.

For large enterprises (250+ employees), the percentage of companies with a long-term action plan increased in all industries, except for construction and transportation, where it decreased from 76% in 2021 to 72% in 2022.

Table 4.2. Percentage of enterprises with an action plan for a period longer than 3 months, by sector and employment (%)

Company size	Industry	2018	2019	2020	2021	2022
2-49	Construction & transport	x	44	x	57	x
	Education	x	52	x	62	x
	Trade, accommodation, catering, support services	x	33	x	58	x
	Healthcare & welfare	x	32	x	47	x
	Industry & mining	x	43	x	59	x
	Professional services	x	37	x	63	x
	Total	x	38	x	59	x
50-249	Construction & transport	48	42	67	72	78
	Education	64	57	71	83	87
	Trade, accommodation, catering, support services	56	56	60	71	64
	Healthcare & welfare	49	54	64	68	79
	Industry & mining	55	55	65	73	83
	Professional services	76	60	75	76	84
	Total	59	55	67	75	80
250+	Construction & transport	50	68	85	76	72
	Education	83	72	71	78	100
	Trade, accommodation, catering, support services	61	71	78	73	76
	Healthcare & welfare	74	67	66	75	87
	Industry & mining	62	64	77	81	80
	Professional services	62	63	81	84	87
	Total	63	66	77	78	81
Total	Construction & transport	49	44	70	62	77
	Education	64	55	71	76	87
	Trade, accommodation, catering, support services	57	39	63	61	65
	Healthcare & welfare	56	44	65	58	81
	Industry & mining	56	50	67	67	82
	Professional services	74	43	76	67	85
	Total	60	45	68	65	80
	N	582	1515	722	2329	802

Source: BKL – Employer Survey 2018-2022.

Note: In the case of 2018, 2020, and 2022, the category 'total' includes only medium and large companies.

What planning perspective do Polish entrepreneurs use when looking beyond a three-month horizon? In 2022 – compared to the previous years – we observe some interesting changes in this context. **Most medium and large companies still plan their activities mainly for one to two years ahead** – 65% in 2022, which is a significant decrease compared to 87% in 2020. **At the same time, the percentage of medium and large companies planning for 3 to 5 years increased** from 11% to 30%, and the percentage of those planning for longer than 5 years increased from 0% to 5%. Interestingly, **the length of the planning horizon among large and medium-sized companies with action plans in 2022 is very similar to that of 2018. This implies that, in this regard, Polish companies have returned to the situation before the epidemiological, economic, and political crises**. Combined with the already noted higher percentage of companies having plans for longer than 3 months, these changes should be seen as a very optimistic indicator of strategic thinking among the surveyed companies.

At the same time, it should be noted that **many companies are still not planning for a period longer than 5 years**; in 2022, it was 5% for the medium and large companies overall. Importantly, for large enterprises, the percentage increased to 9% in 2022, representing a growth compared to 5% in 2021, and 0% in 2020.

In summary, 2022 saw very interesting changes in the time horizon of Polish companies' actions. **Although most companies still plan for a period of one to two years, there has been a noticeable trend towards this period extending, especially among medium and large companies. The continuation of the increasing trend in the percentage of companies planning their actions for a period longer than 3 months suggests Polish companies are clearly shifting towards long-term thinking** (Table 4.3).

Table 4.3. Percentage of enterprises with action plans exceeding 3 months, categorised by length of planning perspective, according to employment (%)

Year	2018				
Company size	**2–49**	**50–249**	**250+**	**Total**	**N**
Up to a year	×	5	4	5	27
From 1 year to 2 years	×	63	62	62	347
From 3 years to 5 years	×	29	29	29	160
Over 5 years	×	4	5	4	22
Total	×	100	100	100	
Year	**2019**				
Company size	**2–49**	**50–249**	**250+**	**Total**	**N**
Up to a year	0	0	0	0	0
From 1 year to 2 years	76	72	69	74	1070
From 3 years to 5 years	22	22	26	22	318
Over 5 years	3	6	5	4	58
Total	100	100	100	100	
Year	**2020**				
Company size	**2–49**	**50–249**	**250+**	**Total**	**N**
Up to a year	×	2	4	2	12
From 1 year to 2 years	×	88	78	87	588
From 3 years to 5 years	×	10	18	11	76
Over 5 years	×	1	0	0	3
Total	×	100	100	100	
Year	**2021**				
Company size	**2–49**	**50–249**	**250+**	**Total**	**N**
Up to a year	1	0	0	0	8
From 1 year to 2 years	70	66	55	67	1478
From 3 years to 5 years	29	31	40	31	671
Over 5 years	1	3	5	2	42
Total	100	100	100	100	
Year	**2022**				
Company size	**2–49**	**50–249**	**250+**	**Total**	**N**
Up to a year	×	0	0	0	0
From 1 year to 2 years	×	66	56	65	487
From 3 years to 5 years	×	29	35	30	224
Over 5 years	×	5	9	5	41
Total	×	100	100	100	

Source: BKL – Employer Survey 2018-2022.

Note: In the case of 2018, 2020, and 2022, the category 'total' includes only medium and large companies.

Decision-making process

According to 2022 data, 49% of companies involve their employees in important decisions that affect members of the organisation, a decrease compared to 57% in 2020 (Table 4.4). Slightly over a half (51%) of managers in Polish companies make decisions independently, without consulting their subordinates – a significant increase compared to 41% in 2020. Only a small portion (1%) leave decision-making to the employees.

When it comes to differences between the size-based categories of businesses, engaging employees in the decision-making process is still most popular among small and medium-sized enterprises. However, in 2022, the percentage of companies with 50-249 employees that engage their employees in decision-making decreased to 51%, compared to 62% in 2021.

For large companies (250+ employees), the proportion of companies that involved their employees in decision-making decreased to 36%, which is a significant drop compared to 54% in 2021. At the same time, the share of companies in which managers make decisions independently, without consulting their subordinates, increased to 64%, compared to 44% in 2021. This indicates a growing trend towards centralisation of decision-making processes in larger companies.

In the context of 2018-2021 trends, we observed a significant inertia in this area, with only a slight increase in employee engagement in decision-making. Data from 2022 suggests that this trend may be shifting towards greater emphasis on decision-making by managers, especially in larger companies. This shift coincides with the observed changes in Polish companies' organisational cultures. As discussed later in the chapter, **in 2022, the previously dominant clan culture i.e., treating the company as family, was replaced by the adhocracy culture, characterising the company as entrepreneurial and energetic**.

One can assume that these changes reflect Polish companies' adaptation to the challenges associated with crises. The culture of adhocracy, promoting innovation, speed, and flexibility, may facilitate faster decision-making by managers, without the need of involving a larger group of employees. This evolution may in turn mean that companies are striving to concentrate decision-making in the hands of just a few individuals in order to better cope with the dynamically changing business environment.

Table 4.4. Percentage of enterprises involving their employees, to various extents, in making important decisions that affect them, by employment (%)

Year	2018			
Company size	**2–49**	**50–249**	**250+**	**Total**
They engage employees in decision-making	×	56	55	56
Managers make decisions independently, without consulting their subordinates	×	42	43	42
They leave decision-making to the employees	×	3	2	3
Total	×	100	100	100
N		888	147	1035
Year	**2019**			
Company size	**2–49**	**50–249**	**250+**	**Total**
They engage employees in decision-making	51	55	53	52
Managers make decisions independently, without consulting their subordinates	47	43	45	45
They leave decision-making to the employees	3	2	2	2
Total	100	100	100	100
N	2294	1052	193	3539
Year	**2020**			
Company size	**2–49**	**50–249**	**250+**	**Total**
They engage employees in decision-making	×	58	54	57
Managers make decisions independently, without consulting their subordinates	×	40	46	41
They leave decision-making to the employees	×	2	0	2
Total	×	100	100	100
N		948	148	1096
Year	**2021**			
Company size	**2–49**	**50–249**	**250+**	**Total**
They engage employees in decision-making	58	62	54	59
Managers make decisions independently, without consulting their subordinates	38	36	44	38
They leave decision-making to the employees	4	2	2	3
Total	100	100	100	100
N	2260	1197	188	3646
Year	**2022**			
Company size	**2–49**	**50–249**	**250+**	**Total**
They engage employees in decision-making	×	51	36	49
Managers make decisions independently, without consulting their subordinates	×	49	64	51
They leave decision-making to the employees	x	1	1	1
Total	×	100	100	100
N		866	152	1018

Source: BKL – Employer Survey 2018-2022.

Note: In the case of 2018, 2020, and 2022, the category 'total' includes only medium and large companies.

Human resource management tools

The 2022 data on the use of human resource management practices indicates (Table 4.5) that, like in the previous years, **job descriptions (38%), remuneration systems taking into account job hierarchy and market conditions (31%), and employment plans (23%) remain the most popular HRM tools**.

Replacement plans for leaving employees are used by 22% of companies, while candidates' databases are used by 20% of companies. Job position appraisal, non-financial motivation mechanisms, and individual employee development/career paths are implemented by 16%, 16%, and 14% of companies, respectively.

Less popular tools include employee release (de-recruitment) procedures (12%), standardised candidate selection tools (10%), employee adaptation tools (10%), and tools for identifying employees with high development potential (4%).

It is disturbing that 18% of the companies overall do not use any HRM tools, which may suggest a lack of professionalisation of human resource management functions, even in medium and large companies that were surveyed in 2022.

Looking at the differences between size-based categories of company, we can see that larger companies (250+ employees) are more likely to use various HRM tools. For example, 45% of large companies use job descriptions, 35% use a remuneration system that takes into account job hierarchy and market conditions, and 27% have employment plans. For medium-sized companies, these indicators are noticeably lower.

Table 4.5. Percentage of enterprises using the particular human resource management tools, by employment (%)

Company size	50–249	250+	Total
Job descriptions	37	45	38
Remuneration system taking into account job hierarchy and market conditions	30	35	31
Employment plan	23	27	23
Replacement plan for leaving employees	21	26	22
Candidates database	19	24	20
Job position evaluation	14	24	16
Non-financial motivation mechanisms	16	21	16
Individual development plans/career paths	14	13	14
Employee release (de-recruitment) procedures	11	15	12
Standardised tools for candidate selection	9	17	10
Employee adaptation tools	9	17	10
Tools for identifying employees with high development potential	4	6	4
Do not know	0	0	0
They do not use any HR tools	18	17	18
N	866	152	1018

Source: BKL – Employer Survey 2022.

The data from 2018-2022 (Table 4.6) shows that the popularity of the most widespread HRM tools, such as job descriptions, remuneration systems, employment plans, and replacement plans for leaving employees, has decreased over time.

For instance, in 2018, 50% of medium and large companies used job descriptions, but by 2022 the percentage dropped to 38%. Similarly, the share of companies using remuneration systems that take job hierarchy and market conditions into account decreased from 41% in 2018 to 31% in 2022. A noticeable decline can also be observed in the use of employment plans – from 30% in 2018 to 23% in 2022.

Interestingly, the percentage of companies that do not use any HRM tools also slightly decreased over the years of the survey, from 24% in 2018 to 18% in 2022. This trend can be considered positive, as it indicates that more and more companies understand the importance of professional human resource management. However, considering that the

particular tools are used less frequently and the percentage of companies that do not use professional HRM tools at all remains quite high, this result may still cause concern.

Table 4.6. Percentage of enterprises using the particular human resource management tools, by year of survey (%)

Year	2018	2019	2020	2021	2022
Job descriptions	50	39	47	32	38
Remuneration system taking into account job hierarchy and market conditions	41	25	33	23	31
Employment plan	30	22	35	20	23
Replacement plan for leaving employees	23	17	33	15	22
Candidates database	20	15	27	15	20
Job position evaluation	27	18	24	15	16
Non-financial motivation mechanisms	20	13	14	14	16
Individual development plans/career paths	16	6	13	7	14
Employee release (de-recruitment) procedures	13	9	10	7	12
Employee adaptation tools	10	9	10	10	10
Standardised tools for candidate selection	12	7	10	8	10
Tools for identifying employees with high development potential	7	3	5	3	4
Do not know	1	1	0	0	0
They do not use any HR tools	24	38	17	32	18
N	1035	3539	1096	3646	1018

Source: BKL – Employer Survey 2018-2022.

Note: In 2018 and 2020 and 2022, the sample did not include small businesses.

In 2022, like in the previous years, Polish companies used various non-financial methods of motivating employees (Table 4.7), the choice of the methods clearly linked to the size of the company. **The most popular method of motivation in all size categories of companies was praise from a supervisor, which was used by 53% of all companies.**

For medium-sized companies, expanding the scope of decision-making (37%) and expanding the promotion opportunities (33%) were also popular methods of motivation, while for large companies, promotion (47%) and vouchers (38%) were the second and third most popular methods.

Interestingly, some methods, such as subsidised or free meals (12% – 13%), fitness cards (13% – 17%), and tickets to cultural institutions (11% – 13%), were relatively rarely used in both medium and large companies. It seems that these companies focus on direct forms of recognising and engaging employees, and less on financial and non-financial benefits that are not directly related to work.

In summary, this data shows that non-financial methods of motivating employees used by Polish companies are diverse, but praise from the supervisor is definitely predominant. Furthermore, company size seems to have an impact on the choice of methods used, with greater emphasis on increasing the scope of responsibility in medium-sized companies, and on promotion in large companies.

Table 4.7. Percentage of enterprises using the particular non-financial employee motivation tools, by employment (%)

Motivation tool	50–249	250+	Total
Praise from the supervisor	53	54	53
Expanding the scope of employee's responsibility	37	34	37
Promotion	33	47	35
Gift vouchers	29	38	31
Engaging employees in decision-making	30	26	30
Setting efficiency goals	21	26	21
Additional training	19	25	20
Team-building trips/events	17	26	18
Additional insurance packages, including health insurance	15	18	15
Fitness cards/passes	13	17	14
Subsidised/free meals	12	13	12
Cards/tickets to cultural institutions	11	13	11
Other	3	2	3
Do not know	1	1	1
N	866	152	1018

Source: BKL – Employer Survey 2022.

The data from 2018-2022 shows interesting trends in Polish companies' use of non-financial motivation tools (Table 4.8). Particularly noteworthy is the dynamics of the popularity of employee engagement in decision-making. The method gained popularity between 2018

and 2020, with 27% of companies using it in 2018 and 36% using it in 2020, while in 2022 the percentage dropped to 30%. This may indicate a reversal in the trend of this tool's popularity, which aligns with the analysis of key decision-making methods in the organisation referred to earlier in the chapter. However, the method still remains one of the more popular forms of employee motivation.

At the same time, we observed a decrease in the popularity of certain methods of motivation, which may be related to changes in the way leisure time was spent during the pandemic. Fitness cards decreased in popularity from 15% to 11% between 2019 and 2021, meal subsidies decreased from 11% to 7%, and additional insurance packages decreased from 16% to 10%. In 2022, however, there was an increase in the popularity of these forms of motivation, which may be indicative of a gradual return to normality after the pandemic.

Praise from a supervisor remains the most popular form of non-financial motivation, although its popularity slightly decreased between 2018 and 2022, from 57% to 53%.

In summary, this data shows that Polish companies, adapting to changing work conditions and employee expectations, continue evolving towards using various forms of non-financial motivation.

Table 4.8. Percentage of enterprises using the particular non-financial employee motivation tools, by year of survey (%)

Motivation tool	2018	2019	2020	2021	2022
Praise from the supervisor	57	48	66	45	53
Promotion	30	25	33	25	37
Gift vouchers	57	33	37	31	35
Expanding employee's responsibility	28	26	32	27	31
Engaging employees in decision-making	27	23	36	38	30
Additional training	17	17	26	19	21
Setting efficiency goals	28	15	17	14	20
Fitness cards/passes	24	15	14	11	18
Team-building trips/events	18	12	12	15	15
Additional insurance packages, including health insurance	19	16	12	10	14
Cards/tickets to cultural institutions	10	8	9	6	12
Subsidised/free meals	10	11	7	7	11
None	8	x	1	1	x
Other	6	4	2	2	3
Do not know	0	4	X	1	1
N	1035	3539	1096	3646	1018

Source: BKL – Employer Survey 2018-2022.

Note: In 2018, 2020, and 2022, the sample did not include small businesses.

Analysis of the tools used by Polish medium and large enterprises for recruiting employees in 2022 shows a continuation of trends from the previous years. As Table 4.9 shows, **the so-called 'big three' – i.e. curriculum vitae, interview, and cover letter – remain predominant among the most popular recruitment techniques**. These methods are most likely to be used regardless of company size – around 82% and 81% of all companies use curriculum vitae and job interviews, although in large companies job interviews are predominant.

However, there are clear differences in the use of recruitment tools between organisations of different sizes. Generally speaking, the larger the company the greater the variety of tools used. What is disturbing is that the popularity of the particular methods is inversely proportional to their effectiveness in predicting a candidate's success on the position

(Prokopowicz, 2016). **Methods with highest prognostic potential, such as standardised knowledge and cognitive ability tests, structured interviews, and job sampling, are at the bottom of recruitment tools popularity ranking.** This state of affairs casts a shadow on the quality of recruitment processes in Polish companies, both medium and large. It seems that there is room for improvement in the quality of selection processes, especially through increased use of tools that are more effective in predicting a candidate's success on a given position. Such an improvement will require raising the level of recruiters' skill and changing the approach i.e., shifting the focus from the 'soft' elements of recruitment to empirically verified, more effective tools.

What could this look like in practice? The best way to increase the predictive accuracy of recruitment tools would be to choose a good change leverage, such as recruitment interviews. According to the latest meta-analyses (especially Sackett et al., 2022), the most effective selection method (more accurate than job sampling, which was previously considered best practice) is a structured interview i.e., a conversation using a set of questions prepared in advance to assess the key skills required by the position using a standardized key. Importantly, **standardisation is a relatively easy-to-implement solution that can dramatically increase the accuracy of selection decisions with no need for large financial investments**.

Table 4.9. Percentage of enterprises using the particular recruitment and selection tools, by employment (%)

Selection and recruitment tools	50–249	250+	Total
Curriculum vitae	82	82	82
Job interview	80	86	81
Cover letter	43	48	44
Structured interview	23	18	22
Reference letters	21	25	22
Job sampling	19	30	21
Knowledge tests related to the position	18	19	18
Standardised tests	3	4	3
They did not recruit last year	32	23	31
N	866	152	1018

Source: BKL – Employer Survey 2022.

When analysing the dynamics of changes in the popularity of various recruitment tools, certain characteristic trends can be noticed (Table 4.10).

The curriculum vitae, being the most popular recruitment tool, despite a slight decline in the years 2018-2020, has seen an increase in popularity, maintaining a high level of 82% in 2022. Similarly, the use of a cover letter showed an increasing trend after 2020, reaching 44% in 2022. An interesting observation is the increasing popularity of job sampling as a recruitment tool – from 16% in 2018 to 21% in 2022. A similar trend was observed in the case of structured interviews, with an increase from 16% in 2018 to 22% in 2022. Standardised tests continue to be used at a consistently low level, employed by only 3% of companies.

As expected, in the context of the end of the pandemic crisis, there was a decrease in the number of companies that did not carry out recruitment last year – from 44% in 2020 to 31% in 2022.

Table 4.10. Percentage of enterprises using particular recruitment tools, by year of survey (%)

Recruitment tools	2018	2019	2020	2021	2022
Curriculum vitae	78	58	55	84	82
Job interview	64	47	46	81	81
Cover letter	51	34	28	42	44
Reference letters	26	15	19	23	22
Knowledge tests related to the position	20	15	10	17	18
Job sampling	16	16	11	14	21
Structured interview	16	12	11	18	22
Situational judgment tests	4	6	X	x	x
Cognitive ability test, intelligence test	1	2	X	x	x
Standardised tests	x	x	2	3	3
They did not recruit last year	17	35	44	42	31
N	1035	3539	1096	2110	1018

Source: BKL – Employer Survey 2018-2022.

Note: in 2018 and 2020 and 2022, the sample did not include small businesses.

Organisational culture of Polish enterprises

Organisational culture, being the set of values and norms characterising a given company, is one of the most stable elements of a company's functioning (Chatman and Caldwell, 1991). It constitutes a kind of 'personality' of the organisation, significantly differentiating the way it responds to internal and external stimuli.

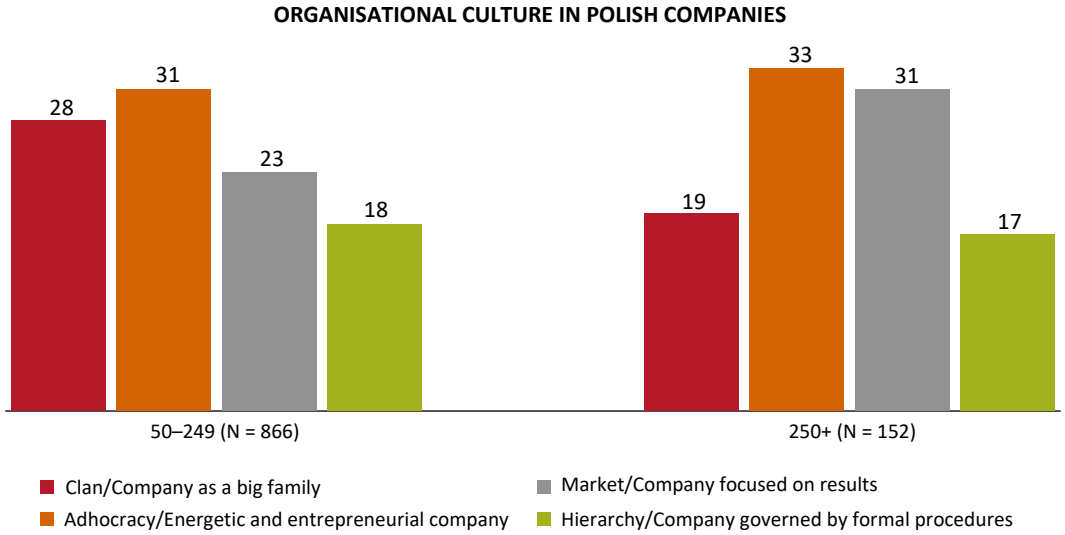
In the BKL Study, organisational culture, as understood in the model of competing values (Cameron in Quinn, 2011), was diagnosed based on the question in which the respondents ranked (from 1 to 4) the extent to which the following statements reflected their work in the company:

- 'Our company/institution resembles a big family, and its management takes care of employees' (Clan culture)
- 'Our company/institution is energetic and entrepreneurial, and its management is innovative and encourages initiative and taking risks' (Adhocracy culture)
- 'Our company/institution is mainly focused on results and effective task execution, and its management is decisive' (Market culture)
- 'Our company/institution is tightly organised and governed by formal procedures, with its management focusing on efficient organisation and control' (Hierarchy culture)

Analysing data on the configuration of dominant types of organisational cultures in 2022, some interesting – and even somewhat revolutionary – changes in the dynamics and differences between categories of company sizes can be seen (Chart 4.1).

In the case of medium-sized companies (50-249 employees), the most commonly indicated cultures were the adhocracy culture – 31%, and clan culture – 28%. The adhocracy culture is characterised by energy, entrepreneurship, and flexibility, while the clan culture – by a sense of community and a family atmosphere. In large companies (250+ employees), the most popular turned out to be – similar to medium-sized companies – the adhocracy culture (33% of responses), while 31% of the surveyed enterprises indicated market culture as dominant, characterised by a focus on results and competitiveness.

Chart 4.1. Indication of the specific type of organisational culture dominant in the given enterprises, by employment size (%)



Source: BKL – Employer Survey 2022.

The changes observed in the dominant organisational cultures between 2018 and 2022 (Table 4.11) are both interesting and surprising. **In 2022, for the first time since the BKL Study included this area, the dominant culture among large and medium-sized companies ceased to be the clan culture, meaning treating the company as a big family** – 26% of large and medium-sized companies indicated this culture, compared to 31% in 2020 and 33% in 2018. **The dominant culture changed to the adhocracy culture – a dynamic and entrepreneurial company – which gradually increased its prevalence since 2018**, when 28% of companies indicated it as dominant. This may indicate flexibility of the cultures of large and medium-sized Polish organisations in response to challenges related to crises.

The market culture (defined as a company focused on results) received 24% of responses in 2022, which is a similar result to 2020 (25%) and 2018 (22%), but higher than in 2018. Meanwhile, the hierarchy culture (a company governed by formal procedures) was the least popular, receiving 18% of responses. Despite this, the rate was higher compared to previous years, especially in relation to the year 2020 (14%).

Table 4.11. Percentage of enterprises indicating a particular type of organisational culture as dominant in the given enterprise, by year of survey (%)

Organisational culture	2018	2019	2020	2021	2022
Clan/Company as a big family	33	38	31	37	26
Adhocracy/Energetic and entrepreneurial company	28	33	30	28	32
Market/Company focused on results	22	18	25	24	24
Hierarchy/Company governed by formal procedures	17	12	14	11	18
Total	100	100	100	100	100
N	1035	3539	1096	3646	1018

Source: BKL – Employer Survey 2018-2022.

Note: in 2018 and 2020 and 2022, the sample did not include small businesses.

Analysing the data from 2022 – presented in Table 4.12 – we can see that the dominant organisational cultures vary depending on the industry and the size of employment. For example, in construction and transportation, an energetic and entrepreneurial company (adhocracy) dominates in all employment size categories (42% for 50-249 employees and 33% for 250+), while a family-like company (clan) is less popular (20% for 50-249 employees and 28% for 250+). **From a purely industry perspective, the adhocracy culture seems to be particularly popular in all sectors, which may be a response to the pressures of external changes in the business environment.** On the other hand, the clan culture is most prevalent in sectors such as healthcare, education, and specialised services. Why specifically in these industries? It seems that a possible explanation could be the high dependence of effectiveness in these sectors on trust and close relationships between employees, which is characteristic of the clan culture (Cameron and Quinn, 2011).

Table 4.12. Percentage of enterprises indicating a particular type of organisational culture as dominant in the given enterprise, by employment size and industry (%)

Industry	Organisational culture	2–49	50–249	250+	Total
Construction & transport	Clan/Company as a big family	×	20	28	21
	Adhocracy/Energetic and entrepreneurial company	×	42	33	40
	Market/Company focused on results	×	25	33	26
	Hierarchy/Company governed by formal procedures	×	14	7	13
	Total	×	100	100	100
	N		92	14	106
Education	Clan/Company as a big family	×	34	20	33
	Adhocracy/Energetic and entrepreneurial company	×	20	30	20
	Market/Company focused on results	×	16	20	16
	Hierarchy/Company governed by formal procedures	×	30	30	30
	Total	×	100	100	100
	N		222	6	228
Trade, accommodation, catering, support services	Clan/Company as a big family	×	22	11	20
	Adhocracy/Energetic and entrepreneurial company	×	32	38	33
	Market/Company focused on results	×	32	39	33
	Hierarchy/Company governed by formal procedures	×	14	13	13
	Total	×	100	100	100
	N		166	28	194
Healthcare & welfare	Clan/Company as a big family	×	35	27	33
	Adhocracy/Energetic and entrepreneurial company	×	27	23	26
	Market/Company focused on results	×	16	27	19
	Hierarchy/Company governed by formal procedures	×	21	23	22
	Total	×	100	100	100
	N		54	20	74
Industry & mining	Clan/Company as a big family	×	28	18	26
	Adhocracy/Energetic and entrepreneurial company	×	36	33	36
	Market/Company focused on results	×	25	30	26
	Hierarchy/Company governed by formal procedures	×	12	18	13
	Total	×	100	100	100
	N		25	11	36
Professional services	Clan/Company as a big family	×	27	19	26
	Adhocracy/Energetic and entrepreneurial company	×	35	40	36
	Market/Company focused on results	×	24	28	24
	Hierarchy/Company governed by formal procedures	×	14	13	14
	Total	×	100	100	100
	N		17	3	20
Total	Clan/Company as a big family	×	28	19	26
	Adhocracy/Energetic and entrepreneurial company	×	31	33	32
	Market/Company focused on results	×	23	31	24
	Hierarchy/Company governed by formal procedures	×	18	17	18
	Total	×	100	100	100
	N		866	152	1018

Source: BKL – Employer Survey 2022.

Summary

Over the past five years (2018-2022), when conducting the BLK Study, we observed significant changes in human capital management strategies in Polish companies. Despite a series of challenges at the economic, political, and social levels – including the COVID-19 pandemic – many companies have started to refocus their attention on long-term planning. This is an encouraging trend, and seems to be a response to the crisis, which deserves further analysis. Our recommendations for decision-makers in this area are clear and in line with this trend – **long-term planning is crucial for effective human capital management**.

However, paradoxically, **during the same period, we also observed a decrease in employee engagement in decision-making, and a general departure from the paternalistic model**, where the company is treated as a family and where employees are included in the decision-making process. Instead, **companies seem to be leaning towards a more market-oriented and hierarchical business orientation**, often giving decision-making authority to managers without consulting employees. This change may reflect an attempt to increase control over the organisation in response to the crisis, which is understandable, but at the same time carries the risk of neglecting the employee's perspective.
We recommend that entrepreneurs, managers, and company leaders should not forget the value of listening to the employee's voice, even in the face of difficulties. Ignoring the most important assets of an organisation – its people – can lead not only to a decrease in creativity and innovation (Carmeli et al., 2010), but also to making worse strategic decisions and ethical challenges (Morrison, 2014).

Finally, it is worth noting that the use of professional HRM tools has become even more important in human capital management today. Importantly, although crises can lead to tighter strategic control, they can also potentially foster innovation and accelerate change. Therefore, it is crucial for decision-makers – leaders, managers, and entrepreneurs – to use these challenges as an impetus for further development and adaptation. Regardless of the difficulties, it is worth remembering that in human capital management, it is not only about the capital itself, but above all about people.

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Part II.
Resources

5. Age and health as key determinants of the market situation of Polish women and men

Introduction

The availability of human capital in a given country is influenced by many factors – the demographic situation, including the number and age structure of the population, access to quality education, opportunities for professional development, as well as the condition of the population, primarily determined by physical and mental health. While demographic issues and the quality of education are receiving increasing attention, with their importance for stable economic and social development recognised, the perspective on human capital in terms of health status is not emphasised as strongly, although, according to classic human capital theories, health is one of this capital's key determinants (Schultz, 1961; Becker, 2007) and is linked to educational achievements, as confirmed by numerous contemporary studies (see, e.g., Ross and Wu, 1995, Zajacova and Lawrence, 2018). Schultz positioned actions leading to improved health at the top of the list of investment categories that lead to human capability growth, resulting in increased life expectancy, better fitness, and vitality (*ibidem*). In turn, good physical and mental condition promote effective learning, education, and skills development, which ultimately leads to improvement in the society's health (Cutler and Lleras-Muney, 2006). It can be said that there is a mutual impact between health and education – good health promotes education, and education promotes the improvement of health (Raghupathi and Raghupathi, 2020).

Examining human capital in Poland from the perspective of health has not been widely utilised in the BLK Study so far, although population survey data contains information on the subjective assessment of one's physical health and mental well-being, as well as information on health problems experienced by respondents in their daily lives. In this report, we want to make use of the possibilities offered by this data and examine the human capital of Polish women and men from the perspective of their health, trying to answer

the question how their health affects their market position, and how health is related to other important individual characteristics – such as education, skills, and commitment to development. We precede the presentation of answers to these questions with a brief synthesis of information on the diversification of the market situation of Polish women and men of different ages, contained in the BKL population study report from 2022 (Czarnik et al., 2022), based on the 2021 research results. This synthesis provides an important context for detailed analyses of the impact of health (and the relationship between health and age) on the market situation of Polish women and men. In this chapter, two sources of data have been used. The introductory section uses the data from the aforementioned 2021 population survey report, while the later subsections, exploring the health and mental well-being of Polish women and men in 2022, and the relationship between the age and health on the one hand and assessment of one's skills and educational activity on the other, are based on the results of a panel study conducted in 2022. The aim of the latter section is to capture the most up-to-date situation, hence the decision to limit the analysis to one measurement point, i.e., data from 2022.

Older and younger labour market participants in the light of BKL data

Professional situation is an important context for the topic of health, discussed in this chapter. We describe it taking into account the differences between the various age groups: 18-34 years old, 35-54 years old, and 55-69 years old. The data cited in this part of the article pertains to 2021 and was presented in the aforementioned BKL population study report published in 2022 (Czarnik et al., 2022). As a starting point for the analysis presented in the further part of the chapter, three main areas are discussed: employment, types of work performed, and unemployment; earnings and job satisfaction; and education and skills.

Employment, types of work performed, and unemployment

The discussed age groups differ in terms of the percentage of employed individuals. **The results of the BKL Study confirm what intuition would suggest – the highest employment rate (84%) is recorded in the middle age group (35-54 years old).** A lower percentage (70%) is recorded in the youngest age group (18-34 years old), among others, because some of its members are still continuing education. The lowest employment rate (41%) is recorded in the oldest age group (55-69 years), which is directly related to the fact that some individuals from this group have reached retirement age.

When analysing forms of employment, we first focus on individuals employed under an employment contract i.e., 51% of respondents aged 18-34, 66% of those aged 34-55, and only 28% of the oldest age group. **Young people are employed on fixed-term contracts significantly more frequently than the other groups (18-34 years old – 29%; 35-54 years old – 12%; 55-69 years old – 14%), but they can usually count on improvement of their working conditions.** As regards both promotions and wage increases in the 12 months preceding the survey, the following rule applies: the younger the age group, the more frequent the pay raises and promotions. **Workers from the youngest age group (18-34 years old) also exhibit the greatest readiness to change jobs.**

Another form of employment are **civil-law contracts**, **which were most common in the group aged up to 24, with 23% of individuals from this category working under such contracts in the 12 months prior to the survey.** With age, the frequency of employment based on this type of contract steadily decreases, down to 1.5% in the 65+ age group. Self-employment was most common among the middle-aged (36-54 year old). The percentage of those working without a formal contract visibly decreases with age (8% in the youngest age group, down to 1.5% in the oldest).

Unemployment is most likely to affect young people (18-34 years old – 8%; 35-54 years old – 4%; 55-69 years old – 5%). At the same time, it is young people that are most likely to look for work. Among the non-working population above 54, a vast majority are no longer active in the labour market. The feeling that it is difficult to find a new job with a similar pay also increases with age.

Earnings and job satisfaction

Another aspect described in the previous editions of the BKL Study was job satisfaction and financial situation. Overall, **highest job satisfaction (among employees on employment contracts) is declared by the youngest women (18-24 years old) and middle-aged men (45-54 years old)**. **Job satisfaction is lowest in the oldest age group, regardless of gender.** Undoubtedly, one of the factors that influence job satisfaction are the wages. In the particular age groups, the situation varies, depending on the level of education. **In the case of individuals with secondary education, wages remain similar, regardless of age.** In contrast, clear differences in earnings between the particular age groups are visible in the case of individuals with lower[14] and tertiary education. On average, older people with lower education earn the least among all the groups. In the case of people with tertiary education, highest earnings are declared by middle-aged individuals, slightly lower but similar by older individuals, and significantly lower by the youngest individuals, which is directly related to their experience and time spent in the job market.

As regards satisfaction with earnings, a general principle can be observed: **the older the worker, the lower their satisfaction with the earnings. The same is true when it comes to assessing the financial situation of households – youngest individuals rate it best, while oldest rate it worst.**

However, job satisfaction is not only about satisfaction with earnings. As part of the BKL Study, we asked the respondents whether work prevents them from dedicating as much time to their loved ones as they would wish. Interestingly, the answer to this question, regardless of respondent's age, tends to show a similar level of moderate satisfaction (averaging from 2.55 to 2.63 on a scale from 1 to 5). **Older people are more likely than the younger to want to change their career and do a different job.** 35% of those aged 55-69 want to make a change, compared to 31% of those aged 35-54, and 23% of those aged 18-34. Among the oldest respondents, women (43%) are significantly more likely than men to want to change jobs (29%).

[14] Lower secondary education means completion of primary school (szkoła podstawowa), lower secondary school (gimnazjum) or basic vocational school (zasadnicza szkoła zawodowa) / level 1 vocational school (szkoła branżowa I stopnia).

In the hypothetical situation where the respondent does not have to work to make a living, age is a factor that strongly affects the declared willingness to work. **Willingness to work without purely financial motivation significantly decreases with age, standing at 83% among young people, and only 45% among those from the oldest age group.**

Skills and education

As we get older, the self-assessment of our skills decreases. Young people rate their skills higher, especially in the area of new technologies (using a computer, tablet, smartphone, operating specialised computer programmes), and physical fitness. Middle-aged people assess their technological skills slightly lower.

Respondents gave different ratings to the usefulness of the knowledge and skills acquired during their education at work. In this case, the differentiating factor was not only the age, but, above all, the level of education. Among those with tertiary education, the oldest people rated the usefulness of school-acquired knowledge and skills highest. The skills and knowledge acquired at school were considered useful at work by 94% of people aged 55-69, 82% of people aged 35-54, and 76% of those aged 18-34. The situation is similar among those with secondary education (55-69 y.o. – 78%, 35-54 y.o. – 60%, 18-34 y.o. – 52%). The rating of the usefulness of knowledge and skills acquired at school was lowest among oldest respondents with lower education. Among respondents with lower education the situation is reversed: the youngest of them rate the usefulness of school-acquired knowledge and skills highest (58% rate them positively), and the oldest (52%) – lowest.

Generally, these are the oldest respondents that rate the compatibility of their work with their education highest. Again, assessments in this area are linked to the level of respondent's education. The youngest age group (18-34 years old) with lower education rate the compatibility of their work with their education lowest (38%), while the oldest age group (55-69 years) with higher education rate it highest (as high as 92%).

Mental well-being and health in 2022

Health is one of the most important components of human capital, a factor that enables or blocks the utilisation of an employee's potential (including skills). At the same time, this factor is significantly associated with age and education, constituting one of the most important elements that decrease or increase the productivity of employees (cf. Becker, 2007; Grossman, 2004; Mushkin, 1962; Schultz, 1963). The theory of human capital perceives health as a human capital factor that both requires specific investments (expenses) and carries the hope of future return (increased or maintained employee productivity). These costs can be purely financial (e.g. expenses on preventive healthcare) or involve time or effort (e.g. physical exercise) aimed at improving the future health prospects of a person.

The relationship between age and health is illustrated by the data from Table 5.1, presenting Poles' self-assessments from 2022. Although the majority rated their health positively (84% in total), there are certain trends worth highlighting, two of them particularly noteworthy. Firstly, and unsurprisingly, the overall assessment of health in the younger (18-35) and middle-aged (36-54) groups is satisfactory, but it significantly drops for the older age category (55+). For example, 87% of the younger group and 86% of the middle-aged group, compared to 68% of the older group, rate their health well. Among older people, the percentage of those who assess their health as poor is higher (about 7% compared to 1-2% in the other age categories).

Table 5.1. Health assessment of respondents, by age and education (%)

Age	Education	Health assessment			Total	N
		Poor	Neither good nor bad	Good		
18–35	Lower	0	17	83	100	43
	Secondary	2	7	91	100	119
	Tertiary	2	13	85	100	179
	Total	2	12	87	100	341
36–54	Lower	3	20	77	100	75
	Secondary	2	11	88	100	134
	Tertiary	1	11	89	100	221
	Total	1	12	86	100	430
55+	Lower	14	39	47	100	55
	Secondary	4	24	72	100	44
	Tertiary	0	7	93	100	39
	Total	7	25	68	100	139

Source: BKL – Employer Survey 2022 (panel).

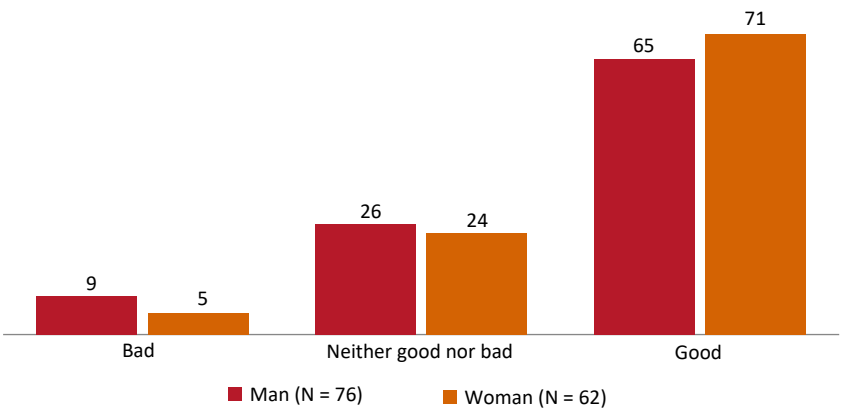
Secondly, **excluding the category of younger respondents, there is a clear correlation between education and health, meaning that health is quite an egalitarian factor for young people, but becomes increasingly elitist with age.** Using the terminology of the human capital theory, it can be assumed that in later years of life investments made in health slowly begin to pay off. Naturally, these results can also be viewed from another perspective, closer to the theory of social closure, in which the nature of the work performed by certain groups will contribute to better health outcomes, while for others it may lead to worse health outcomes.

Biggest differences, however, are visible when comparing the self-assessments of health between employees with lower education and those with a university degree.
The percentage of those who rate their health as good is approximately 10% lower among middle-aged Poles with lower education than among those with tertiary education.
The difference is even bigger among people aged 55+. In this group, as many as 14% of its representatives with lower education rate their health as poor, while no representatives with higher education gave such a rating. Less than a half of Poles aged 55 and above, with lower education, are satisfied with their health, compared to 93% among people of the same age with tertiary education. To sum up, regardless of what factors contribute to the differences in declarations regarding health between individuals with different levels of

education (nature of the work performed, various health habits, or, simply, greater optimism or pessimism in life), from the perspective of public policies, it is important there is **a group of individuals – comprising respondents from the middle- and older age categories – who identify themselves as having greater health issues, while typically being also characterised by a lower social and financial status, which entails limitations to investing in health.** Additionally, the Sectorat Human Capital study for the 'health' sector shows that these individuals typically have more difficulties with access to medical services (lack of networking, lack of social capital) while having fewer opportunities to finance preventive healthcare or treatment with their own funds (Grabowska et al., 2022). This group seems to be a potential important target for public policies.

Gender does not significantly affect the assessment of one's health in younger and middle age groups, but is an important factor in the case of the oldest group (Chart 5.1). Among those aged 55 and above, men are more inclined to perceive their health as poor (9% compared to 5% of women) or neither good nor bad (26% compared to 24% of women). This is probably the result of both biological differences and women being more likely to take care of their health (cf. Królikowska, 2011). It tends to happen that during promotion of preventive behaviours from the area of health, women are perceived as those who should promote such behaviours among men.

Chart 5.1. Health assessment by women and men from the 55+ age group (%)



Source: BKL – Employer Survey 2022 (panel).

Slightly different dependencies are visible when analysing the differences in the assessment of mental well-being depending on age and education[15]. First, it needs to be pointed out that – **at least according to their declarations – Poles feel well mentally, and age is not an obvious differentiating factor in this case** (Table 5.2). The level of education, however, influences the declarations of the respondents in a rather non-obvious way. **In the youngest age category, the percentage of those who declare their well-being is neither good nor bad is highest among those with higher education (around 16%)**. This may be a sign of better-educated individuals' greater acceptance and lack of inhibitions when admitting a mental crisis, or it may be indicative of greater problems in this group. For middle-aged individuals, there is no clear pattern in terms of education and its impact on mental well-being. But in the oldest group, those with tertiary education tend to report best mental well-being.

Table 5.2. Individuals' assessment of mental well-being, by age and education (%)

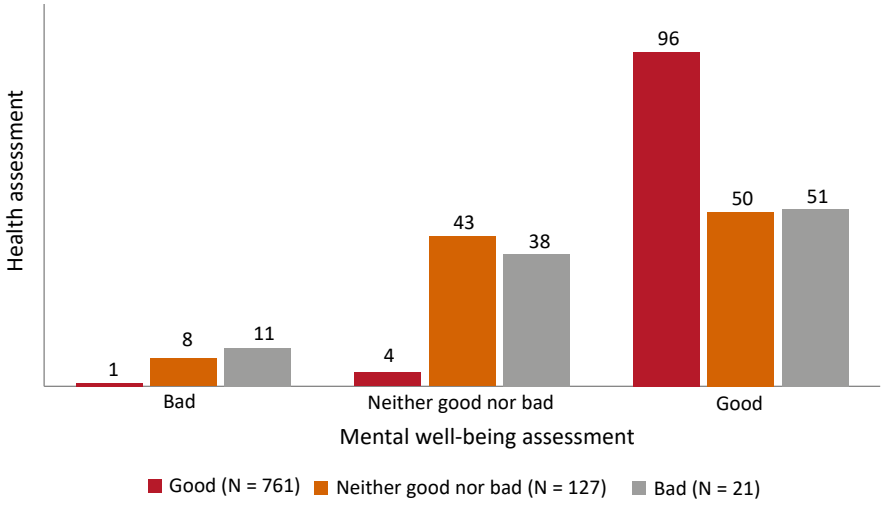
Age	Education	Bad	Neither good nor bad	Good	Total	N
18–35	Lower	0	7	93	100	43
	Secondary	0	8	92	100	119
	Tertiary	5	11	84	100	179
	Total	2	10	88	100	341
36–54	Lower	2	9	89	100	75
	Secondary	0	8	92	100	134
	Tertiary	0	10	89	100	221
	Total	1	9	90	100	430
55+	Lower	1	21	78	100	56
	Secondary	7	8	85	100	44
	Tertiary	5	1	94	100	41
	Total	4	11	85	100	141

Source: BKL – Employer Survey 2022 (panel).

[15] Due to very small numbers in the response 'poor well-being', we decided to compare the categories: 'neither good nor bad' and 'good'.

It is quite obvious that health is correlated with mental well-being, though it is not a straightforward determinant of mental condition. This can be seen in Chart 5.2 – **lower ratings of health increase the likelihood of lower ratings of mental condition, and people in good health are most likely to declare their well-being is good**.

Chart 5.2. Health assessment and mental well-being assessment (%)



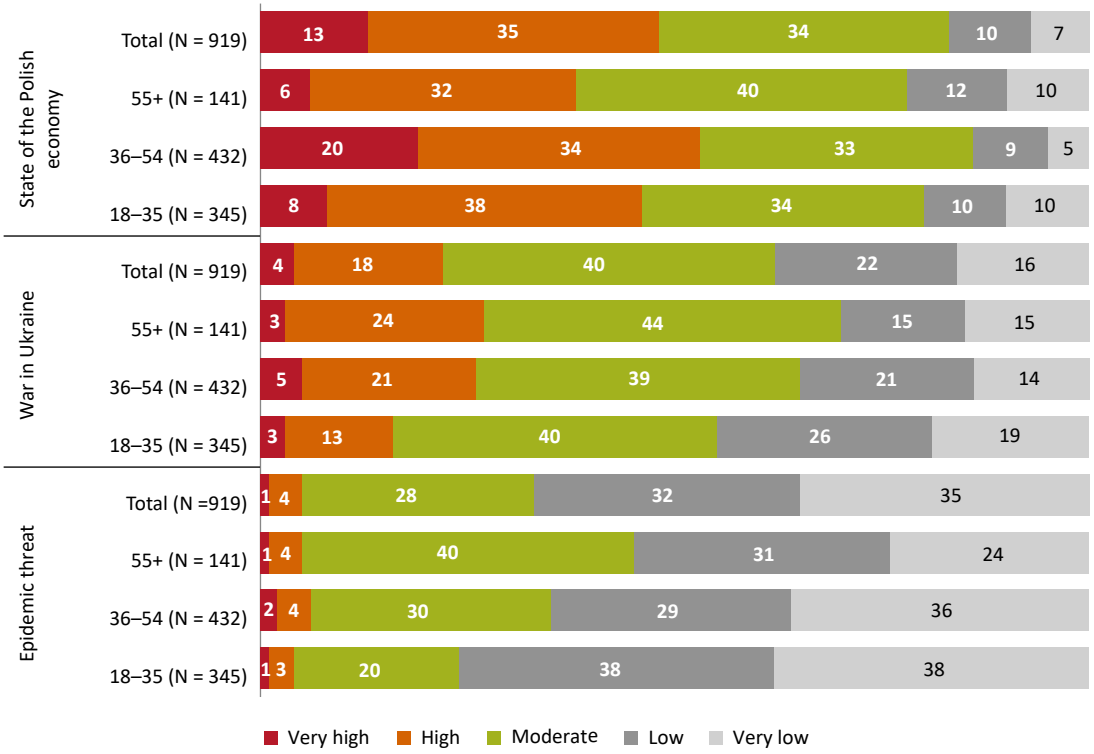
Source: BKL – Employer Survey 2022 (panel).

Various critical factors affect respondents' well-being in different ways. Some of the major external factors that could have influenced the well-being of Poles in 2022 were the epidemic threat related to the Covid-19 pandemic, the war in Ukraine, and inflation and the condition of the Polish economy.

Chart 5.3 clearly demonstrates the importance of the particular factors and their impact on Poles' anxiety. The dominant concern for individuals towards the end of 2022 was the condition of the Polish economy, with almost a half (49%) indicating that it had a strong or very strong impact on their overall well-being. It was followed by the war in Ukraine (22%) and the risk of epidemics (5%). **This shows Poles' attitude towards the Covid-19 pandemic calming down, and concerns shifting towards economic issues and, to a slightly lesser extent, national security issues.** However, the concerns depend on respondents' age. **Fear of the pandemic is currently highest in the 55+ age group, which is natural** (approximately 40% of respondents declare this factor has a moderate impact on their well-being). **Fear of the war is greatest among members of the same age group** (44% declare it has a moderate, and 27% – a strong or very strong impact on their well-being), **while economic issues**

mainly occupy the minds of middle-aged people (36-54 years old). More than a half of the middle-aged respondents felt a very strong impact, and over one-third felt a strong impact of economic issues on their well-being. Economy-related concerns mainly affect people at the central point of their careers.

Chart 5.3. Assessment of the impact of selected factors on respondents' well-being, by age (%)



Source: BKL – Employer Survey 2022 (panel).

Health undoubtedly has an impact on the level of employee productivity, while being a factor of significance for employment quality. Therefore, it is useful to compare health assessments against satisfaction with the particular aspects of the job. The relevant data is presented in Table 5.3.

Due to the small number of people who openly declared their health was poor, we decided to compare two categories: those who are satisfied with their health, and those who rate it as poor or neither good nor bad. It can be assumed that the latter category also experiences some health problems and is not fully satisfied with their psychological and physical condition.

The data shows the following trend: **among those who rate their health as good, there is a higher percentage of individuals satisfied with the particular aspects of their work than in the ambivalent group (those assessing their health as neither good nor bad)**. For instance, among those satisfied with their health, 64% are satisfied with their earnings, while in the ambivalent group, the percentage is lower by more than 20 pp. Regarding the promotion opportunities, the difference is approximately 12 pp, for personal development and skill improvement – 20 pp, for the possibility of balancing work with personal life and other responsibilities – approximately 17 pp, for the possibility to show initiative and independence – approximately 15 pp, and for what they do at work in general – approximately 15 pp. To sum up, people who are less satisfied with their health are more likely to do jobs that are lower paid, less satisfying, and offer lower development prospects. Although job satisfaction depends on job quality, nature, and job matching the employee's expectations, features which are probably the result of many interconnected factors, such as the employee's health and education, it can generally be said that health is definitely an important factor from the perspective of career opportunities.

Table 5.3. Health assessment and satisfaction with the particular aspects of employment (%)

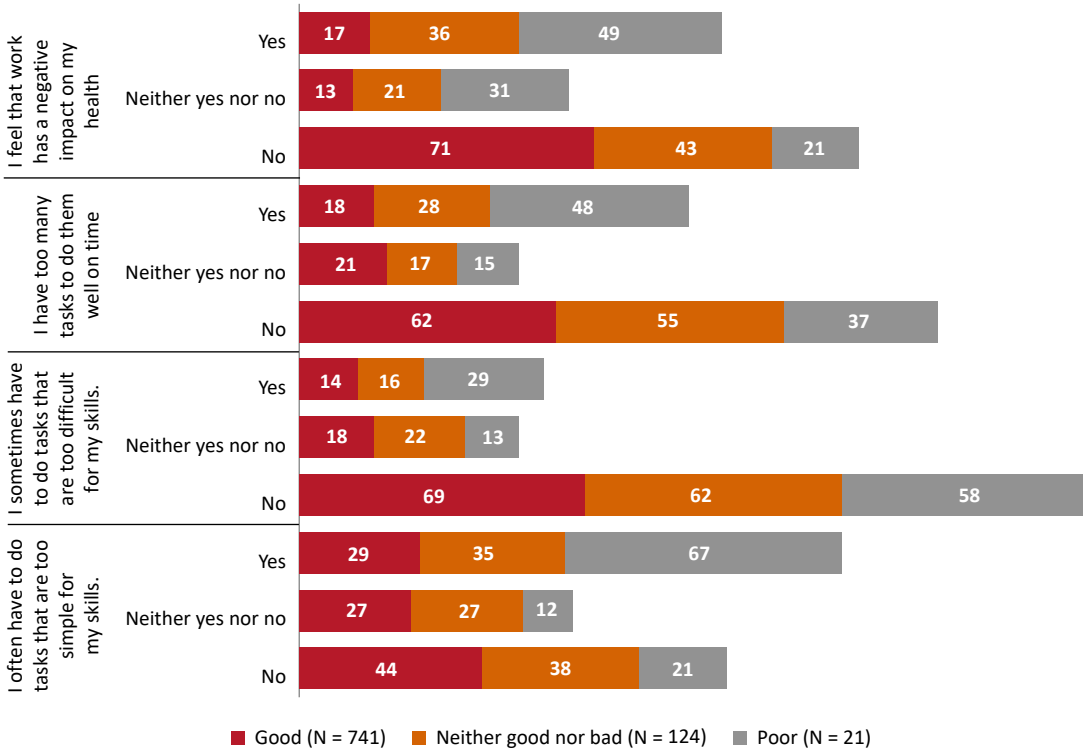
Factors	Level of satisfaction with a particular employment factor	Poor health assessment	Ambivalent health assessment	Good health assessment
Earnings	Dissatisfied	29	22	12
	Neither dissatisfied nor satisfied	4	36	24
	Satisfied	67	42	64
	Total	100	100	100
Promotion opportunities	Dissatisfied	44	45	24
	Neither dissatisfied nor satisfied	15	35	41
	Satisfied	41	20	35
	Total	100	100	100
Personal development and skill improvement opportunities	Dissatisfied	25	29	13
	Neither dissatisfied nor satisfied	44	26	22
	Satisfied	31	45	65
	Total	100	100	100
Possibility of balancing work with personal life and other responsibilities	Dissatisfied	8	14	8
	Neither dissatisfied nor satisfied	32	23	13
	Satisfied	60	62	79
	Total	100	100	100
Possibility to show initiative and independence	Dissatisfied	26	14	7
	Neither dissatisfied nor satisfied	16	22	14
	Satisfied	57	64	79
	Total	100	100	100
What they do at work	Dissatisfied	7	6	3
	Neither dissatisfied nor satisfied	15	22	10
	Satisfied	78	73	87
	Total	100	100	100

Source: BKL – population survey 2022 (panel), Nmin (poor health assessment) = 19.

The above conclusions confirm the data from Chart 5.4. **Individuals who rate their health as poor are also more likely to have negative perception of their work.** For instance, the statement 'I believe that work has a detrimental effect on my health' is supported by 49% of individuals who perceive their health as poor, and 17% of those who perceive their health as good. A similar trend can be observed in regards to the perception of the workload ('I have too many tasks to complete efficiently and on time') – 48% of individuals dissatisfied with their health concur with this statement, as compared to 18% of those who are satisfied.

Similar differences are visible with regard employee skills matching employee work tasks, both in the case of shortage and excess of skills (work tasks that are either too difficult or too easy considering the employee's skills). In both cases, individuals who assess their health as poor are more likely to find themselves in the group reporting the problem of skills' mismatch. In summary, health seems to be a factor that, if not causative, is certainly strongly linked to the quality and satisfaction with employment.

Chart 5.4. Health assessment and opinions about the work (%)



Source: BKL – Employer Survey 2022 (panel).

Age and health versus the assessment and development of skills

Age and health are factors that strongly influence both the self-assessment of skills and the involvement in their development. In both cases, the relationship is as follows – **the higher the age, the lower the self-assessment of skills and the smaller the involvement in their development. Also, the worse the rating of health, the lower the self-assessment of skills and the smaller the involvement in their development**. The strong influence of age on the self-assessment of skills was identified as early as the first edition of the BKL Study (cf. e.g. Czarnik et al., 2011), and is confirmed by international studies of adult skills, which assess cognitive, mathematical, and technology-related skills (PIAAC: OECD, 2019). The results of these studies show that **biggest differences in skill levels occur between the youngest and the oldest respondents, and the magnitude of the differences is greatest in the case of skills related to computer and Internet usage**. According to the 2010 BKL Study, the differences in self-assessment of digital skills between the youngest and the oldest respondents were close to 2 points (on a scale from 1 to 5) and were bigger than the differences in self-assessment of physical fitness (Czarnik et al., 2011). A similar picture was presented by the PIAAC study (OECD, 2019; Rynko, 2013), and in earlier research (IALS 1994-1998 and ALL 2002-2008). These studies showed that the skill profile by age assumes the shape of an inverted letter 'U', showing an increase in skills in the successive younger age groups, and a decrease in the older age groups. The adult competency studies from 1994-1998 and 2002-2008 demonstrated that, in most countries, the levels of skills were highest among individuals around the age of twenty-five (Desjardins and Warnke, 2012). Later studies (PIAAC) showed a slight shift in the age at which skills begin to decline: on average, in OECD countries, the level of skills is highest among individuals aged 25-30, in both reading comprehension and mathematical reasoning (Rynko, 2019). Interestingly, the skills profile for Poland by age slightly deviates from the OECD pattern. Among other things, it is distinguished by flat shape, in the younger age groups, and a later-onset decline in mathematical reasoning skills than the OECD average (*ibidem*). The relationship between self-assessment of health and the level of skills was not analysed in **the BKL Study so far, however, PIAAC studies indicate that a significant positive correlation has been observed between these phenomena – the better the self-assessment of health, the higher the results obtained in competency tests, especially in the case of computer skills**.

Considering these links have been identified in many studies, examination is needed of whether the results of the 2022 BKL population study will confirm strong differentiation in the level of skills in the different age groups, and the relationship between self-assessment of health and self-assessment of skills. Changes can be expected in the area of digital skills, which seem to become more common also among older people. However, it turns out that **BKL data from 2022 shows that differences in the assessment of skills between young and older individuals not only persist but remain significant** (Table 5.4). These differences occur for every type of skill assessed in the BKL, including those for which one might expect self-assessment to improve with experience, such as coping with stress, establishing contacts with people, and work organisation skills. However, like in the 2011 BKL Study**, the biggest differences occur in the area of computer, tablet, and smartphone skills, exceeding 1.5 points on a scale from 1 to 5**. Differences exceeding 1 point apply only to using specialised computer programmes. Older people feel less confident than younger people about their ability to cooperate with foreigners, which may be related to their lack of knowledge of foreign languages or smaller adaptability to new situations. In this context, it is worth noting that **the oldest group rated their ability to learn new things significantly lower than the younger group, a difference close to 1 point on a scale from 1 to 5.** Older people also feel less confident about their ability to use the Polish language and express themselves. In contrast, smallest differences in skill assessment between young and older individuals were observed in relation to skills associated with assembly and repair of technical equipment. In this domain, the self-assessments of older and younger individuals are very similar.

Table 5.4. Self-assessment of skills by age (average on a scale from 1 – low to 5 – high)

Skills	18-35	36-54	55+	Difference 18-35-55+
Analysing information and drawing conclusions	3.95	3.86	3.43	0.52
Learning new things	4.16	3.96	3.32	0.84
Using a computer, tablet and smartphone,	4.41	3.81	2.8	1.61
Operating specialised computer programmes	3.36	2.87	2.12	1.24
Operating machines, tools and technical equipment	3.35	3.35	2.91	0.44
Assembling and repairing machines and technical equipment	2.55	2.65	2.49	0.06
Performing simple calculations	4.17	4.13	3.79	0.38
Performing advanced mathematical calculations	3.05	2.76	2.39	0.66
Artistic skills	2.84	2.6	2.51	0.33
Physical fitness	3.87	3.73	3.03	0.84
Coping with stressful situations	3.75	3.78	3.46	0.29
Willingness to take responsibility for completing tasks	4.13	4.14	3.75	0.38
Ingenuity, creativity	3.9	3.84	3.45	0.45
Time management and keeping deadlines	3.99	4.02	3.72	0.27
Independent organisation of work	4.15	4.23	3.79	0.36
Teamwork	4.04	4.13	3.74	0.3
Ease of networking with people	4.08	4.11	3.83	0.25
Being communicative and clearly conveying thoughts	4.05	4.04	3.66	0.39
Cooperating with individuals of different nationalities	3.51	3.39	2.72	0.79
Performing administrative work and record-keeping	3.43	3.28	2.82	0.61
Coordinating the work of others	3.44	3.52	3.14	0.3
Resolving conflicts between people	3.48	3.57	3.3	0.18
Being fluent in spoken and written Polish	4.29	4.13	3.73	0.56
Willingness to travel frequently	3.06	3	2.62	0.44
Willingness to work non-standard hours	3.3	3.41	3.01	0.29
N	523	633	390	x

Source: BKL – Employer Survey 2022 (panel).

One could suppose that differences in the assessment of skills between younger and older individuals could be due to differences in education in these groups i.e., a higher proportion of individuals with tertiary education among the young, and a lower proportion among those older. Detailed analyses, however, show that the relationship between skill assessment and age persists even when controlling for education, although, as shown in Table 5.5, **the differences in skill assessment between younger and older individuals are biggest among those with lower education, and smallest among those with tertiary**

education. Importantly, among individuals with education lower than secondary, there are significant differences in assessment between the younger and the older, for almost all skills. The differences are biggest for digital skills, and smallest for coping with stress. Moving on to individuals with secondary education, the differences decrease, and in the case of those with tertiary education, in several cases, the ratings are higher among older individuals than among the younger. Skills that 'do not age', higher-rated by older Poles with tertiary education than by younger Poles with tertiary education, are primarily technical skills (equipment assembly and repair skills), coordinating the work of others, resolving conflicts between people, simple calculation skills, coping with stress, and willingness to work unusual hours. Although the slightly higher ratings of these particular skills among older individuals are not surprising, as experience can positively influence their development, it is surprising that only older individuals with tertiary education rated themselves better than younger individuals in this regard. Higher ratings regarding organising the work of others and resolving conflicts between people can be explained by the nature of work of individuals with tertiary education (managerial positions). However, it is difficult to find a simple explanation for the fact that only older people with tertiary education rate their technical devices assembly and repair skills higher than those younger.

Table 5.5. Differences in self-assessment of skills between the youngest (18-34 years old) and oldest (55+) age groups in groups with different levels of education, and differences in skills assessment between those who rate their health as good and those who rate it as poor (overall, and in the older age group)

Skills	Differences in skill assessment: younger and older individuals in three educational groups			Differences in skill assessment: assessing their health as good or bad	
	Lower	Secondary	Tertiary	Total respondents	People aged 55 and over
Analysing information and drawing conclusions	0.36	0.36	0.11	0.64	0.57
Learning new things	0.89	0.76	0.46	0.79	0.61
Using a computer, tablet and smartphone,	1.79	1.38	0.89	1.36	0.78
Operating specialised computer programmes	1.34	0.97	0.65	1.17	0.68
Operating machines, tools and technical equipment	0.75	0.59	0.1	0.45	0.39
Assembling and repairing machines and technical equipment	0.37	0.38	-0.24	0.16	0.04
Performing simple calculations	0.55	0.12	-0.05	0.73	0.73
Performing advanced mathematical calculations	0.48	0.64	0.18	0.79	0.65
Artistic skills	0.61	0.04	0.06	0.49	0.31
Physical fitness	1.11	0.97	0.4	1.65	1.38
Coping with stressful situations	0.26	0.32	-0.03	0.58	0.56
Willingness to take responsibility for completing tasks	0.56	0.23	0.15	0.66	0.59
Ingenuity, creativity	0.56	0.37	0.12	0.44	0.33
Time management and keeping deadlines	0.42	0.04	0.07	0.48	0.4
Independent organisation of work	0.5	0.26	-0.01	0.49	0.55
Teamwork	0.53	0.19	0.11	0.44	0.33
Ease of networking with people	0.41	0.23	0.11	0.38	0.19
Being communicative and clearly conveying thoughts	0.49	0.26	0.08	0.58	0.4
Cooperating with individuals of different nationalities	0.59	0.6	0.71	0.69	0.41
Performing administrative work and record-keeping	0.79	0.05	0.17	0.82	0.68
Coordinating the work of others	0.49	0.16	-0.15	0.7	0.59
Resolving conflicts between people	0.33	0.05	-0.13	0.46	0.27
Being fluent in spoken and written Polish	0.64	0.4	0.21	0.61	0.52
Willingness to travel frequently	0.4	0.65	0.08	0.66	0.58
Willingness to work non-standard hours	0.42	0.38	-0.06	0.68	0.75

* Persons with disabilities were excluded from the analysis due to: a) their specific situation (serious health problems and limitations affecting the assessment of skills), b) the fact that their situation and self-assessment of skills are presented in a separate section of this publication.

Source: BKL – population survey 2022 (panel),

Nmin (people 55+ assessing their health as bad) = 40.

Like age, health also has a significant impact on the individual's self-assessment of skills. For each skill covered by the BKL Study, there is a difference of at least 0.38 points between those who assess their health as good and those who assess it as poor, the difference being statistically significant (Column 'total', Table 5.5). It is not surprising that the most significant disparities are observed in the area of physical fitness. Individuals who reported being in good health rated their physical fitness as excellent (3.86 points), whereas those who reported being in poor health rated it as only average (2.21 points on a 1 to 5 scale). Large differences of more than 1.5 points also exist for digital skills. At the same time, smallest differences were observed for social skills (networking with people, group work, resolving conflicts between people) and ingenuity and creativity. However, as shown in the previous part of this chapter, the rating of one's health is closely related to age – additionally, a comparison was conducted among individuals from the same age group, aged 55 and above[16]. As seen in Table 5.5, in this homogeneous age group, the differences between those who rate their health as good and those who rate it as poor are smaller, but still significant for most skills. Greatest differences continue to occur in the assessment of physical fitness and digital skills, while smallest differences exist in the case of social skills. Given the relationship between the self-assessed health and education, referred to above, (especially in the older age group), it can be assumed that the differences in self-assessed skills between older individuals who rate their health as good and those who rate it as poor can also be largely attributed to the level of education.

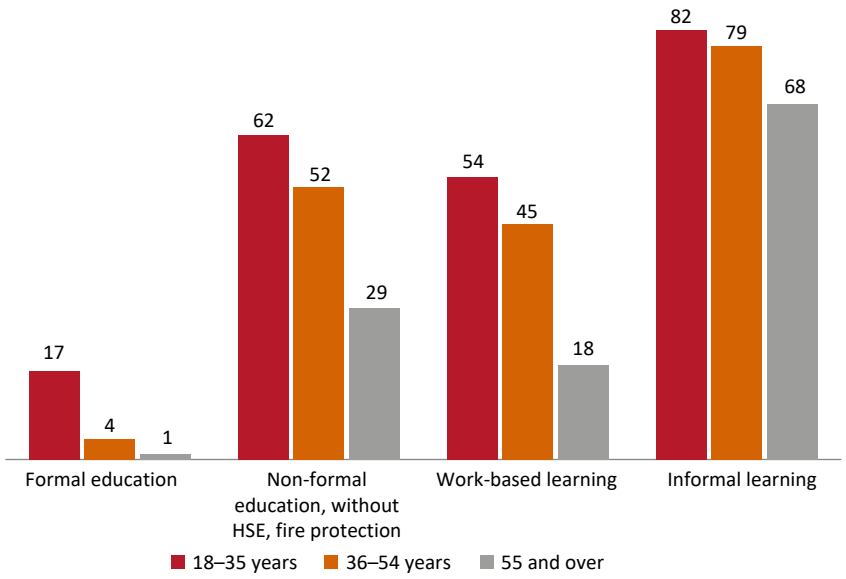
As mentioned earlier, **age and health not only influence our perception of our skills, but also our willingness develop them**. Older people and those who assess their health as poor have lower chances of formal and informal learning compared to younger individuals who rate their health more positively (Schoulzt, Öhman, & Quennerstedt, 2020; Worek, 2019). As demonstrated by many previous BKL reports (including Górniak, Kubica, Worek 2022), the impact of age on educational activity should be examined allowing for the influence of education – **these are not all older individuals, but primarily older individuals with low levels of education that exhibit highest levels of educational inactivity. On the other hand, older people with tertiary education, especially women, remain educationally active into their later years.** The peak of women's engagement in skill development occurs after the age

[16] Due to the small number of people assessing their health as bad among the youngest and middle-aged individuals (8 for those aged 18-24 and 40 for those aged 35-54, after excluding people with disabilities), no comparison was made in these groups.

of 45, when the burden of their caregiving responsibilities is reduced thus giving them time for development (Górniak, Kubica, & Worek, 2022).

However, if we look at individuals of a particular age as a whole, disregarding their internal diversity, in **the 2022 data, we can find confirmation of the existence of a strong relationship between educational activity and age** (Chart 5.5). This is most evident in the case of formal education, typical for younger people, but also in the case of non-formal education and learning in the workplace. It should be noted that the differences between the younger and the middle-aged are relatively small, but individuals from the oldest age group differ significantly from both those younger and those middle-aged. **Undoubtedly, one factor that contributes to the significantly decreased engagement in skill development after the age of 55 is this group's lower professional activity. Another factor is their reduced motivation for development: as they do not expect to stay in the labour market for much longer, they believe the possibility to see a return on investment in their development is limited.** As has been emphasised many times, **the most egalitarian form of learning remains informal learning – in its case, the differences between the analysed age groups are smallest, though still noticeable**.

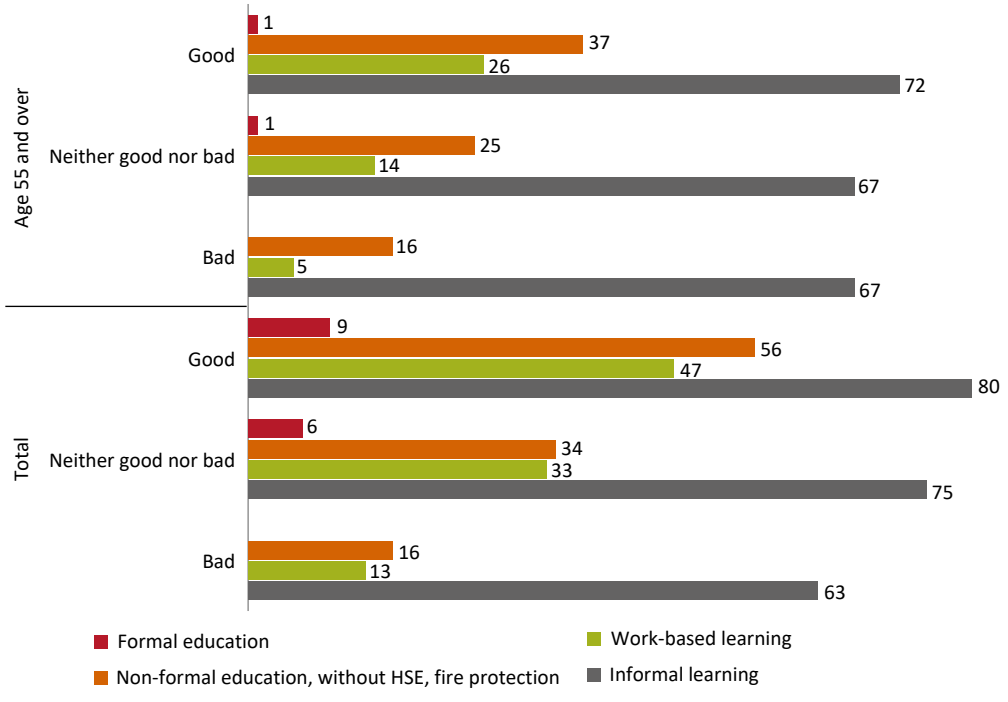
Chart 5.5. Age and educational activity (%)



Source: BKL – population survey 2022 (panel),
Nmin (55 and older, formal education) = 4.

Considering that health rating is strongly linked to age, it can be expected that individuals reporting they are in good health (among whom there are more younger people) will also be more active in education. This intuitive relationship is confirmed by the data presented in Chart 5.6. As can be seen, of those who rated their health as poor, not a single person received formal education in the past 12 months. **In the total of respondents, among those involved in non-compulsory non-formal education, there were over three times as many people who rated their health as good than those who rated it as poor. The differences are even bigger in the case of learning in the workplace: almost 34 pp between those who rate their health as good and those who rate it as poor. It should be noted that the differences also persist when analysing a homogeneous age group (people aged 55 and older)**. Understandably, for this group, participation rates are lower for each form of education, but the differences between those who rate their health as good and those who rate it as poor remain significant. This confirms that **not only the age, but also one's health is a strong factor influencing educational activity** (cf. Golinowska et al., 2016; Worek, 2019; Schoulzt, Öhman and Quennerstedt, 2020).

Chart 5.6. Health assessment and educational activity (%)



Source: BKL – population survey 2022 (panel),
Nmin (people assessing their health status as bad, formal education) = 0.

Finally, the relationship between educational activity and self-assessment of skills in different age groups should be noted. This relationship has been highlighted in the BKL analyses multiple times (cf. Worek, 2015; Kocór and Worek, 2017), showing that **educationally active individuals consistently rate their skills higher, even when groups homogeneous in terms of the key factors influencing this rating (education level, age, professional activity) are compared.** The relationship is confirmed by the BKL data from 2022 as well. As shown in Table 5.6, **regardless of the age group, individuals who participate in formal or informal learning rate their skills higher**. The only exception is young people's assessment of the following four skills: machines/tools/ technical equipment's operation, devices assembly and repair skills, readiness for frequent travel, and physical fitness. In the case of those skills, the ratings of those actively engaged in education are either slightly higher than the ratings of those not engaged in education, or the same (physical fitness). Disparities between those who are actively engaged in education and those who are not are most pronounced within the oldest age group. These disparities encompass a wide range of skills, including digital proficiency, analytical skills, ability to learn new things, work organisation skills, and cooperation with people of different nationalities. One could assume that the reason for these differences is the connection between educational activity and the level of education: as these are people with tertiary education that are more likely to be educationally active, it is the level of education that is the reason for higher skill assessment. However, it turns out that even when we compare educationally active individuals with tertiary education with educationally inactive individuals with tertiary education, the differences in self-assessment of skills still remain significant.

Table 5.6. Differences in self-assessment of skills between individuals learning formally and informally, by age

Skills	18-35	36-54	55+
Analysing information and drawing conclusions	0.4	0.52	0.78
Learning new things	0.31	0.37	0.64
Using a computer, tablet, and smartphone,	0.41	0.65	0.85
Operating specialised computer programmes	0.51	1.02	0.82
Operating machines, tools and technical equipment	-0.21	0.28	0.34
Assembling and repairing machines and technical equipment	-0.06	0.21	0.04
Performing simple calculations	0.4	0.34	0.64
Performing advanced mathematical calculations	0.15	0.65	0.58
Artistic skills	0.21	0.36	0.7
Physical fitness	0	0.13	0.46
Coping with stressful situations	0.16	0.32	0.49
Willingness to take responsibility for completing tasks	0.26	0.25	0.56
Ingenuity, creativity	0.21	0.35	0.51
Time management and keeping deadlines	0.3	0.21	0.52
Independent organisation of work	0.2	0.38	0.71
Teamwork	0.08	0.26	0.46
Ease of networking with people	0.18	0.17	0.33
Being communicative and clearly conveying thoughts	0.35	0.37	0.58
Cooperating with individuals of different nationalities	0.55	0.53	0.64
Performing administrative work and record-keeping	0.6	0.77	0.86
Coordinating the work of others	0.3	0.58	0.65
Resolving conflicts between people	0.26	0.35	0.45
Being fluent in spoken and written Polish	0.29	0.38	0.6
Willingness to travel frequently	0.08	0.24	0.43
Willingness to work non-standard hours	-0.08	0.03	0.54

Source: BKL – Employer Survey 2022 (panel).

Summary

Health is a fundamental determinant of human capital, a resource that determines the acquisition of education, the development of skills, and the effective utilisation of one's potential in the labour market. On the other hand, education, including health education, contributes to improving the health of the society, thus increasing productivity through better utilisation of human capital. Health, especially in the case of the older age groups, is becoming an increasingly important topic for public policymakers in light of the growing demographic crisis which will result in severe labour shortages in the job market. On the one hand, the challenge will involve better utilisation of the potential of older people, and on the other, adjustment of the working conditions to older people's needs and capabilities. Another increasingly important issue is preventive healthcare and health education, as they will allow the society to stay in good health through old age. Results of the BKL clearly show that, currently, the self-assessment of health significantly decreases with age, particularly among people with lower levels of education, whose rating of their skills is also lower, while their engagement in skills' development is significantly limited. Considering these results, it is necessary to strengthen educational and preventive actions targeted at younger people, especially those with lower education, in order to keep them healthy and ready to develop in older age. It is also important to cooperate with employers to support better age management in organisations, utilise the potential of older individuals, and encourage them to remain active in their professional and educational pursuits for as long as possible.

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6. The working environment of women and men

Introduction

In this chapter, after presenting the statistics of employment and occupational structure, we analyse how working Poles perceived their work in 2017-2021[17]. We examine the satisfaction with various aspects of work, and women and men's descriptions of their work environment. An important part of our investigation deals with the skills of economically active individuals – how gender differences in skills look, and how such differences are linked to employer preferences in the recruitment process. Finally, we focus on power relations between superiors and subordinates, and how they are influenced by the gender of the individuals working in these roles.

Labour force participation and types of employment

During the implementation of the second edition of the BKL project, the basic statistics regarding the employment situation of men and women in Poland remained relatively stable. Although activity and employment rates for the general population of men and women aged 18-69 slightly increased between 2017 and 2019, to then decline in 2021, this could

[17] Due to the size of the sample as well as the age range of the respondents (18-69), the analyses presented in this chapter are based on cross-sectional samples from the years 2017, 2019, and 2021, rather than the panel sample of 2022. Cross-sectional samples comprised at least 2500 respondents each whereas panel sample of 2022 comprised 1560 individuals. In the 2022 panel study, the youngest respondents were already 23 years old. Additionally panel questionnaire included certain modifications which led us not to include the 2022 data in this chapter..

have been due to the timing differences in survey implementation[18]. Table 6.1 presents employment indicators and employment types by gender and age.

Table 6.1. Basic employment statistics for individuals aged 18-69 years (%, pp)[1]

Employment types	Men				Women				Difference F – M			
	18–34	35–59	60–69	Total	18–34	35–59	60–69	Total	18–34	35–59	60–69	Total
Paid employment	76	86	40	73	63	77	19	60	–13	–9	–20	–13
Employment contract[2]	54	62	22	51	46	58	11	44	–8	–4	–11	–7
For a fixed period	15	7	4	9	17	8	1	9	2	1	–3	0
Self-employment	13	25	14	19	5	15	3	9	–8	–10	–11	–10
Agricultural	3	12	5	8	1	7	0	4	–2	–5	–5	–4
Non-agricultural	10	13	8	11	4	7	2	5	–6	–6	–6	–6
Civil-law contract (12 months)	17	6	3	9	15	9	3	9	–1	3	0	1
Informal agreement (12 months)	12	4	2	6	6	2	1	3	–6	–2	–1	–3
Unpaid help in family business	18	9	6	11	8	5	5	6	–10	–3	–1	–5
Work abroad (12 months)	10	4	0	5	4	1	0	2	–6	–3	0	–3
N	352	626	258	1235	362	640	290	1292				

[1] The basis for calculating the percentages of all the statistics is the total number of people in a given gender and age category (row N).

[2] Performed in the last 3 months.

Source: BKL – Population Survey 2021.

The vast majority of working people are employed under employment contracts, mainly for an indefinite period. Fixed-term contracts were declared by 9% of men and women each, being most common in the youngest group of workers. **Most employment-related indicators are from several to several dozen pp higher for men than for women. In particular, the overall employment rate for men is higher by 13 pp**, which is related to the fact that, on average, men finish their education and enter the labour market earlier, are more likely to support their families financially when there are young children at home, and retire from the labour market later, as their retirement age is higher. Men are approximately twice as

[18] In 2017 and 2019, cross-sectional studies were conducted in the third and fourth quarters, and in 2021, due to difficulties related to the COVID-19 pandemic, a significant portion of the interviews were postponed to the first quarter of 2022.

likely as women to be self-employed, work in the informal sector, and provide unpaid help in the family business. They are also three times as likely to work abroad to make a living.

In the Polish labour market, which is not exceptional in this respect compared to Europe and the world, **we observe strong occupational segregation based on education and gender**[19]. Over 80% of employed men with vocational or lower education are craft and related trades workers, operators and assemblers, or unskilled workers. Over 80% of women with vocational or lower education are unskilled workers, operators, and service and sales workers. Among individuals with tertiary education, managers, professionals, and middle managers are predominant, irrespective of gender.

Employed men are much more likely than employed women to work in skilled trades, and as operators and assemblers (predominantly drivers). On the other hand, women are much more likely than men to work as professionals (e.g. teachers, nurses), and in sales and service occupations (Table 6.2)[20]. However, it should be noted that, in reality, gender segregation is even stronger – the more precisely we define occupational categories, the more apparent it becomes (Czarnik and Kasparek 2015). It is easy to illustrate using the example of 'professionals', a category where roughly two-thirds are women. However, if we were to distinguish between subcategories, such as 'health professionals' and 'science and engineering professionals', it would turn out that female preponderance in the former is even greater, while men clearly predominate in the latter. If we were to further break down the subcategory of 'health professionals' into the subcategories of 'nurses' and 'doctors', it would turn out that women completely dominate the former, while the latter is divided roughly equally between women and men. If doctors were further divided by medical specialisation, it would again be evident that some specialisations are heavily dominated by men (e.g. surgeons, orthopaedists), while others are dominated by women (e.g. paediatricians, orthodontists) (MGBI, 2022). As a consequence of this internal categorisation, **it is hardly possible (save for meticulous micro-studies) to compare women and men doing 'the same job'**.

[19] For example, according to World Bank data from 2023, out of 80 analysed countries Poland was ranked 42nd in terms of gender segregation measured by the Duncan index, taking into account 21 occupational categories from the second level of the ISCO classification (Carranza et al., 2023).

[20] As for such general patterns of segregation related to the dominance of women in certain occupational categories and men in others, the data for Poland mirror the global data (OECD, 2021).

Table 6.2. Occupations performed by men and women (%, pp)

Occupations	Men				Women				Difference F – M			
	Lower	Secondary	Tertiary	Total	Lower	Secondary	Tertiary	Total	Lower	Secondary	Tertiary	Total
Professionals	0	12	43	18	5	14	56	35	5	3	13	17
Service and sales workers	4	5	5	5	41	27	5	17	37	22	–1	12
Clerical & office	4	6	5	5	3	13	8	9	–1	7	3	4
Unskilled workers	10	3	0	4	28	7	0	7	18	4	0	3
Associate professionals	8	18	19	16	5	21	21	18	–4	3	2	3
Managers	3	7	23	11	0	3	10	7	–3	–4	–13	–5
Operators and assemblers	24	22	2	16	13	7	0	4	–11	–15	–2	–12
Skilled workers	47	28	3	25	6	8	0	3	–41	–19	–3	–22
Total	100	100	100	100	100	100	100	100				
N	178	258	208	644	87	183	314	584				

Source: BKL – Population Survey 2021.

In the case of self-employed individuals, gender is highly likely to be associated with the sector in which the company operates (Table 6.3). **While men are considerably more likely than women to work in industry, construction, transport, fuel sales, trade, and vehicle repair, women are significantly more likely than men to be engaged in professional services, education, and healthcare.**

Table 6.3. Self emloyment across sectors (%, pp)

Sector	Men				Women				Difference F – M			
	Lower	Secondary	Tertiary	Total	Lower	Secondary	Tertiary	Total	Lower	Secondary	Tertiary	Total
Agriculture	68	33	24	41	70	46	17	40	3	13	–7	–1
Industry, construction, transport, trade and vehicle repair, fuel sales	27	43	18	31	4	17	7	10	–23	–27	–11	–22
Trade (excluding fuel and vehicles), accommodation, catering, support services	4	15	11	11	15	19	11	15	11	4	0	4
Specialised services, education, healthcare, and social assistance	1	8	47	16	11	19	65	35	10	11	18	18
Total	100	100	100	100	100	100	100	100				
N	71	99	62	232	27	48	46	121				

Source: BKL – Population Survey 2021.

Between 2017 and 2019, roughly one in five self-employed individuals had at least one employee, with individuals with tertiary education more likely to have them. In this respect, there were no significant differences between women and men. In 2021, the percentage of entrepreneurs with employees decreased, among both men and women.

Self-assessment and competency requirements

The approach to skill measurement developed in the first edition of the BKL Study (2010-2014), enabling a comparison of the skill resources of economically active individuals with the skill requirements of employers, was also applied in the second edition (2017-2022)[21]. In the population survey, respondents were asked to self-assess their skill level on a scale from 1 to 5, where 1 stood for low, 2 – for basic, 3 – for average, 4 – for high, and

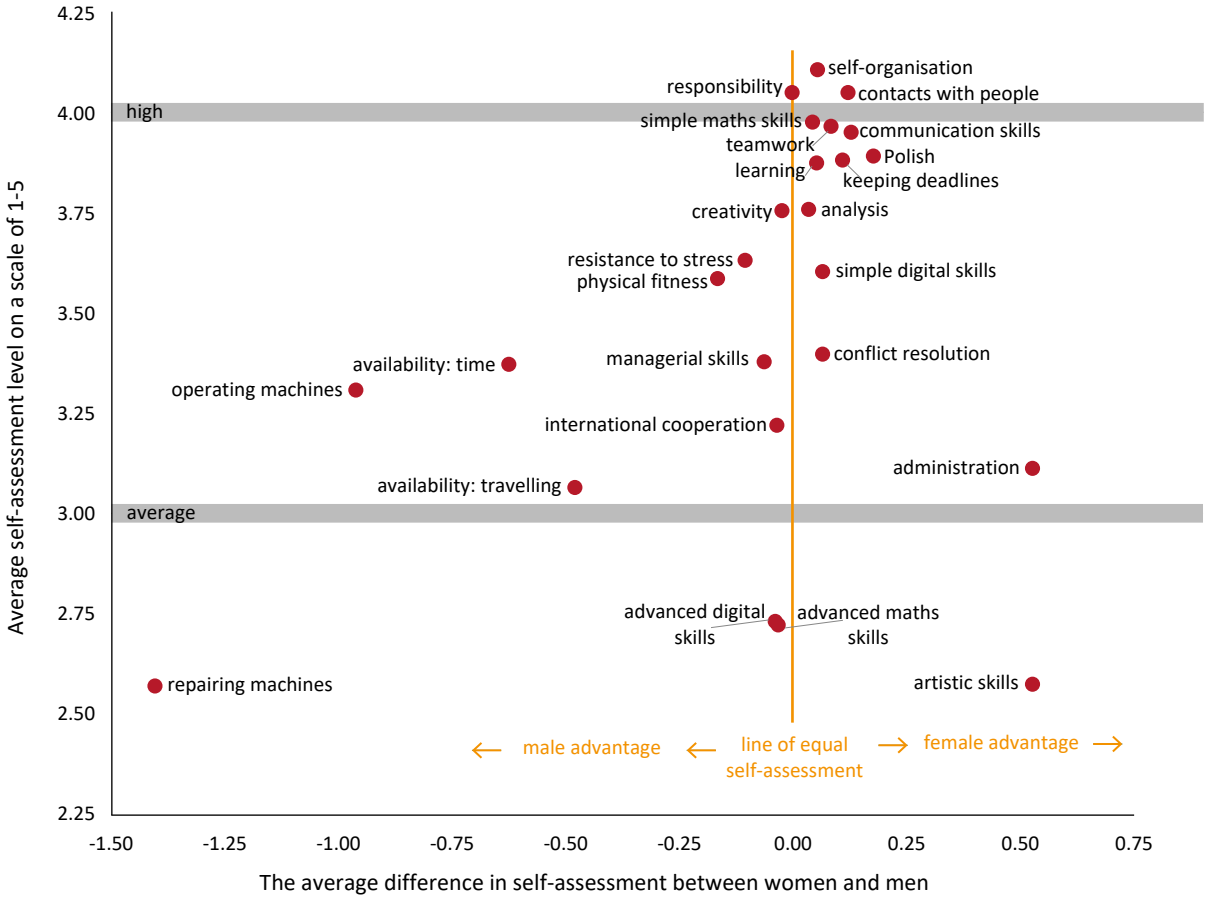
[21] The structure of this questionnaire block was slightly changed, reducing the overall number of questions from 34 to 25 and adjusting the wording of some questions. Both in the 2010-2014 and the 2017-2022 edition, the average self-assessment values of individual skills were very stable over time, which justified the combined analysis of data from all years of the study.

5 – for very high level. Similarly, employers were asked to specify the level of the particular skills required from candidates for particular positions.

The general rule was that self-assessments of skills decreased with age and increased with the level of education. Education was most strongly associated with office, computer, cognitive, language, and math skills. Older people had lower levels of physical fitness, and, with age, their self-rating in areas such as cooperation with people of different nationalities, learning new things, using specialised computer programmes, and operating a computer, tablet or smartphone, decreased even more significantly. These intergenerational differences can be partially explained by lower levels of formal education in the older age groups, but they can also result from these groups' smaller exposure to new technologies and international contacts, throughout their careers.

The skills that are self-assessed highest among the general working population (with the average slightly above 4, indicating a 'high' level) include work-organisation skills, willingness to take responsibility for task completion, and interpersonal skills. On the other hand, the lowest-rated skills (with the average clearly below 3, indicating a 'medium' level), include machine and equipment repair and assembly, artistic skills, as well as advanced mathematical and digital skills. Chart 6.1 presents the average self-assessments of the total working population (vertical axis), and the differences between the average self-assessments of women and men (horizontal axis). As these results were very similar in the consecutive years of the study, the analysis was conducted on aggregated data from 2017, 2019, and 2021. It is clearly visible that in the case of the highest-rated skills, the differences between genders are not very big, but practically all of them are in favour of women. In this skill group, women's advantage is biggest in the case of the ability to proficiently use the Polish language. **The skills in which men have a very clear advantage are as follows: availability – defined as readiness to travel and work at irregular hours (a difference of half a point), machine operation (almost a full point difference), and machine repair and assembly (an extremely large difference of almost 1.5 points on a scale of 4 units). The two skills in which women clearly dominate are administrative work related to document preparation, and artistic skills (with over half a point advantage).**

Chart 6.1. Differences in self-assessment of skills between women and men (1-5 scale)



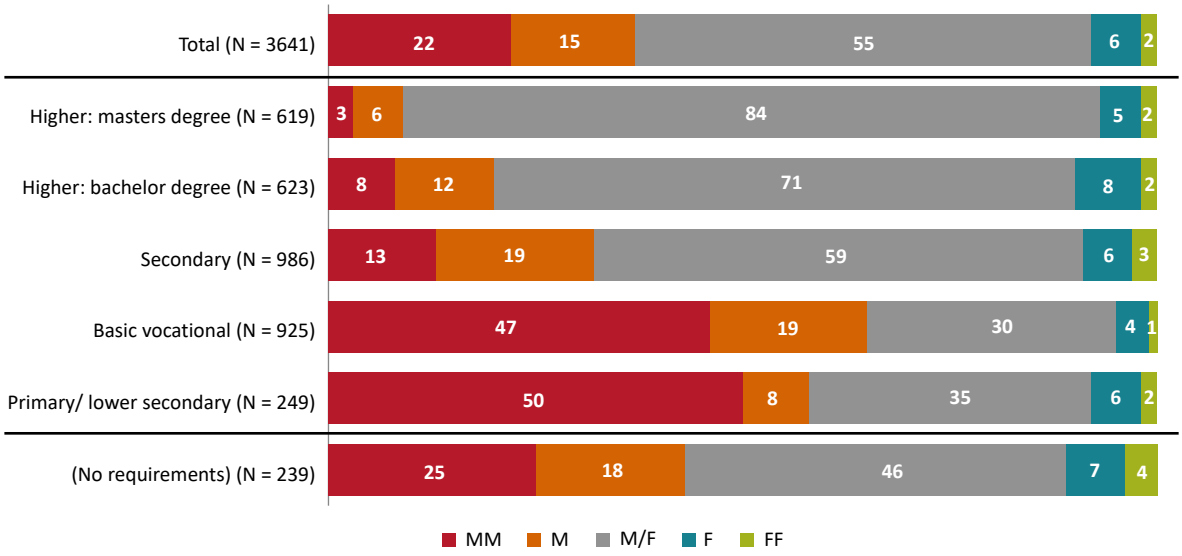
Source: BKL – Population Survey 2017, 2019, 2021.

Nmin (cooperation with people of different nationalities): for women = 2742, for men = 3197.

The method of gathering skill data in the BKL Study enables direct comparisons between employees' self-assessments of their skills and employers' requirements regarding skills needed for key positions in their companies. Representatives of companies were asked about the desired characteristics of recruited individuals: not only the required skill mix, but also the required level of education, work experience, and preferred gender of the employee. The question about gender offered four response options: 'For this particular job, would you prefer to employ: 1) definitely a woman, 2) rather a woman, 3) rather a man, 4) definitely a man'. The interviewers were to mark the hidden option 'gender is irrelevant' only if the respondents spontaneously replied that gender did not matter. Despite this attempt at eliciting an explicit gender preference, the most frequently given response was the hidden neutral option. In 2021, that answer was selected by 55% of companies (Chart 6.2). The

minority who specified their gender preferences were much more likely to prefer men over women (37% compared to 8%), and the preferences were also stronger ('definitely preferred').

Chart 6.2. Employers' gender preferences in recruitment depending on minimum required level of education (%)[1]



[1] MM – definitely men | M – rather men | F/K – gender neutral | F – rather women | FF – definitely women.
Source: BKL – Employer Survey 2021.

Employers' gender preferences strongly depended on the level of education required for a particular job. **Men were definitely preferred for positions where only a minimal level of education was required (elementary or lower secondary), and for those where basic vocational education was sufficient.** These are mainly positions of operators and assemblers, as well as unskilled (elementary education) or skilled (vocational education) workers. **Where tertiary education is required, gender becomes less important, and while there still is a slight preference for men at bachelor's level, it almost disappears at master's level**, with 84% of companies explicitly rejecting gender as a criterion. Among positions that require at least bachelor's degree, nearly two-thirds (and in the case of master's degree, almost 90%) were those of professionals and managers.

Considering the level of education, one can just say that the higher the requirements, the smaller the advantage for men. However, the association between employers' gender preferences and the type of required skills is not that simple. **There are skills that give men an advantage, and those that give an advantage to women – and they quite closely correspond to the actual differences in skill self-assessment between economically active men and women.**

Table 6.4 contains the results of a thought experiment referring to data on gender and skill[22]. First, let us imagine that we are dealing with a certain self-assessed skill mix (e.g. high artistic skills, basic office skills, low level of mechanical assembly and repair skills, etc.) selected in such a way that half of the people declaring they have such a mix are men, and the other half are women. If we were to randomly choose a person from this group, the probability of selecting a woman would be 50%. For each skill, we can now calculate how the probability would deviate from 50% if we increased the self-assessment of that particular skill by 1 point on our 5-point scale, while keeping all the other self-assessments unchanged. These probabilistic deviations for the 2019 and 2021 data are presented in descending order in the first two coloured columns of Table 6.4. At the top of the list, there are three sets of skills (artistic, administrative, and interpersonal skills) that clearly increase the likelihood that the person declaring a particular skill mix is a woman. Skills at the bottom of the list tip the probability in favour of men. In particular, these include: proficiency in specialised computer programmes, physical fitness, availability, and, most notably, ability to repair and assemble machines and tools.

One can perform a similar thought experiment on data from employers who admitted they preferred a person of a particular gender for a position that required a specific skill mix. Let us assume that we have a group of recruiting employers seeking the same skill mix. Exactly a half of the employers would prefer a woman for the position, while the other half would prefer a man. Therefore, the probability of a woman being preferred is 50%. For each

[22] Based on population survey data (2019, 2021), two logistic regression models were estimated (separately for each year) to predict the gender of an economically active person based on their self-assessment of 16 skills. Similarly, based on data from the employers' survey (2019, 2021), two logistic regression models were estimated to predict the preferred gender of an employee (in a group of companies declaring such a preference) based on the skill requirements for the same set of 16 skills. To ensure relative comparability of results from the population's population and employers' surveys, the models did not include other control variables, such as age or level of education of the respondents, as these could only be directly included in the population survey.

skill, we can now calculate how probability would deviate from 50% if the requirement for this particular skill increased by 1 point, while all the other requirements remained unchanged. The results of such an analysis are presented in the rightmost section of Table 6.4. These outcomes were subject to more variation between 2019 and 2021 as compared to the self-assessment data, yet the general pattern of linking skills to gender was, with a few exceptions, pretty much the same. **The skills that put the highest premium on female candidates were artistic and interpersonal skills (as well as the ability to learn new things). On the other hand, the skills that put the highest premium on male candidates were physical fitness, readiness for frequent work-related travels, and – most of all – ability to assemble and repair machines and technical equipment.**

Table 6.4. Relationships between skill self-assessments and the gender of economically active individuals, and between skill requirements and the preferred gender of job candidates[1]

Skills		Relationship between the gender and...			
		...self-assessment of economically active individuals		...skill requirements of employers	
		2019	2021	2019	2021
ART	Artistic skills	**14.3**	**16.8**	**8.0**	**13.8**
ADM	Administrative work and record-keeping	**17.9**	**14.1**	**5.9**	-3.1
PER	Ease of interpersonal contacts	**10.1**	**13.9**	4.5	**12.9**
NEW	Learning new things	5.3	**9.4**	4.8	**9.5**
SLF	Self-organisation of work	4.6	5.5	0.2	-5.0
MAT	Performing advanced mathematical calculations	-0.6	1.3	**6.0**	-3.4
MNG	Coordinating the work of others	-3.4	-1.5	-2.1	**7.3**
INT	Cooperating with persons of different nationalities	-1.9	-3.8	3.1	2.0
COG	Analytic and deductive skills	-6.8	-3.9	**-8.2**	-5.8
COM	Using specialised computer software	-3.5	**-5.3**	-3.2	1.6
AVL.T	Willingness to travel frequently	**-5.8**	**-6.2**	**-7.2**	**-7.6**
PHY	Physical fitness	-5.0	**-6.3**	**-6.5**	**-12.1**
AVL.H	Willingness to work non-standard hours	**-6.5**	**-6.8**	1.4	-0.3
TCH.O	Operating machines and tools	**-8.8**	**-6.8**	**-9.9**	-4.0
CRE	Ingenuity, creativity	-4.0	-7.4	2.6	-0.7
TCH.R	Assembling and repairing machines and tools	**-22.3**	**-22.3**	**-14.7**	**-18.2**
	Nagelkerke's R2	0.537	0.558	0.301	0.336
	N	1770	1680	1804	1628

[1] In the table, the black font indicates results statistically significant at p<0.05 (bold: p<0.005), while the light grey font indicates non-significant results (p>0.05).

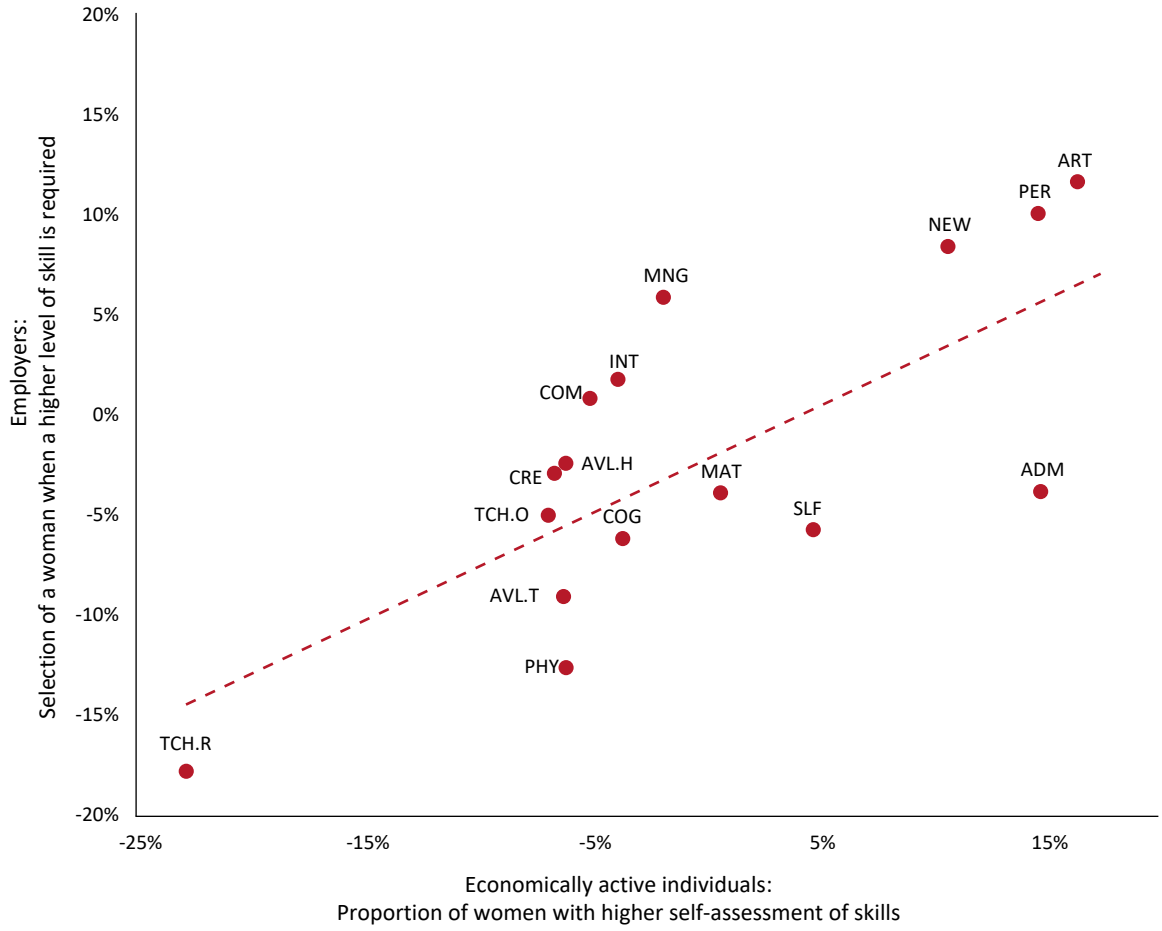
[2] Calculations were based on logistic regression predicting the gender of the respondent based on self-assessed skill mix. The values in the table indicate by how much the share of women in the group of economically active people changes (relative to the base level of 50%) when the self-assessment of a particular skill increases by 1 point (on a scale of 1-5), keeping other skill levels constant.

[3] Calculations are based on logistic regression predicting the preferred gender of the employee based on the required skill mix. The values in the table indicate by how much the probability of an employer preferring a woman (relative to the base level of 50%) changes when a particular skill requirement increases by 1 point (on a scale of 1-5), keeping other skill requirements constant.

Source: BKL – Population and Employer Survey 2019, 2021.

The data from Table 6.4 for the year 2021 are also presented in Chart 6.3, which shows a very clear convergence between the skill-based gender preferences of recruiting employers and the self-assessed skill differences between economically active women and men. This means that employers' skill-based gender preferences are not a one-way 'filtering' device leading to forced occupational segregation by gender, detached from the actual structure of skill equalities and differences between men and women.

Chart 6.3. The relationship between gender effects in skill self-assessments and gender effects in skill requirements (pp)



For explanations of the abbreviations, see Table 6.4. See footnotes 2 and 3 to Table 6.4, respectively, for an explanation of the meaning of the values on the horizontal and vertical axes.
Source: BKL – Population and Employer Survey 2021.

Satisfaction with various aspects of work

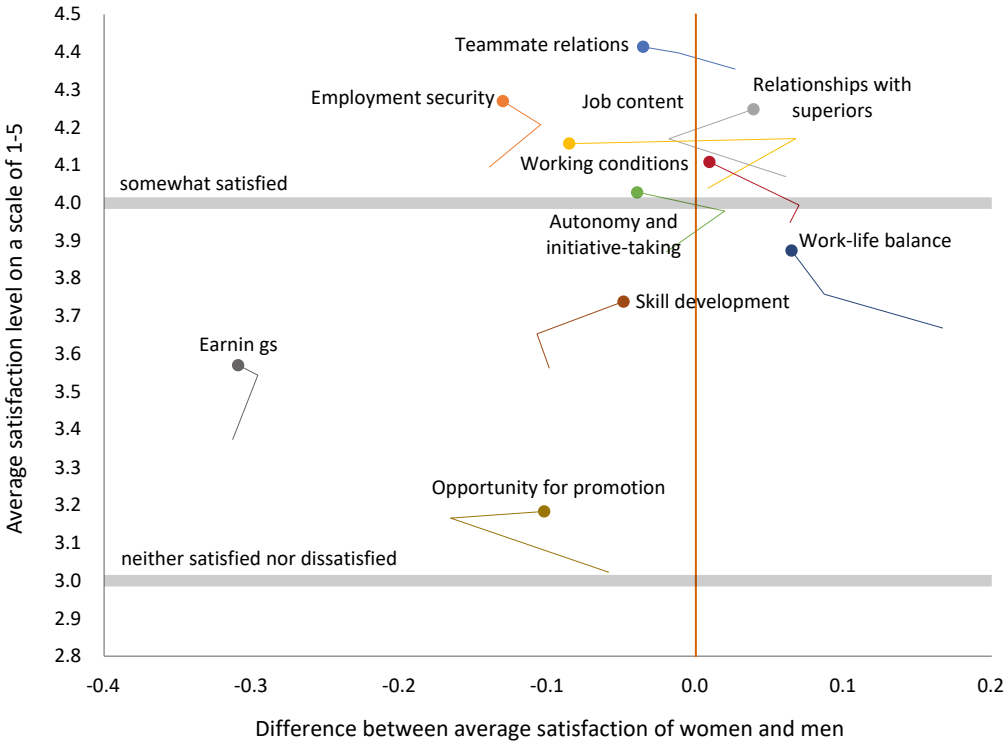
Individuals employed under an employment contract report relatively high satisfaction with many aspects of their work. Chart 6.4 shows the average level of satisfaction among all employees (vertical axis) and the differences between men and women (horizontal axis). On average, highest ratings are given to relations between teammates. However, in 2021, the threshold of being 'rather satisfied' (score of 4) was also exceeded for relationships with the superiors, job security, job content, and working conditions, as well as autonomy and initiative-taking possibilities. The level of satisfaction was relatively lowest when it came to earnings (3.6) and promotion opportunities (3.2). By tracking the 'trajectories' of the particular points, we can see that, during the analysed period, satisfaction somewhat increased (though not significantly) in every respect.

Gender differences were relatively small, mostly within ±0.1 points[23]. Standing at around 0.3 points, men's advantage in terms of satisfaction with the earnings became slightly more apparent. This difference is practically entirely explained by the fact that, on average, men earn higher wages than women – although, naturally, not for the same work[24].

[23] It is important to pay attention to the way the figure is scaled – the horizontal axis is heavily stretched in order to better illustrate the differences between genders, which are not very strong in themselves.

[24] See scope of occupational segregation in Table 6.2.

Chart 6.4. Differences in satisfaction with various aspect of the job between women and men employed under an employment contract (2017-2019-2021)[1] (scale 1-5)



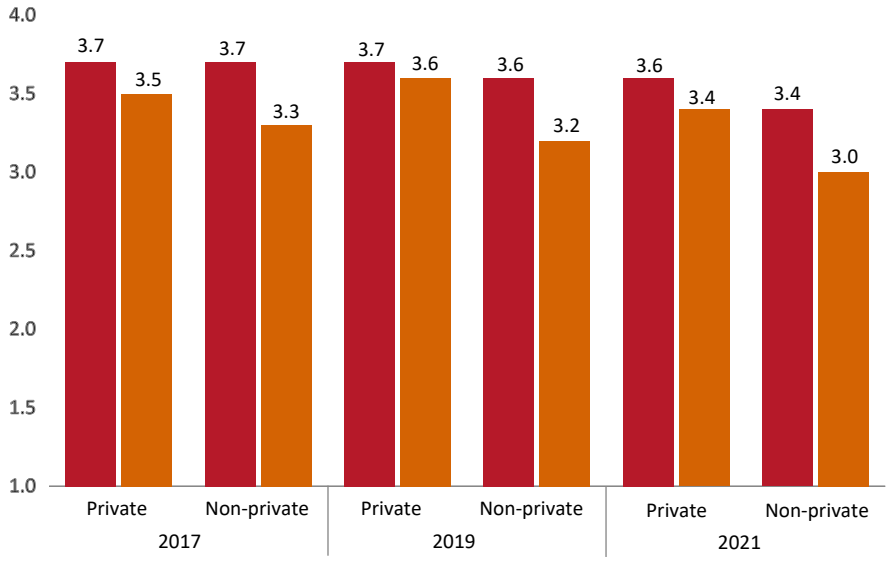
[1] The points refer to the situation in 2021, while the lines show the situation in the previous years (2019 and 2017). The satisfaction scale comprised 5 levels: 1=very dissatisfied, 2=somewhat dissatisfied, 3=neither satisfied, nor dissatisfied, 4=somewhat satisfied, 5=very satisfied.
Source: BKL – Population Survey 2021.
Nmin (opportunities for promotion): for women = 546, for men = 587.

As indicated by the aggregated data from 2017, 2019, and 2021, satisfaction with earnings was generally higher in private companies[25], with this positive effect stronger for women (Chart 6.5). To approach this differently, one could say that differences between the genders regarding satisfaction with earnings were significantly bigger in the public sector[26] than in the private sector.

[25] It is significant that higher satisfaction with wages in the private sector was not necessarily associated with a higher average level of declared earnings, which were similar in both sectors.

[26] The public sector includes state-owned and municipal companies, public institutions, and companies with mixed (public and private) capital.

Chart 6.5. Satisfaction with earnings depending on gender and sector (public/private) (average on a scale of 1-5)



Source: BKL – Population Survey 2017, 2019, 2021.
Nmin (men in non-private companies) = 182.

Work environment

Apart from direct questions about job satisfaction, BKL data also provide an insight into the nature of the work environment. The statements in Table 6.5 are arranged from those that the respondents most strongly agreed with, to those they most strongly disagreed with. The first, very positive thing to notice is the fact that all the statements that described the work environment positively received significantly stronger support than those that described it negatively, the latter being generally denied. The three highest-ranked qualities were good atmosphere, sense of meaning and purpose, and sense of making good use of one's knowledge and skills. For self-employed individuals, the group also included the possibility of implementing one's ideas. At the very bottom of the list is the statement with which hardly anyone agreed and many explicitly denied: unpleasant experiences related to malicious acts and provocations from teammates.

Table 6.5. Evaluation of the accuracy of various job environment descriptions (1-5 scale)

	Employment contract (UP)				Self-employment (WD)				Difference WD – UP		
	M	F	Total	Difference F-M	M	F	Total	Difference F-M	M	F	Total
The atmosphere in my workplace is good.	4.35	4.31	4.33	-0.04	4.47	4.60	4.52	0.12	0.13	0.29	0.19
I feel that the work I do makes sense.	4.32	4.26	4.29	-0.06	4.28	4.45	4.34	0.16	-0.04	0.18	0.05
I feel that I make good use of my knowledge and skills at work.	4.20	4.12	4.16	-0.08	4.35	4.24	4.31	-0.11	0.15	0.12	0.15
I have the opportunity to implement my ideas.	3.59	3.56	3.58	-0.04	4.18	4.15	4.17	-0.03	0.58	0.59	0.59
I constantly have to learn new things at work.	3.46	3.50	3.48	0.04	3.68	3.62	3.66	-0.06	0.22	0.11	0.18
I often have to do things that are below my skill level.	2.93	2.72	2.83	-0.21	3.18	2.85	3.07	-0.33	0.25	0.13	0.24
There are situations at work that threaten my health.	2.74	2.25	2.51	-0.49	3.13	2.80	3.01	-0.33	0.38	0.54	0.50
My job prevents me from spending as much time with my loved ones as I would like to.	2.50	2.39	2.45	-0.11	2.97	2.95	2.96	-0.02	0.46	0.56	0.51
I feel my work has a negative impact on my health.	2.41	2.34	2.38	-0.07	2.75	2.73	2.74	-0.02	0.33	0.38	0.36
I have too many tasks to do them well on time.	2.29	2.47	2.37	0.18	2.64	2.46	2.57	-0.18	0.35	-0.01	0.20
Sometimes I have to do things that are above my skill level.	2.27	2.28	2.27	0.01	2.56	2.51	2.55	-0.05	0.29	0.24	0.27
I would love to change my job.	2.12	2.23	2.17	0.10	2.04	2.28	2.13	0.24	-0.08	0.05	-0.05
At work, I sometimes fall prey to malice or provocations that make me uncomfortable.	1.60	1.71	1.65	0.12	1.59	1.57	1.58	-0.02	-0.01	-0.15	-0.07
N	627	568	1197		167	85	252				

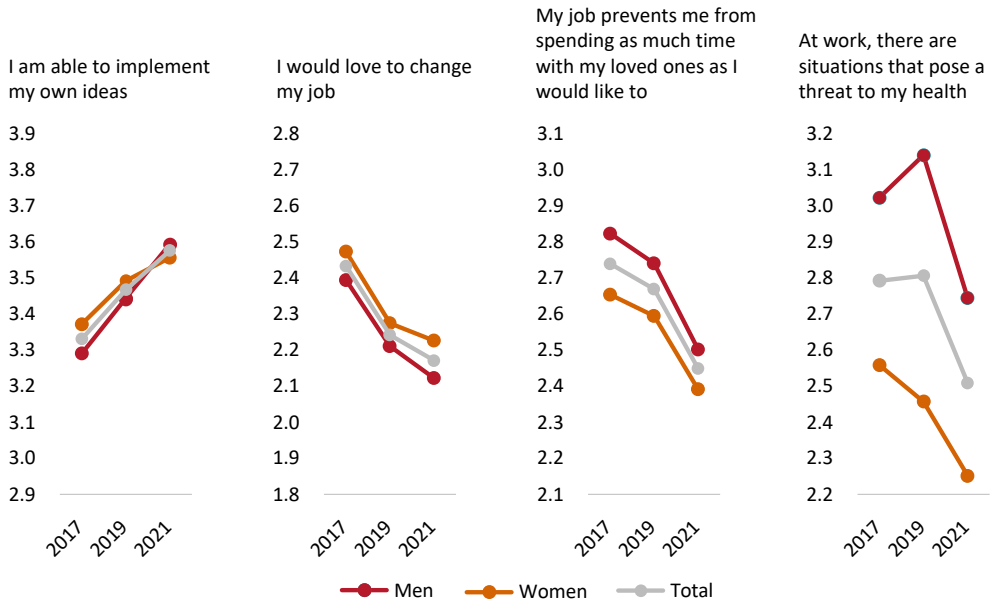
Source: BKL – Population Survey 2021.

It should be noted that individuals running their own businesses, both men and women, were more likely to agree with most statements, both positive and negative (see rightmost columns of Table 6.5). Understandably, entrepreneurs were much more likely to say they had the opportunity to implement their ideas at work. However, this autonomy came at a cost, as they were also more likely to have difficulty finding work-life balance, more likely to encounter situations at work that threatened their health, and more likely to say work had a direct negative impact on their health. As to differences between the genders, they were mostly insignificant, the only noteworthy exceptions being men's more frequent declarations they had to perform tasks below their skill levels and experienced health-threatening situations[27]. Men were slightly more opposed than women to the suggestion that they would like to change the job, the difference between the genders more pronounced among the self-employed.

Among the listed characteristics of the work environment, four ratings underwent statistically significant changes in 2017-2021. All of the changes were positive and affected men and women to a similar extent (Chart 6.6).

[27] In the case of women, the belief in the negative impact of work on health clearly intensified with age – such a relationship also occurred among men, but to a lesser extent.

Chart 6.6. Aspects of the work environment that significantly improved in 2017-2021 (1-5 scale)



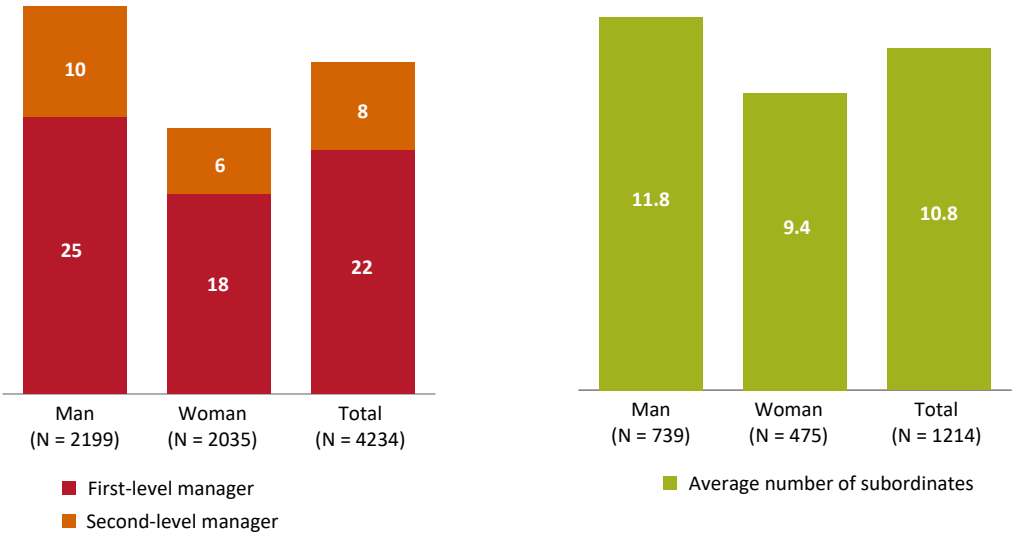
Source: BKL – Population Survey 2021.
Nmin (I have the opportunity to implement my ideas – BKL 2021) = 83.

The sense of being able to pursue one's ideas increased among both women and men. At the same time, the average willingness to change jobs, the challenges associated with finding work-life balance, and the frequency of health-threatening situations decreased. Especially this last change may be somewhat surprising in the context of the continuing state of pandemic threat in 2020-2021 and the constant messages about the risk involved in interpersonal contact on the media.

Relationships with superiors

Men are more likely than women to hold managerial positions, and typically have a larger number of subordinates (Chart 6.7). The higher average number of subordinates results, among other things, from the fact that men are relatively more often second-level managers, and thus more frequently have subordinates who are themselves managers.

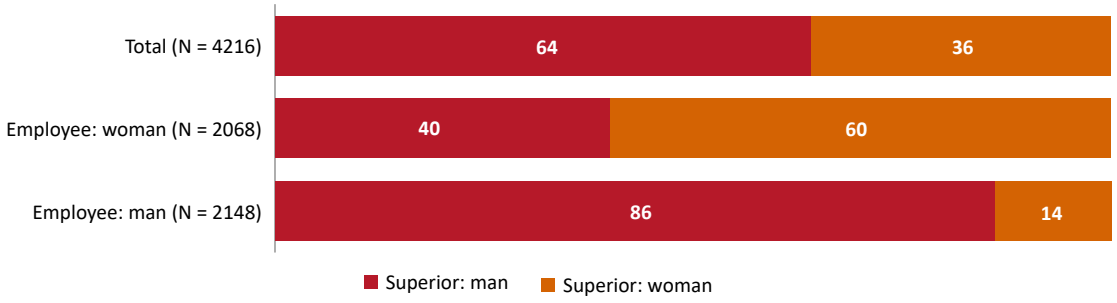
Chart 6.7. Gender versus being a first- and second-level manager, and the number of subordinates (%))



Source: BKL – Population Survey 2021.

As most people work in professions and industries that are quite homogeneous in terms of gender, women are mostly supervised by women, while men are supervised by men. This is clearly demonstrated by the aggregated data for 2017, 2019, and 2021 (Chart 6.8)[28].

Chart 6.8. Gender of superiors and gender of subordinates employed under an employment contract (%)

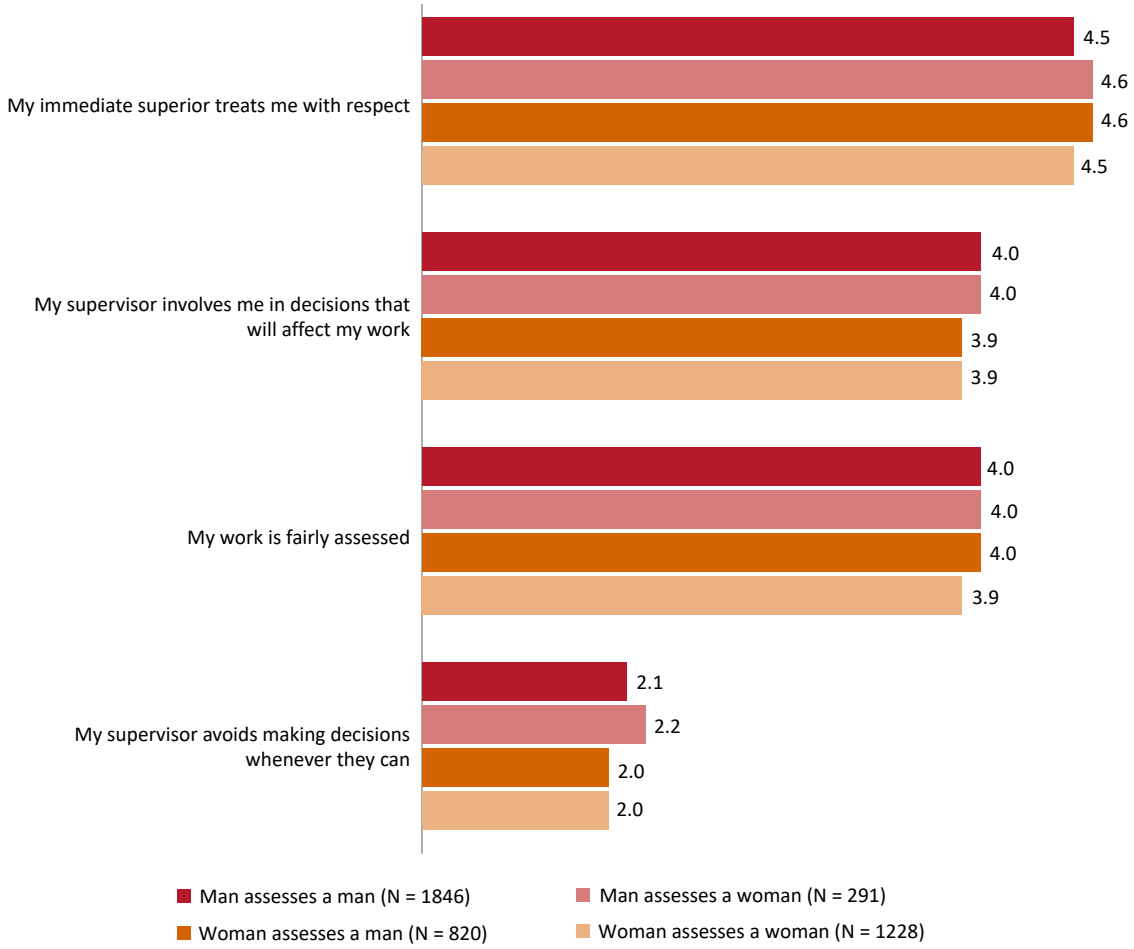


Source: BKL – Population Survey 2017, 2019, 2021.

[28] The relationship between the gender of the supervisor and the gender of subordinates was also noted in Rejmer 2019.

In general, a large majority of workers, of both genders, were positive about their superiors showing respect to the subordinates, involving subordinates in decision-making processes affecting their work, and fairness of the performance reviews conducted by the subordinates. Besides, they were unlikely to criticize their superiors for avoiding decision-making. Importantly, these assessments are virtually independent of the gender of either superiors or subordinates (Chart 6.9).

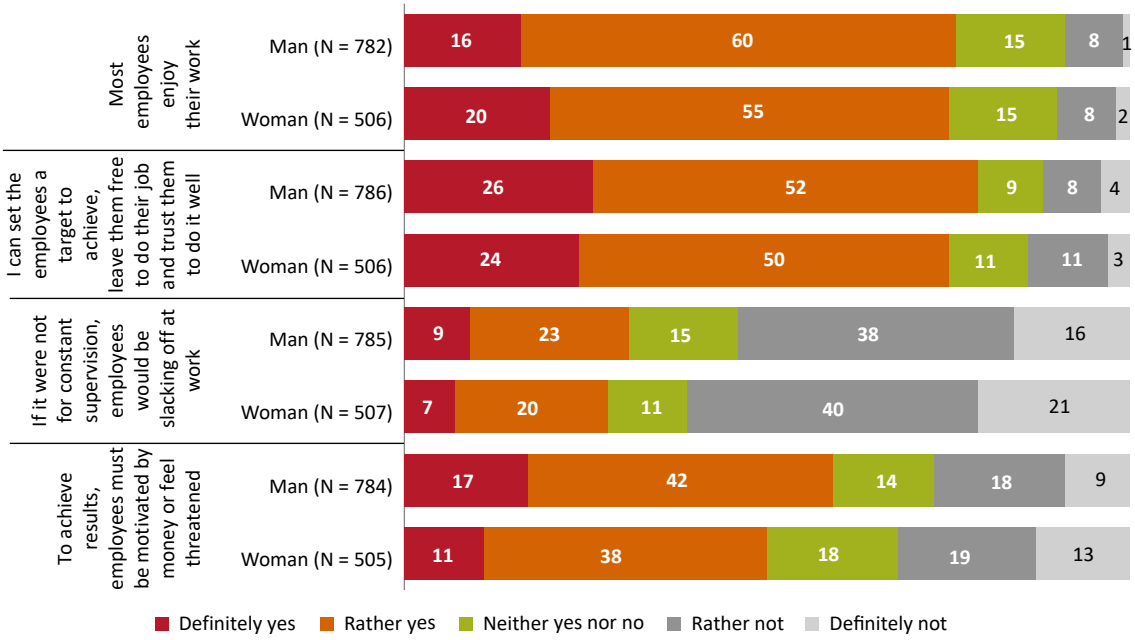
Chart 6.9. Assessment of supervisors by employees employed under an employment contract, by gender of the employee and supervisor (scale of 1-5)[1]



[1] Scale legend: 1 = definitely not, 2 = probably not, 3 = neither yes nor no, 4 = probably yes, 5 = definitely yes.
Source: BKL – Population Survey 2017, 2019, 2021.

The subordinates' positive opinion about their superiors generally corresponds to the superiors' positive opinion about the work of the people they manage (Chart 6.10). Supervisors believe that, overall, their employees enjoy their work, which matches the opinions expressed by the employees themselves[29]. Managers also usually trust that people on their teams will perform the assigned tasks well, if given freedom in achieving the set goals. However, this does not mean giving up supervision. Although most supervisors advocate for limited control, approximately 30% believe that, without constant supervision, employees would coast along at work. Opinions are also divided regarding the necessity of using the 'carrot-and-stick' approach towards subordinates, but the prevailing belief, especially among men, is that, in order to deliver, employees must be motivated by either money, or sanctions.

Chart 6.10. Employees as assessed by their superiors, and superior's gender (%)



Source: BKL – Population Survey 2017, 2019, 2021.

[29] See Chart 6.4, Table 6.5.

Summary

Overall, the level of labour force participation is higher among men. Men are also visibly more likely than women to be self-employed. At the same time, a constant trait of the labour market is the strong occupational (self)segregation. The occupational structure significantly varies between the working population of men and the working population of women. In simple terms, women tend to dominate in professions involving working ‘with people’, while men tend to dominate in professions involving working ‘with things’. This situation has many determinants, but is fundamentally voluntary and stems from preferences that are visible already at the stage of choosing one’s educational path, and is observed among both the employed and the self-employed.

Most recruiters believe that the gender of job candidates is irrelevant. The minority that prefer specific genders for specific positions are more likely to select men. Such preference, however, mainly applies to professions with very low educational requirements, which may explain young women’s greater motivation to continue their education to a higher level. It is also worth noting that employers’ gender preferences are strongly linked to the skill mix required for a given position and very clearly correspond to the actual differences in self-assessed skills between women and men.

Differences in job satisfaction between the genders are only minimal. The only exception (though not very significant) concerns the earnings, women’s lower satisfaction being obviously related to their lower average earnings. On the other hand, men are more likely to do jobs where the perceived risk of injury is higher.

A definitely positive finding of our study is that gender plays virtually no part in the direct power relations between superiors and subordinates. Slight differences in the way leadership roles are performed notwithstanding (with male superiors slightly more likely to emphasise the importance of subordinates’ financial motivation), employees feel they are treated with respect and evaluated fairly, irrespective of gender.

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7. Foreign workers in Poland after the outbreak of the war in Ukraine

Introduction

In this chapter, we present the results of the BKL study regarding foreigners working in Poland. This group is largely made up of Ukrainians, constituting by far the largest group of foreign workers in the country. These workers, who arrived in Poland both before the outbreak of the war i.e., in February 2022, and during its course, were asked a special set of questions in the latest 2022 survey. Due to the sampling method, information about them was obtained from respondents who are Polish citizens[30].

In the first part of the chapter, we present the basic statistics regarding Ukrainians employed by Polish companies and collaborating with Polish citizens employed under an employment contract. We analyse how the cooperation varies depending on the sector of the economy, the size and ownership structure of companies, as well as the gender, age, and education of Polish workers. We also show how it changed as a result of the ongoing war. In the second part, we expand the analysis to include foreign nationals in general, and refer to companies' data regarding the hiring of foreigners for key positions. We examine the differences between companies that are and those that are not willing to employ foreigners.

The analyses presented in this chapter are based on the results of the BKL panel survey from 2022, the only year when questions about foreign workers were asked. As the study covered one year only, the data presented in the chapter is cross-sectional. The results describing the changes that occurred after the outbreak of the war in Ukraine were not obtained by comparing data from two consecutive measurements, but are based on one-time declarations of the surveyed individuals.

[30] In the population survey, questions about Ukrainian colleagues were asked to individuals on employment contracts, who had superiors – in practice, the vast majority of employees (98%).

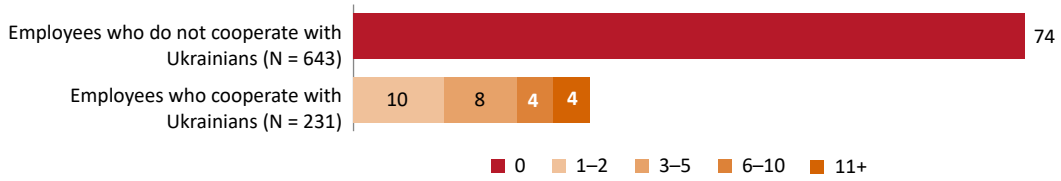
Ukrainian workers in Poland after the outbreak of the war

Within two months from the beginning of the war in Ukraine in February 2022, over 3 million war refugees crossed the border of Poland, over 95% of them Ukrainian citizens (Duszczyk, Kaczmarczyk 2022)[31], which changed the structure of the Ukrainian migrant population in Poland. Before the outbreak of the conflict, the Ukrainian population in Poland comprised 1.35 million people, mainly working men. After the war began, the majority of refugees from Ukraine were women and children, arriving for reasons other than employment. Although a large part of the refugee population consisted of minors, the migration from Ukraine did not leave the Polish labour market unaffected. On March 12th, 2022, a law (Journal of Laws of 2022, item 583, as amended) which allowed Polish `employers to hire individuals from Ukraine based on notification came into force, significantly simplifying the procedures related to the employment of Ukrainians. As the Minister of Family and Social Policy, Marlena Maląg pointed out, within a year from the outbreak of the war in Ukraine, following the implementation of the law, over 900,000 Ukrainians found employment in Poland (Podkarpackie Voivodship Office in Rzeszów 2023).

According to a periodic study named *Barometr polskiego rynku pracy* [*Barometer of the Polish Labour Market*] (Banyś 2022, 2023), the percentage of companies employing Ukrainians is steadily increasing, 2022 seeing a record increase of 15 pp (from 34% to 49%). As part of the 2022 BKL Study, companies with at least 50 employees were surveyed, and 38% of them answered the question whether they would hire people from Ukraine in the affirmative. Data from the BKL population survey allows us to supplement these results with the perspective of employees working under an employment contract – every fourth declared they had colleagues from Ukraine at work (Chart 7.1). Significantly, the cooperation was unlikely to involve just individual persons. **In most cases, at least three Ukrainian colleagues were mentioned, and every third respondent had over five Ukrainians on their team. This clearly shows that employees from beyond Poland's eastern border tend to be attracted to concrete companies.**

[31] Although the majority of population flows were arrivals, the number of Ukrainians' departures from Poland also increased. The Ukrainian population in Poland, even before the war, was characterized by high mobility and a significant proportion of temporary migrants.

Chart 7.1. Number of colleagues from Ukraine: declarations of workers employed under an employment contract (%)



Source: BKL – Population Survey 2022.

Cooperation with Ukrainians was most frequently declared (31%) in sectors related to industry, construction, and transport (Table 7.1). These were also the sectors where the highest average number of Ukrainian colleagues was reported (over eight). This partly results from the fact that companies operating in these sectors are frequently large. **Cooperation indicators increased with the size of the company; they were higher in private companies and in companies with multiple branches.** Younger people were slightly more likely to report they had Ukrainian colleagues. There were no significant differences between the declarations of women and men, or individuals with different levels of education. This last fact is worth noting, as it suggests that **labour migration from Ukraine is not limited to poorly-educated individuals willing to perform relatively simple tasks only**. This is consistent with the findings of the National Bank of Poland's research, which indicates that, among migrants from Ukraine, a significant proportion are individuals with tertiary education (Chmielewska-Kalińska, Dudek, Strzelecki, 2023).

Table 7.1. Ukrainian workers in the declarations of employees working under an employment contract, by sector, ownership type, type of institution, company size, education, gender, and age (%)

Parameters		% of employees working under an employment contract working with Ukrainians	Average number of Ukrainian colleagues[1]	Average percentage of women among Ukrainian colleagues[2]	N
Sector	Industry, mining, construction, transport, vehicle repair and trade, fuel trade	31	8.72	40	346
	Trade (excluding fuel and vehicles), accommodation, catering, support services	20	3.06	77	128
	Specialised services, education, healthcare, and social assistance	22	3.82	70	332
Ownership type	Public[3]	21	3.77	65	343
	Private	30	6.61	48	527
Type of institution	Independent company	24	3.39	54	392
	Branch of a larger company	29	8.20	50	479
Company size	Below 50	21	3.48	46	286
	50-249	27	5.87	49	183
	250+	30	6.98	54	383
Education	Lower	28	7.18	44	174
	Secondary	26	4.12	59	285
	Tertiary	26	7.09	51	415
Gender	Man	25	5.49	30	432
	Woman	27	6.26	68	442
Age	18-35	30	5.95	56	326
	36-54	26	6.27	44	415
	55+	18	3.88	65	133

[1] Trimmed mean (5%) was used to limit the distortion of results by individual extreme values. Individuals not working with Ukrainians (i.e. those for whom the declared number of Ukrainian colleagues was zero) were excluded from the calculations.

[2] Calculations are based on trimmed means (5%) of the number of Ukrainian female and male colleagues. The percentage of men may be slightly underestimated as men clearly dominated in extremely large groups of Ukrainian colleagues (over 20), which were eliminated by the trimmed mean.

[3] This includes state or municipal companies, companies with mixed capital (public and private), public institutions, and other types of organisations.

Source: BKL – Population Survey 2022.

When it comes to the gender of Ukrainian colleagues, roughly, a half were women and a half were men. It should be emphasised that, in this case, we do not mean the refugees from the time of war only, but all Ukrainians working with Poles, regardless of when they started employment.

The percentage of women among Ukrainian colleagues clearly depended on the sector. **A significant advantage of women was observed in trade, catering, education, social services, and social assistance. On the other hand, men constituted a majority in sectors related to construction and transport, trade and vehicle repair, and sales.** In this respect, occupational segregation of Ukrainian migrants by gender replicates the patterns typical of the Polish labour market. Interestingly, a lower percentage of women among Ukrainian colleagues was declared by employees of private companies (compared to other types of companies) where the employment of Ukrainians was concentrated. This is probably related to the fact that companies operating in fields dominated by women, such as education or healthcare, are most often public or mixed-capital companies.

Among Polish employees who reported they do not have Ukrainian colleagues, a vast majority (91%) did not have them before the war either (Table 7.2). At the same time, among those who had Ukrainians on their teams, almost a half (47%) admitted that their number increased as a result of the war. This growth was even more strongly emphasised by companies employing workers from beyond the eastern border of Poland and was reported by 63% of such businesses[32]. Situations also happened where the number of Ukrainian colleagues/workers decreased, but they were rare.

[32] In the survey, only companies that employed Ukrainians at the time of the survey were asked if the numbers of Ukrainian workers had changed, while in the population survey, this question was asked of all individuals working under an employment contract (and having a supervisor), both those working and those not working with Ukrainians.

Table 7.2. Changes in the number of employees from Ukraine after the outbreak of the war (%)

Type of change	Employees who currently			Companies which
	don't have Ukrainian colleagues	have Ukrainian colleagues	Total	currently employ Ukrainians
Decrease	9	13	10	6
No change	91	41	78	31
Increase	0	47	12	63
Total	100	100	100	100
N	643	231	874	375

Source: BKL – Population and Employer Survey 2022.

Since the questions only concerned the direction of changes (increase, stabilisation, decrease), they do not enable a quantitative estimation of the magnitude of the changes. However, the results clearly suggest that, **after the outbreak of the war, the number of Ukrainians working in Poland significantly increased**. This proposal is also consistent with data from the Social Insurance Institution (ZUS), which shows a 19% increase in the number of Ukrainian workers registered in ZUS in 2022, particularly women fleeing from the war (Błaszczak 2023), and data from the Ministry of Labour and Social Policy, which states that 900,000 Ukrainians found employment in Poland following the outbreak of the war (Wiązowska 2023).

Polish companies employing foreigners for key positions

The BKL company survey from 2022 includes data on companies' attitudes towards employing a foreigner for a key position in the company, as well as the requirements and expectations associated with the position. Although in the question regarding the possibility of employing a foreigner the nationality was not specified, in many cases, employing a foreigner practically meant employing a migrant from Ukraine. **Companies willing to employ foreigners in key positions were most likely to operate in industry, mining, construction, transport, social services and healthcare, as well as trade and services** (Table 7.3). In terms of geographical location, companies from the western and central regions were

most open to employing foreigners, while those from the southern region were least open to doing so[33].

Table 7.3. Tendency to employ foreigners in key positions, by sector, region, position, and company size (%)

		Can a foreigner work in this position?						Accepting individuals (total)[1]	N
		Definitely no	Rather not	It does not matter	Rather yes	Definitely yes	Total		
Sector	Industry & mining	4	17	18	39	21	100	78	274
	Healthcare & welfare	5	18	12	46	19	100	77	74
	Construction & transport	7	19	19	38	18	100	75	106
	Trade, accommodation, catering, support services	9	18	15	41	16	100	73	194
Region[2]	Professional services	12	34	19	27	8	100	54	142
	Education	16	33	6	36	10	100	51	228
	North-Western	6	17	13	46	18	100	76	130
	Central	8	17	16	42	17	100	74	346
	South-Western	5	21	14	27	33	100	74	110
	Eastern	5	32	17	35	11	100	63	158
	Northern	17	23	19	32	9	100	60	173
	Southern	10	44	3	35	8	100	46	101
Key position (ISCO category)	Unskilled workers	0	2	29	20	49	100	98	49
	Skilled workers	0	6	22	41	31	100	94	133
	Operators and assemblers	1	8	17	52	22	100	91	103
	Service and sales workers	8	24	22	30	16	100	67	74
	Associate professionals	8	31	16	35	9	100	61	143
	Professionals	11	30	10	41	8	100	59	340
	Clerical & office	16	26	16	30	12	100	58	57
	Managers	23	34	9	28	6	100	42	117
Company size	250+	6	25	16	35	18	100	69	152
	50–249	9	23	14	38	15	100	67	866

[1] Total percentage of responses 'it doesn't matter', 'rather yes' and 'definitely yes'.

[2] Macroregions by NUTS1 classification.

Source: BKL – Employer Survey 2022.

[33] However, this result may be a research artifact resulting from the selection of key positions for detailed analysis in the study. In companies from sectors such as industry, construction, mining, and transport, where Ukrainians are most likely to be employed, in the southern region, the detailed analysis conducted during the interview focused more on positions that are relatively less likely to be filled by foreigners (managers and office workers as opposed to labourers, operators, and assemblers).

Companies open to employing foreigners for key positions are more likely than other companies to already have Ukrainians on board (Table 7.4). It should be noted that companies that accept economic migrants less frequently encounter recruitment problems, which may be thanks to the larger pool of potential workers to choose from. These companies are also generally more likely to undertake internal activities to improve employees' skills, although they are less likely to offer courses and e-learning training to their employees, which may be related to the specific nature of their business (most of these companies operate in manufacturing).

Table 7.4. Employment of Ukrainians, conducting training, and the scale of recruitment problems among companies that allow or do not allow employment of foreigners in key positions (%, average)

Companies	E-learning courses and training were conducted (%)	E-learning courses and training were conducted (%)	Average number of on-site activities to improve staff skills[1]	N	Recruitment problems (%)	N
That do not allow the employment of foreigners	25	46	1,3	327	86	70
That allow the employment of foreigners	44	36	1,8	684	62	234

[1] The minimum number of actions to be taken is 0, and the maximum is 5.

Source: BKL – Employer Survey 2022.

On average, companies willing to employ a foreigner for a key position require less experience from candidates compared to other companies (Table 7.5). These differences occur in all categories of sectors, positions, company sizes, and locations, but are particularly visible in companies operating in industry, mining, construction, and transport, and in companies located in central, southern, and eastern Poland. The difference in required experience is most noticeable in relation to managerial positions and office workers. One can assume that in companies where greater experience is expected, these positions also require a better understanding of local legal and market realities, which may be an additional barrier for foreigners.

Table 7.5. Average experience expected of a key position employee (in years), by sector, region, position, and company size

		Companies that do not allow the employment of foreigners	Companies that allow the employment of foreigners
Sector	Industry, mining, construction, and transport	3.28	2.05
	Trade, accommodation, catering, support services	2.52	2.22
	Specialised services, education, healthcare, and social assistance	3.00	2.17
Region	Central	3.47	2.36
	Southern	3.48	1.58
	Eastern	2.49	1.53
	North-Western	2.39	2.27
	South-Western	2.67	2.11
	Northern	2.71	2.09
Key position (ISCO category)	Managers	4.53	3.49
	Professionals	2.56	2.38
	Associate professionals	2.13	1.89
	Clerical & office	2.46	1.57
	Service and sales workers	1.88	1.68
	Skilled and unskilled workers, operators and assemblers	2.38	1.81
Company size	50-249	2.97	2.13
	250+	3.04	2.14

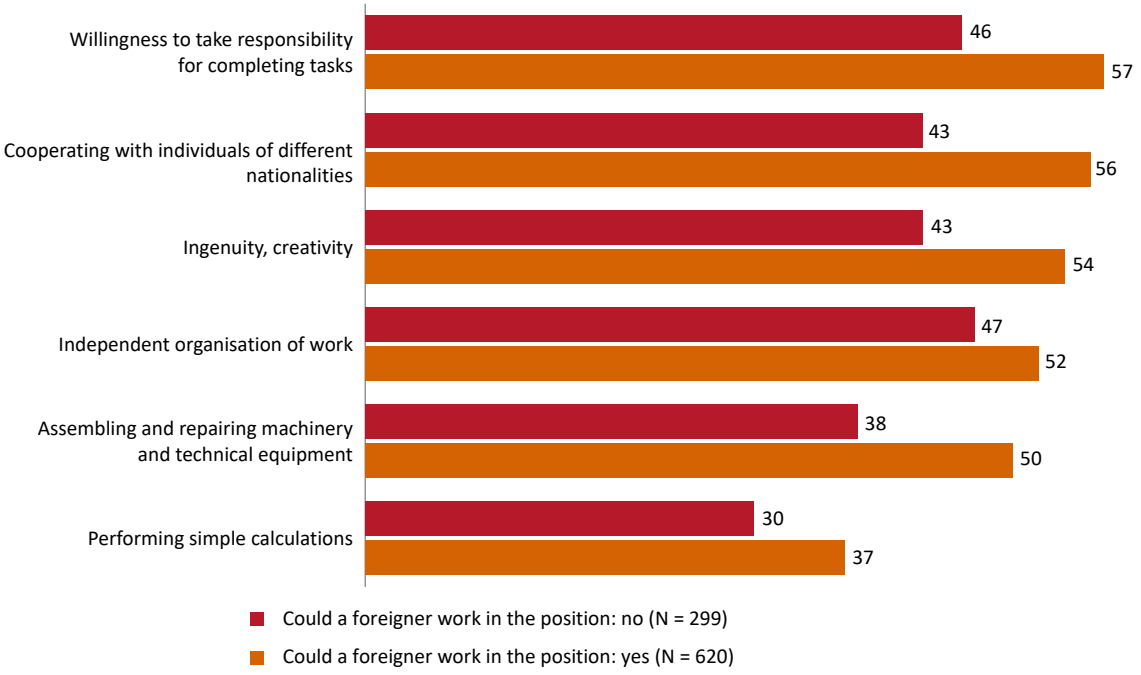
Source: BKL – Employers Survey 2022,
Nmin (companies from the southern region allowing employment of a foreigner in a key position) = 7.

Companies open to employing foreigners in key positions are more likely to believe that, in the next three years, individuals in these positions will increasingly need general skills, such as responsibility, independence, resourcefulness and creativity, and the ability to collaborate with people of different nationalities (Chart 7.2)[34]. Skills related to independent and creative problem-solving are useful in every sector and on every position. Progressing technological development and changes in the labour market, such as increased international mobility and dynamic nature of positions and tasks, further **increase the importance of 'soft skills': creative, cognitive, intercultural, and emotional intelligence-related** (Przytuła 2018).

[34] The figure includes skills for which the projected increase in importance was statically significantly correlated with openness to employing foreigners (correlation measured by Kendall's tau_B).

Furthermore, companies that employ foreigners for key positions perceive certain hard skills, such as technical equipment repair and assembly skills and simple accounting skills as future-oriented. These skills are related to professions in which Ukrainian immigrants often work.

Chart 7.2. Projected growth in the importance of various skills in the next 3 years, and readiness to employ a foreigner in a key position (%)



Source: BKL – Employer Survey 2022.

It should be highlighted that a very large proportion of companies, regardless of the sector, region, size, or professional category associated with the key position, share the belief that the importance of the ability to collaborate with people from different nationalities will grow in the next three years (Table 7.6).

Table 7.6. Projected change in the importance of the ability to collaborate with people of different nationalities in the next three years, by sector, region, position and company size (%)

		Cooperating with individuals of different nationalities						Gain (total)	N
		Lose significantly	Lose a bit	No change	Gain a bit	Gain significantly	Total		
Sector	Education	1	2	35	43	19	100	62	215
	Healthcare & welfare	1	3	36	43	17	100	60	70
	Professional services	1	2	42	35	19	100	54	125
	Industry & mining	0	4	47	39	11	100	49	242
	Construction & transport	0	4	52	27	17	100	44	95
	Trade, accommodation, catering, support services	1	3	55	31	10	100	41	172
Region	South-Western	0	0	30	41	30	100	70	97
	Central	1	2	31	49	17	100	66	305
	Eastern	0	0	49	34	17	100	51	158
	North-Western	2	10	42	35	12	100	46	96
	Northern	0	4	58	31	7	100	38	163
	Southern	0	4	76	14	6	100	20	99
Key position (ISCO category)	Professionals	1	3	35	40	21	100	61	320
	Service and sales workers	3	2	42	40	13	100	53	65
	Technicians and associate professionals	0	0	52	37	10	100	48	125
	Managers	0	4	50	32	15	100	47	107
	Industrial and craft workers	0	3	51	33	13	100	46	123
	Plant and machine operators, and assemblers	0	5	50	32	13	100	45	85
	Workers performing simple work	0	0	56	42	2	100	44	38
	Clerical & office	2	11	43	38	6	100	44	51
Company size	250+	1	2	44	42	11	100	53	139
	50–249	1	3	45	36	15	100	51	779

Source: BKL – Employer Survey 2022.

This belief is most common among companies operating in education, healthcare, social assistance, and specialised services, although, interestingly, these sectors employ relatively fewer Ukrainians. However, it is possible that, as the structure of migration is changing,

which results in increased availability of women from Ukraine and a high degree of feminisation in the mentioned sector, this skill is perceived as gaining importance.

The belief that the importance of cooperation in an international environment will be growing is most common among businesses from south-western and central Poland. These regions, even before the outbreak of the war, were characterized by higher migration rates and greater numbers of issued work permits and registered statements of intent to employ foreigners (Górny et al. 2019).

Summary

Due to Poland's very unfavourable demographic trends, economic immigration is one of the key challenges that the Polish economic policy is facing. Generally, Polish companies are open to employing foreigners. As a result, most of them expect that the importance of skills which enable harmonious cooperation in teams composed of people of different nationalities will be growing. Recently, labour shortages in the Polish labour market started to be largely filled by workers from Ukraine, especially in sectors of the economy that do not require tertiary education, such as industry and construction.

As a result of the Russian aggression in Ukraine, the nature and demographic structure of Ukrainian immigration significantly changed, which resulted in disruption of natural adjustment of the supply and demand for labour provided by workers from across Poland's eastern border. It can be expected that the challenges related to this process will have a long-term impact on the Polish labour market – also after the war, when Ukraine needs to be rebuilt.

From the perspective of public policy, the necessity to ensure long-term social integration of the incoming population remains a constant challenge. Therefore, it is necessary to examine immigrants' needs and develop comprehensive plans for the social and professional integration of those who plan to stay in Poland for longer. These plans should include legal regulations that would make it easier for refugees to take up employment in Poland, appropriate support for companies that employ or are open to employing Ukrainians, and support for programmes aimed at social and professional integration of immigrants.

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8. The situation of individuals with disabilities in the labour market

Introduction

In Poland, the percentage of people with disabilities among the total working-age population (18-59/64 years old) is 6%, according to Statistics Poland (Statistics Poland, 2022a). Despite not being officially recognised as disabled, numerous Poles face health issues that significantly impede their everyday activities. Based on Statistics Poland data (2021, p. 62), in 2019, 23% of the Polish population, spanning all age groups, lived with such issues. **This data shows that nearly a quarter of adult Poles experience various types of difficulties in their day-to-day life.** Considering the scale of the phenomenon, and its significance for improving the quality of residents' life and utilisation of their development potential, it is worth using BKL data to illustrate the situation of people with disabilities in the labour market and compare it with that of able-bodied individuals. This comparison will allow a better assessment of the situation of people with disabilities and help identify the factors that (besides health limitations themselves) make the market situation of these two groups of people radically different. The main goal of this chapter is to conduct such a comparison. We aim to achieve this by answering three fundamental questions: 1) What is the professional situation of individuals with disabilities, and how does it differ from that of able-bodied individuals? 2) How do people with disabilities assess their skills, and in which areas can greatest skill deficits be identified? 3) What does the educational activity of people with disabilities look like – do they try to develop their skills, what barriers hinder their development?

The chapter consists of four parts. The first presents contextual data, which shows the method of defining disability and attempts at estimating its scale based on various data sources and different ways of conceptualising disability. Using data external in relation to BKL data, we also describe how the situation of people with disabilities in Poland has changed over the past few years. The other three parts of the chapter are based on BKL data. In the first part, the professional situation of people with disabilities is presented in more detail,

referring to their form of employment, the positions they hold, and their actual and expected remuneration. The second part is dedicated to the results of the self-assessment of skills of people with disabilities, which are then compared with the results of the assessment of skills of able-bodied individuals. The last section focuses on the educational activity of people with disabilities, describing its forms and pointing out the barriers that make it difficult for this group to engage in educational activity.

All analyses based on the results of the BKL studies, presented in this chapter, were conducted on data from non-panel surveys of 2017, 2019, and 2021. The samples from these years included 596 people with recognised disability, which enabled analyses showing their situation in the labour market, their varied self-assessments of skills, and their educational activity. Due to the relatively small representation of people with disabilities in panel surveys[35], we decided not to include this data in the analysis as it would preclude accurate conclusions about the changes in the situation of people with disabilities in the labour market.

In the population survey conducted by the BKL in 2017-2022, questions were asked about daily-life difficulties resulting from long-term illness, disability, other ailments, and mental health issues. Individuals facing these challenges were also asked whether they had disability certificates. To align the outcomes of our analyses with international data, we focus exclusively on individuals who have official disability certificates (legal disability). When analysing educational activity, we also take into account the people who do not have disability certificates, but experience difficulties in their day-to-day lives (biological disability).

Definition and scale of disability in Poland and other OECD countries

In OECD countries, the percentage of people with disabilities ranges from 3% to 27% (OECD, 2022), **such large differences resulting from different definitions and perceptions of disability**. Even if the same disability criteria were applied across all the studied countries (e.g. having a formal disability certificate, or standardised questions about subjective

[35] The founding panel sample in 2017 included 286 people with disabilities, 7% of the total then surveyed. However, in the latest wave of the 2022 panel, there were only 75 such individuals.

experience of disability), issues such as the stigma related to disability, self-stigmatisation, social awareness, and other socio-cultural factors would still strongly influence the results of official statistics.

In Poland, data on the number of people with disabilities varies depending on the source, which is most often due to different definitions of disability being used. The most common distinction is made between two types of disability: legal disability (a person having a formal disability certificate) and biological disability (a person declaring they have serious difficulties in performing age-appropriate activities)[36]. The most up-to-date (Q4 2022) data for the Polish population aged 16-89 comes from the Labour Force Survey (Statistics Poland, 2022a) and relates to people with formal disability certificates (legal disability). The percentage of such people is just over 8%, of which: 28% are individuals with a severe degree of disability, 48% are individuals with a moderate degree of disability, and 24% have a mild degree of disability. Among the working-age population (18-59/64 years old), **the percentage of individuals with different types of disability certificates was 6%**. The results from the Statistics Poland survey, conducted according to Eurostat methodology, present a different perspective. According to that methodology, disability is defined as limited ability to perform activities that people usually perform, due to health problems (this approach is closer to disability understood as biological disability). **The Statistics Poland survey revealed that, as of the end of 2019, nearly 23% of the Polish population fell into this category** (Statistics Poland, 2021, p. 62). The results of the 2017-2021 BKL studies are consistent with Statistics Poland results for the value of legal disability indicator, which, according to the BKL, is 6% for working-age population (18-59/64 years old), while the percentage of people reporting difficulties in performing everyday activities is slightly lower (15%).

People with disabilities are in a significantly worse position in the labour market than able-bodied individuals. They are often excluded from the possibility of finding valuable employment, they earn lower incomes, and their lack of full capacity makes them withdraw from labour market participation, in spite of their skills and willingness (OECD, 2021).

The market situation of people with disabilities in Poland was discussed in the 2015 BKL study report, whose conclusions were rather pessimistic. The report showed that **the occupational situation of this social group at the time was significantly worse than that of**

[36] According to the definition of the Statistics Poland.

able-bodied individuals: only 27% were employed, they had lower education, earned less, and were more likely to work part-time. Yet **people with disabilities who were seeking employment often had qualifications and skills comparable to those of unemployed individuals without a disability certificate** (Magierowski and Strzebońska, 2015).

According to the latest data from the Labour Force Survey, **at the end of 2022, the labour market participation rate among working-age people with disabilities was 33.5%, while the employment rate was 31.6%** (Statistics Poland, 2022a), whereas, for the overall working-age population of Poland it was 79% (Statistics Poland, 2022b, p. 8). However, according to the European Human Rights Report, Poland ranks 11th (of the 27 EU member states) in terms of people with disabilities' labour market participation, and fourth in terms of the difference in the employment rate between people with and without disabilities (Buchanan and Hammersley, 2023).

According to the Labour Force Survey, between 2009 and 2019, the economic activity of people with disabilities gradually increased (Statistics Poland, 2019), and their unemployment rate decreased, although it was still higher in 2019 than that of the overall population of Poland (7.2% compared to 5.2%). Similar trends can be observed in the 'Osoby niepełnosprawne na rynku pracy ['*People with disabilities in the labour market*'] report (Statistics Poland, 2018, p. 5). According to the report, between 2008 and 2017, the labour force participation rate of working-age people with disabilities increased by 5 pp, their employment rate also went up by 5.5 pp, while the unemployment rate dropped by 3.8 pp.

In order to better understand the professional situation of people with disabilities, apart from employment statistics, it is worth examining the most common forms of employment. A 2021 study showed that **a majority of people with disabilities work in administrative services and support activities** (30.3%), with a significant portion employed in **security services** (18.7%) and **service activities related to cleaning and landscaping** (8.4%) – and 23.5% work in **industrial processing, especially production of food products** (Statistics Poland, 2021).

People with disabilities in the labour market according to BKL research in 2017-2021

The international research and official statistics referred to in the first part of this chapter show that people with disabilities are less economically active, and their market position is less favourable than that of able-bodied individuals. This tendency is confirmed by the BKL data regarding the employment status of people with disabilities. As shown in Table 8.1, **people with disabilities are less likely to work under an employment contract compared to able-bodied individuals** (40% compared to 63%). **They are also less likely to engage in business activities or agricultural farming** (9% compared to 17%). They are clearly more **likely to provide unpaid help in running a family business or in agricultural activity** (17% compared to 12%) and **engage in various forms of voluntary activities** – particularly providing general assistance (50% compared to 33%).

Table 8.1. Type of work performed by able-bodied individuals and individuals with a recognised disability, and their degree of disability (%)

Type of work performed	Able-bodied individuals	Individuals with a recognised disability in general	Degree of recognised disability		
			Mild	Moderate	Severe
Self-employed/agricultural activity	17	9	14	8	7
Employment contract	63	40	41	44	26
Contract of mandate or task-specific contract	13	14	10	17	8
Informal agreement	7	4	9	3	3
Unpaid help with family business/agricultural activities	12	17	16	15	24
Unpaid work placements/internships	4	2	4	3	0
Engagement in a non-governmental organisation	7	10	4	11	13
Engagement in a school or educational institution	10	6	7	6	4
Engagement in church, parish/community of a religious association	8	11	17	10	9
Engagement in a political organisation or party	1	4	3	4	3
Engagement in one's neighbourhood, town, or housing estate	10	17	18	18	11
Direct assistance to individuals beyond one's family and close friends	33	50	49	51	48
N	7000	265	59	155	51

Note: the percentages do not add up to 100, due to the possibility of a person simultaneously engaging in different activities.

Source: BKL – Population Survey 2017-2021.

The group of people with disabilities exhibits significant internal diversification, with the degree of disability being a contributing factor. The more severe the disability, the more it limits professional activity. **People with a recognised severe disability are noticeably less likely to be employed, in any form, and more likely to provide unpaid help in family activities or engage in non-governmental organisations.**

Another aspect that reflects the market situation of people with disabilities is the positions in which they are employed, regardless of the form of employment. The data in Table 8.2 shows that the situation of people with disabilities is worse than that of able-bodied workers also in this respect. It can be noticed that, **compared to able-bodied workers, people with disabilities are more likely to work in less specialised occupations,** such as **manual occupations** (skilled workers, machine operators, and unskilled workers – a total of 53% compared to 35%). **Unlike able-bodied individuals, people with disabilities are less likely to be employed in specialised positions** (managers, professionals and technicians, and middle-level staff – a total of 23% compared to 42% among able-bodied individuals). An interesting result is obtained if the degree of recognised disability is also analysed as, paradoxically, it turns out that the more severe the disability, the bigger the number of people with such disabilities working in both specialised positions and as skilled workers. One possible explanation is that individuals with severe disabilities (such as mobility impairments) can still find employment in specialised positions, where the intellectual nature of the work means that their disability does not constitute an obstacle. Regrettably, detailed information about the nature of disabilities is absent from the study, which precludes validation of this conclusion.

The differences in positions and forms of employment between individuals with and without disabilities translate into lower wages for individuals with disabilities, as shown by the data in Table 8.3. In the case of employed individuals, regardless of the form of employment, **people with disabilities on average earn PLN 1000 net less per month**. Interestingly, people with recognised severe disabilities are catching up with the average salary of able-bodied employees, possibly because they are more likely to work in specialised positions (though, on average, they still earn over PLN 600 less than able-bodied individuals).

Expectations as to the salary also differ between able-bodied individuals and those with recognised disabilities. Regarding the salary that both groups consider as satisfactory, the differences reach almost PLN 900. When it comes to salaries considered very satisfactory, able-bodied individuals would be satisfied with an average salary of around PLN 6,500, while for people with disabilities the amount would be PLN 5,000.

Table 8.2. Occupations of able-bodied individuals and individuals with a recognised disability, and their degree of disability (regardless of employment status) (%)

Position	Able-bodied individuals	Individuals with a recognised disability in general	Degree of recognised disability		
			Mild	Moderate	Severe
Managers	8	4	5	5	5
Professionals	20	8	3	8	10
Technicians and associate professionals	14	11	7	12	10
Clerical & office	7	8	10	8	5
Service and sales workers	16	16	20	17	13
Industrial and craft workers	17	28	26	26	32
Plant and machine operators, and assemblers	10	13	12	12	15
Workers performing simple work	8	12	17	12	10
N	7013	456	81	240	135

Source: BKL – Population Survey 2017-2021.

Tabela 8.3. Average net salary and salary expectations of able-bodied individuals and individuals with a recognised disability, and their degree of disability (PLN)

Salary and salary expectations	Able-bodied individuals	Individuals with a recognised disability in general	Degree of recognised disability		
			Mild	Moderate	Severe
Average monthly net earnings in the last 12 months					
Average	3503	2375	2301	2326	2869
Median	3000	2250	2015	2273	2817
Standard deviation	2599	1283	1567	1152	1392
N	4752	116	27	77	12
Minimum monthly net salary required to accept a job					
Average	2987	2344	2334	2301	2419
Median	2800	2500	2500	2475	2500
Standard deviation	1794	1532	1018	1258	2075
N	8522	596	102	305	189
Monthly net salary considered as fairly satisfactory					
Average	4156	3275	3232	3139	3517
Median	3600	3000	3000	3000	3000
Standard deviation	2666	2191	1514	1813	2924
N	8522	596	102	305	189
Monthly net salary considered as very satisfactory					
Average	6426	4992	5031	4688	5462
Median	5000	4500	4000	4500	5000
Standard deviation	6323	4054	4176	3087	5184
N	8522	596	102	305	189

Source: BKL – Population Survey 2017-2021.

In terms of salary expectations, individuals with recognised severe disabilities somewhat stand out among the total of individuals with disabilities as they expect slightly higher salaries. This may result not so much from the fact they are employed in better positions – as the question was asked to all, not just those already working – but also from the actual needs, which, in the case of people with severe disability, involve dealing with difficulties.

Therefore, the presented data show that the situation of people with disabilities differs, and negatively so, from that of able-bodied individuals – their forms of employment are less favourable and they are more likely to be employed in non-specialised manual positions.

This directly affects their salaries, as well as the salary expectations, not only among those already employed.

Self-assessment of skills among individuals with disabilities

To add to the picture presented so far, it is worth examining how people with disabilities assess their skills, whether they undertake actions towards skills' development and, if so, what actions specifically.

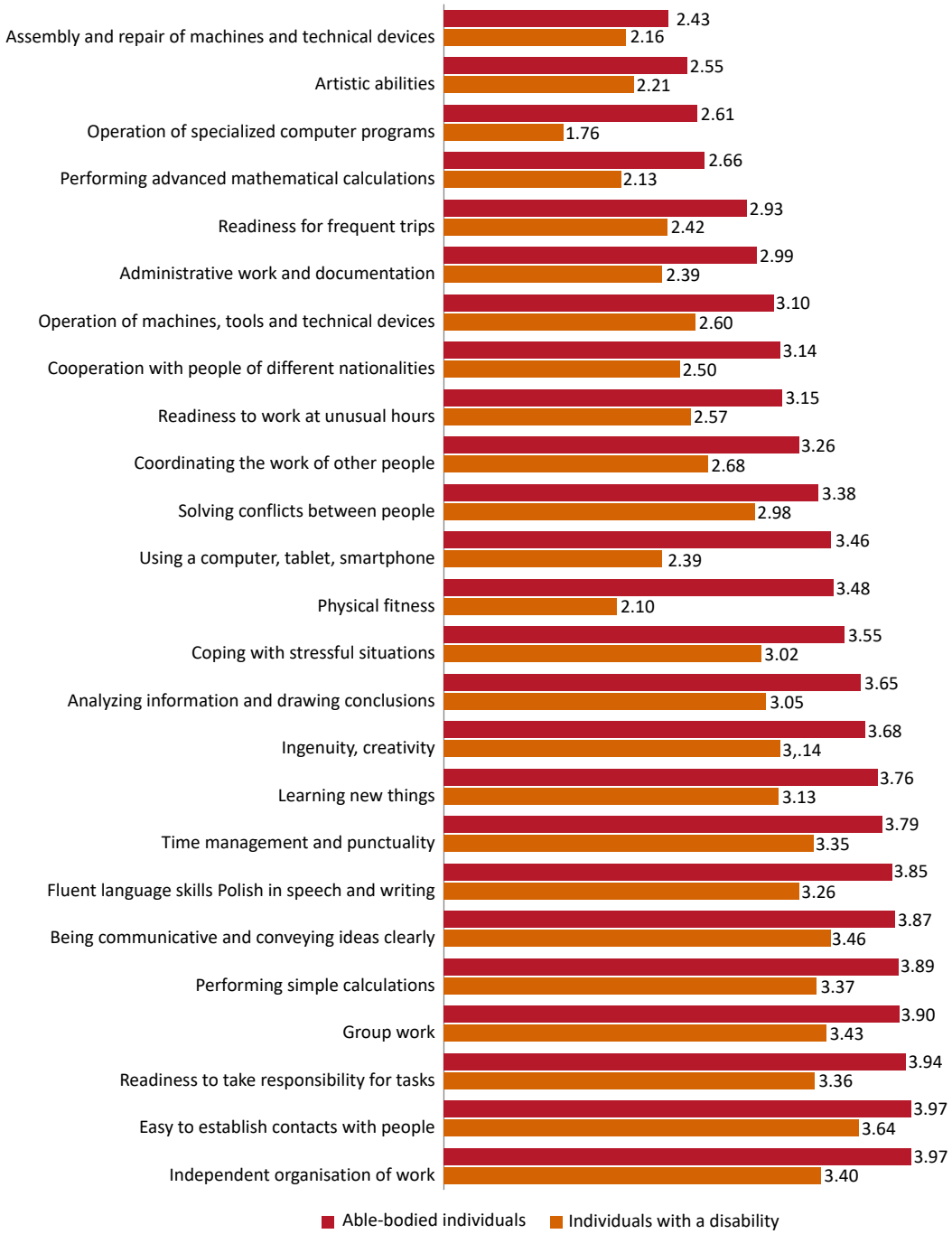
The detailed Tables 8.7 and 8.8 included in the annex present the levels of self-assessment of skills, by level of education and age, among able-bodied individuals and individuals with recognised disabilities. **Generally, people with disabilities rated all their skills lower than able-bodied individuals** – as shown in Chart 8.1. **Biggest differences concerned skills such as physical fitness, computer, tablet, and smartphone usage, and proficiency in specialised computer programmes.** As regards lower physical fitness, the observation is quite obvious considering the differences between the two categories. The existence of these differences is also confirmed by the results of objective tests conducted in other studies (OECD, 2022), and the results of those administered in several editions of the BKL Study[37]. In the case of the BKL study, in objective tests, the difference in correct answers between people with disabilities and able-bodied individuals is biggest for digital skills (a difference of 1 point on a 5-point scale resulting from summing the answers to five test questions[38]). The difference in a similar test of math skills, consisting of five tasks, amounted to half a point. This clearly reflects the lower digital skills of people with disabilities, which – as should be emphasised – are particularly important in the modern world, since they form the basis for acquiring and developing other skills, and for using various services, including health-related and support services.

[37] In the 2017 population survey, a short test of computer skills was conducted, in 2019, a test of language skills, and in 2021, a test of math skills.

[38] On average, able-bodied individuals answered correctly in 2.58 of five tasks, while individuals with disabilities on average answered correctly in 1.67 of five tasks.

Factors that influence the level of skills also include education and age. The less-educated people with disabilities declared a lower level of skills. Older people also reported slightly lower levels of skills than younger people. These differences are evident in the case of digital skills, which are significantly lower among the less-educated and the older people with disabilities. An additional factor that lowers the assessment of one's skills is the level of recognised disability – the more severe the disability, the lower the rating of one's skills.

Chart 8.1 Average level of general skills among people with a disability certificate and others (average on a scale from 1 – low level to 5 – high level)



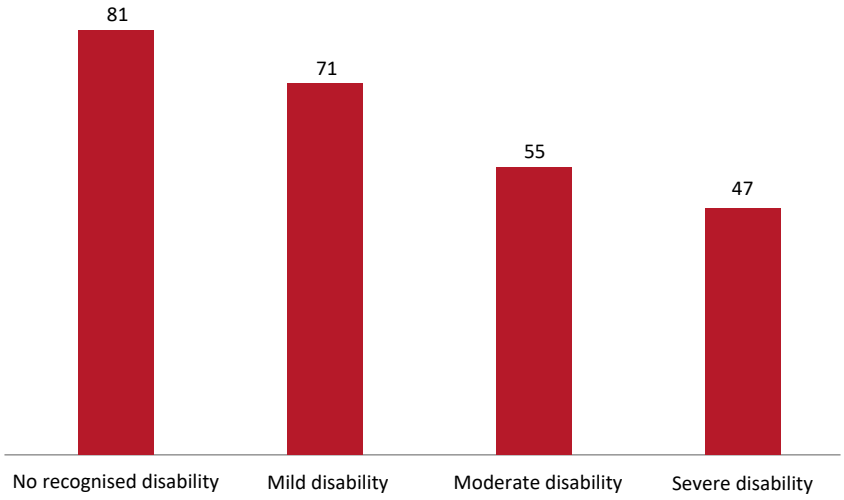
Source: BKL – Population Survey 2017-2021,

Nmin (people with disabilities – working with people of various nationalities) = 575.

Educational activities of individuals with disabilities

Disability is a factor that significantly affects not only the level of one's skills, but also the range of activities aimed at their development. The BKL data from 2017-2021 indicates that **81% of able-bodied individuals and 55% of people with disabilities developed their skills in some way[39] during the year preceding the study**, the difference between the groups being as much as 26 pp. The level of educational activity is also affected by the degree of recognised disability (Chart 8.2).

Chart 8.2. Disability and its degree, and educational activity (%)



Source: BKL – Population Survey 2017-2021,
Nmin (mild disability) = 72.

Individuals with a recognised mild disability are far more likely to develop their skills than individuals with a severe disability: the percentages are 71% and 47% respectively. This shows that, **when analysing the educational activity of this group and planning possible support, not only the disability in general, but also its degree and type need to be taken into consideration**. Unfortunately, the 2017-2021 BKL population survey did not include

[39] This synthetic indicator of educational activity includes participation in formal, non-formal, and informal education in the twelve months preceding the survey.

questions about respondents' type of disability, so we do not have information that could show the diversification of educational activity according to the type of disability (e.g. motor impairment, visual impairment, speech and language disorders, and hearing impairment)[40].

Lower educational activity is also observed among those who do not have a recognised disability, but declare that health problems hinder their day-to-day functioning (biological disability). The examined sample included 8% of such respondents (777 people), 67% of whom declared they developed their skills in the past twelve months. The level of educational activity in this group is even slightly lower than among people with a recognised mild-degree disability (71%). This shows that **poor health and various limitations (confirmed or unconfirmed by a disability certificate) strongly affect a person's development opportunities**. This conclusion is consistent with the findings presented by Golinowska et al. (2016), which indicate that individuals suffering from multimorbidity are half as likely to participate in formal education as those without such health limitations. The impact of health on educational activity is also confirmed by regression analysis (Worek 2019), which shows that, controlling for other variables, individuals who assess their health as good are more than one and a half times more likely to participate in formal and non-formal education compared to those who assess their health as poor.

Disability and poor health strongly affect engagement in all types of educational activity, but their impact is particularly visible in the case of formal education (Table 8.4). Among the total of people aged 18-69 surveyed in the BKL Study, the percentage of those engaged in formal education was 12%, 13% among the able-bodied and 5% among people with disabilities. When differences in engagement in this particular form of educational activity in the various age groups are ignored, and when the entire population's trends are examined, it becomes evident that **people with disabilities participate in formal education over two and a half times less frequently than able-bodied individuals.**

[40] It should be noted that some groups of people with disabilities may be excluded from the BKL study even if they were selected and had sufficient mental predispositions to provide the answers. This applies, for example, to people with voice and speech disorders, and hearing impairments.

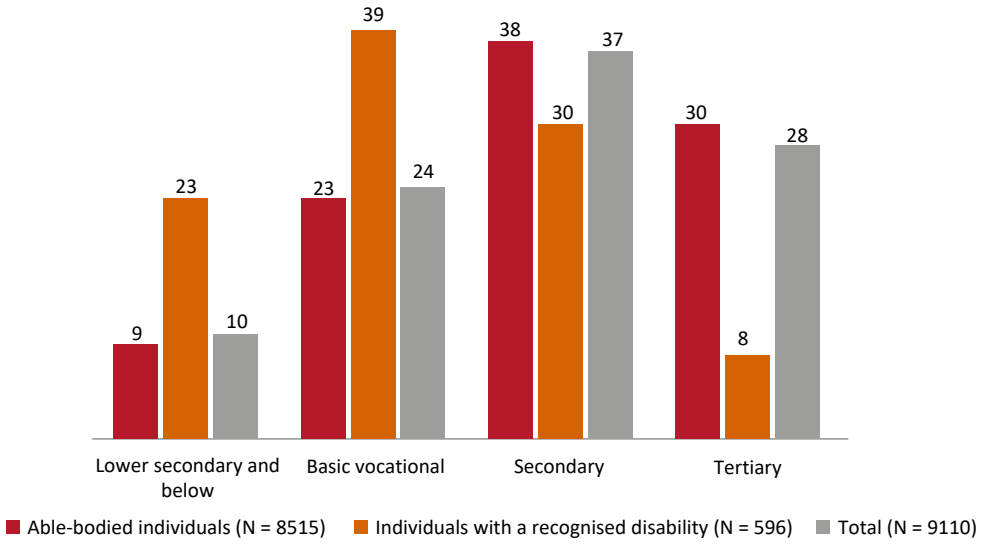
Table 8.4. Participation in various types of educational activities, and health status and disability (individuals aged 18-69) (%)

Type of educational activities	No serious health problems	Health problems but no disability certificate	Mild disability	Moderate disability	Severe disability	Total
Formal education	13	7	2	6	5	12
Courses, training related to work	46	27	24	16	6	42
Learning in the workplace (other than courses and training)	31	21	13	10	3	29
Courses, trainings unrelated to work	26	16	9	11	6	24
Self-learning	70	63	58	49	46	68
N	7738	777	102	305	169	9091

Source: BKL – Population Survey 2017-2021.

One possible explanation for the low level of educational activity among people with disabilities may be their relatively low level of education compared to able-bodied individuals. As shown in Chart 8.3, **nearly one quarter of people with a recognised disability had only lower secondary education, while in the group without disabilities, the percentage was 9%**. Able-bodied individuals and individuals with a recognised disability significantly differ in the **percentage of people with tertiary education**: **among people with disabilities, the percentage is 8%, while among able-bodied individuals, it is nearly four times higher (30%).**

Chart 8.3. Education level among able-bodied individuals and individuals with a disability certificate (%)



Source: BKL – Population Survey 2017-2021, N = 9111.

Considering that education is a very strong predictor of educational activity in adult life[41], **it can be assumed that the lower level of education of people with disabilities is a factor that at least partially explains their lower engagement in skills development**. However, it should be noted that differences in the level of education occur not only between people with and without disability certificates, but also between those declaring serious health problems, without disability certificates, and those who do not have such problems. As shown in Table 8.5, among those who experience serious health problems, the percentage of people with lower secondary, or even lower education is 14% i.e., 5 pp higher than among those who do not experience such problems. There are also significant differences between these groups regarding the percentage of people with tertiary education. Even though, among people without disability certificates, the percentage of respondents with tertiary education is higher than among people with a mild disability certificate (17% and 7% respectively), it is still significantly lower than in the case of those who do not experience serious problems in their day-to-day lives (31%). **This shows that, when analysing the situation of people with disabilities, or, more broadly, people who experience health problems, it is worth taking**

[41] According to various studies, when controlling for other variables, individuals with tertiary education have over three times greater chances of learning in adulthood than those with lower education (lower secondary, or vocational) (cf. Worek 2019, Rynko 2013).

into account not only legal disability, but also biological, as, in essence, the factor that shapes the market and social opportunities of such individuals is their health, which is not always verified by a formal disability assessment.

Table 8.5. Participation in various types of educational activities, and health status and disability (individuals aged 18-69) (%)

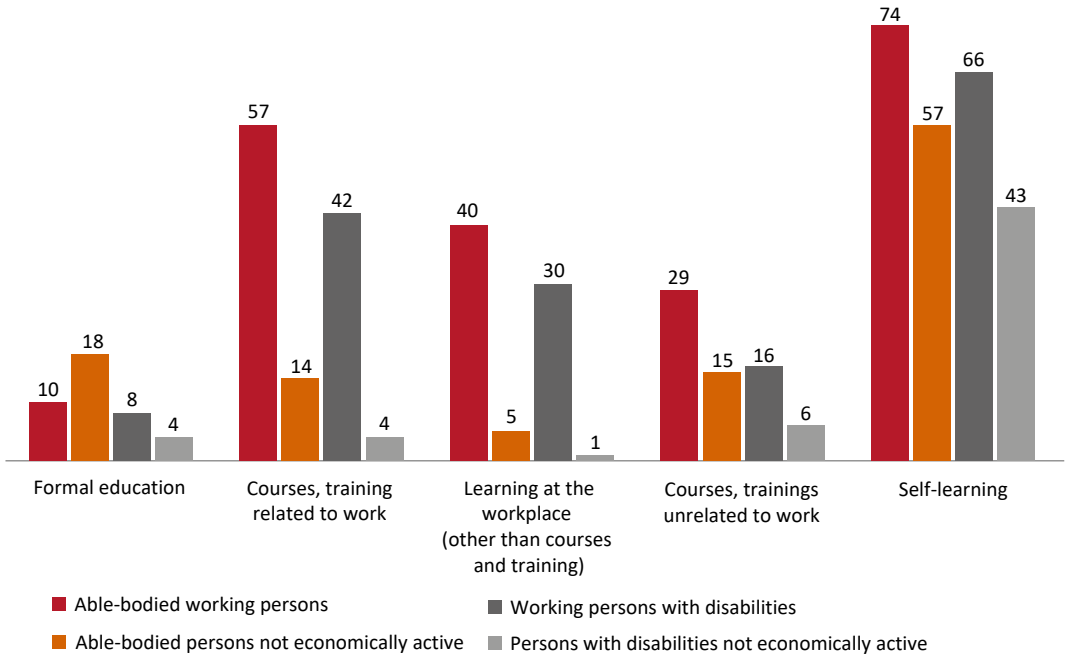
Type of educational activities	No serious health problems	Health problems but no disability certificate	Mild disability	Moderate disability	Severe disability	Total
Lower secondary and below	9	14	22	22	25	10
Basic vocational	22	31	45	39	38	24
Secondary	38	37	26	30	31	37
Tertiary	31	17	7	10	7	28
Total	100	100	100	100	100	100
N	7738	777	102	305	169	9091

Source: BKL – Population Survey 2017-2021.

Educational activity is also strongly linked to professional activity, and the necessity of developing skills required in the workplace is the strongest incentive for learning and development (Worek 2019; OECD 2022). The impact of employment on educational activity is visible both among able-bodied individuals and among people with disabilities.

As shown in Chart 8.4, it has been found that working individuals with disabilities are several times more likely to develop their skills than economically inactive individuals with disabilities. For obvious reasons, this applies not only to work-related and work-based learning, but also to non-work-related courses, training, and, to a slightly lesser extent, informal learning. In terms of educational engagement, working individuals with disabilities share more similarities with working individuals without disabilities than with economically inactive individuals with disabilities. A similar tendency is also observed in other countries (OECD, 2022).

Chart 8.4. Educational activity (formal, non-formal, informal), and disability and employment activity (%)



Source: BKL – Population Survey 2017-2021,

Nmin (people with disabilities not economically active, learning at the workplace other than courses and training) = 2.

According to the results presented in Table 8.6, individuals with disabilities, like able-bodied individuals, most frequently learn informally. Those learning in this way are most likely to use materials available on the Internet, radio and television programmes, and printed materials: almost a quarter of people with disabilities used each type of these materials (Table 8.6). Over 20% of the surveyed individuals with disabilities also developed their skills through training on the operation of new equipment or software. In principle, people with disabilities use all of the listed methods of learning less frequently than able-bodied individuals. An exception is learning from radio or television programmes: people with disabilities use them slightly more often than able-bodied individuals (although, at 3 pp only, the difference is small). It should be noted that even in the case of such seemingly easily-accessible resources as materials available on the Internet, people with disabilities use them significantly less frequently than able-bodied individuals (a difference of 25 pp). **One barrier that may hinder the use of this form of learning are the previously mentioned underdeveloped digital skills. This issue requires special attention, as the lack of such skills**

hinders not only learning from online materials, but also using various services, including medical services, which can be particularly useful for this category of respondents.

People with disabilities are also much less likely to learn from books and other printed materials (16 pp difference), and participate in on-site work-related courses and training and sports activities (14 pp difference). A review of this data shows that **disability considerably hinders the use of all forms of skills development, whether formal, non-formal, or informal.** It should be remembered that the population of people with disabilities is strongly diversified in terms of both the level and type of disability. A very high level of disability may prevent participation in various forms of development, such as sports training, or activities that require a certain level of manual and psychophysical fitness.

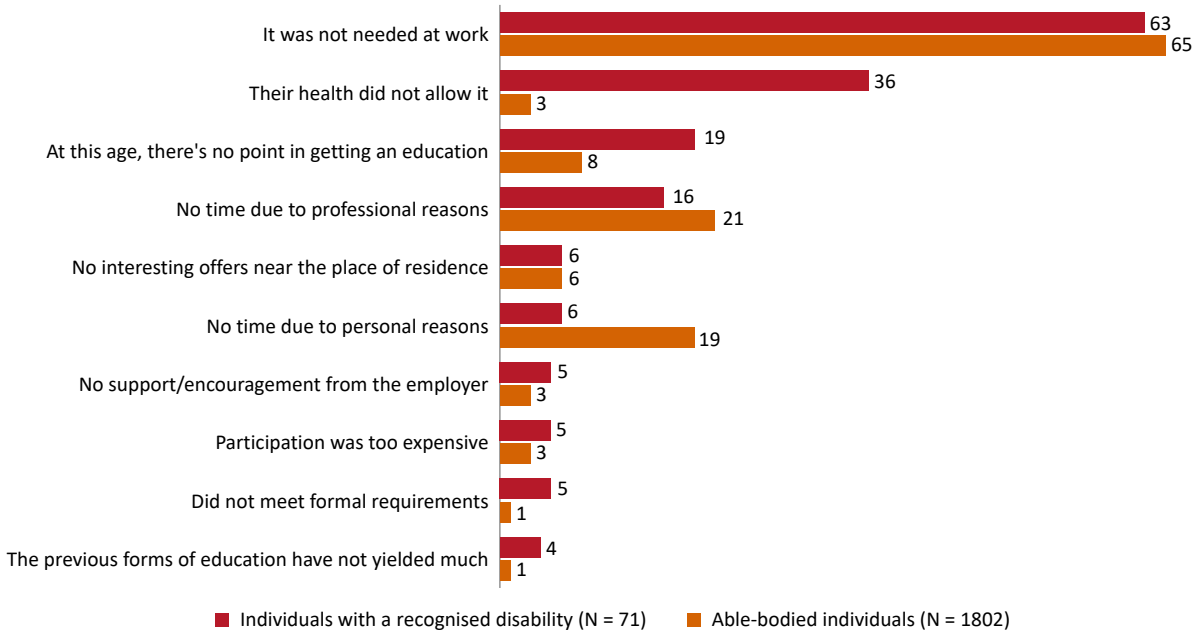
Table 8.6. Ways of developing skills among individuals with disabilities and able-bodied individuals (%)

Ways of developing skills	Able-bodied individuals	Individuals with a recognised disability	Total
Self-learning – from online materials	49	24	47
Self-learning – from TV programmes, radio shows	21	24	21
Self-learning – from books, magazines, or other printed materials	39	23	38
Instruction on e.g. operation of new equipment, machines, software	22	21	22
Self-learning – from family members, or with them	18	14	18
Self-learning – from friends, acquaintances, colleagues, or with them	24	13	23
Performing tasks at work with the support of another person, such as supervisor or colleague (mentoring, coaching)	20	11	20
Inter-team meetings aimed at knowledge exchange	14	9	14
Periodic observation of another employee's work (job-shadowing)	11	8	11
Self-learning – using computer programmes	18	7	18
Self-learning – museums, exhibitions, galleries	10	6	9
Sports activities (e.g. training, sports courses)	19	5	18
Temporary performance of tasks in another job position for training purposes (rotation)	9	4	9
Self-learning – meetings in organisations, associations, interest groups	6	4	5
Courses and stationary training related to work (excluding OHS and fire protection)	17	3	16
Study visits, observations in other companies or institutions	4	3	4
Training and stationary courses unrelated to work (other than sports)	6	3	6
Self-learning – through volunteering or other charitable work	4	3	3
Online courses and training related to work (e-learning)	9	2	9
Conferences, seminars related to work	10	2	10
Online courses and trainings unrelated to work (e-learning)	5	2	5
Conferences, seminars unrelated to work	4	2	4
Postgraduate studies, part-time, MBA	2	1	2
Adult schools	2	1	1
Internships, work placements	5	1	5
Third Age Universities	1	1	1
N	8515	596	9111

Source: BKL – Population Survey 2017-2021.

The main reason for not participating in courses and training is the same among able-bodied people and people with disabilities i.e., lack of professional motivation, as indicated by 65% of able-bodied individuals and 63% of people with disabilities. But differences between the two groups are very visible when we look at barriers such as health, the belief that one is 'too old' to learn, or lack of time. **Poor health is the second most common reason for the lack of educational activity among people with disabilities: as many as 36% of individuals from this group mentioned it, compared to only 3% in the group of able-bodied individuals.** Another often-cited reason for not participating in courses or training is **the belief that learning is not worthwhile at a certain age**, mentioned by 19% of people with disabilities and 8% of able-bodied individuals. People with disabilities less often than able-bodied individuals mentioned they lacked time (due to personal or professional reasons) for learning. **In contrast, they were slightly more likely than able-bodied individuals to declare that they lacked encouragement from their employers, that the cost of training was too high, that they did not meet the formal requirements, and that their previous training did not prove useful** (Chart 8.5).

Chart 8.5. Reasons for non-participation in courses and training among able-bodied individuals and individuals with a disability certificate (%)



Source: BKL – Population Survey 2017-2021, N = 9118.

Not only are individuals with disabilities less likely to improve their skills through engagement in formal, non-formal, or informal learning, but they are also less likely to express the desire for such development. In fact, over a half (53%) stated that they did not intend to develop their skills in the coming twelve months. Among able-bodied individuals, the percentage of those not wanting to develop their skills is also high (37%), but it is 16 pp lower than among individuals with disabilities.

Summary

People with disabilities make up a significant portion of the working-age population. According to various definitions, and, consequently, various estimates, even one in four individuals active in the labour market may have a disability. The situation of these individuals in the labour market is difficult, especially when compared to the situation of able-bodied individuals. **Formally, people with disabilities are employed under worse conditions: they are less likely to be employed under an employment contract, less likely to be self-employed, and more likely to do unpaid work.** The positions they are employed in are also classified as less specialised – typically, these are manual or service positions. This directly translates into lower salaries of people with disabilities compared to able-bodied workers. Importantly, **professional situation of people with disabilities clearly depends on the degree of disability – the more severe the disability, the more difficult the situation of such individuals**.

The presented data also show that **people with disabilities rate their skills lower and perform worse in skill tests**. A comparison of the self-assessment of skills of people with disabilities and able-bodied individuals shows that, with regard to all the skills covered by the BKL study, people with disabilities perform worse than able-bodied individuals. Significant differences concern not only physical fitness, but also digital skills. In the latter case, we refer not only to the subjective assessment of these skills, but also to objective measurements conducted in the BKL study (which confirm a lower level of digital skills among people with disabilities), as well as the results of other objective tests measuring key skills (OECD, 2022).

People with disabilities assess their skills lower and are less likely to engage in activities that contribute to skills development. They clearly differ from able-bodied individuals in terms of education level and professional activity, which are the key factors influencing the

pursuit of educational activities after completing the standard educational cycle. **Results of the analyses presented in this chapter also highlight the importance of individuals who do not have disability certificates (legal disability), but experience significant difficulties in their day-to-day lives (biological disability).** These individuals are less educationally active, have lower levels of education than able-bodied individuals, and, consequently, fewer opportunities in the labour market. **They deserve particular attention in further research, especially an examination of factors that hinder their access to education and later development of skills in adult life.** Even though positive changes can be observed in this area, and although improved access to education is identified as a priority in various strategic documents (cf. e.g. Strategy for the Benefit of Persons with Disabilities 2021-2030), BKL data shows that the scale of the challenges we need to face for these goals to be achieved is still enormous.

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Annex

Table 8.7. Average level of general skills among people with a disability certificate and others, by level of education (average on a scale from 1 – low level to 5 – high level)

Skills	Able-bodied individuals					Individuals with a disability				
	Lower secondary and below	Basic vocational	Secondary	Tertiary	Total	Lower secondary and below	Basic vocational	Secondary	Tertiary	Total
Analysing information and drawing conclusions	3.04	3.21	3.67	4.14	3.65	2.51	2.87	3.38	4.12	3.05
Learning new things	3.30	3.43	3.79	4.12	3.76	2.75	2.98	3.41	3.89	3.13
Using a computer, tablet and smartphone,	2.72	2.58	3.61	4.17	3.46	1.88	1.93	3.02	3.68	2.39
Operating specialised computer programmes	1.87	1.77	2.69	3.41	2.61	1.43	1.37	2.10	3.24	1.76
Operating machines, tools and technical equipment	2.68	3.10	3.17	3.13	3.10	2.22	2.63	2.71	3.14	2.60
Assembling and repairing machines and technical equipment	2.19	2.60	2.51	2.27	2.43	1.90	2.26	2.17	2.42	2.16
Performing simple calculations	3.24	3.50	3.99	4.29	3.89	2.85	3.15	3.85	4.14	3.37
Performing advanced mathematical calculations	2.02	2.09	2.74	3.19	2.66	1.76	1.84	2.53	3.12	2.13
Artistic skills	2.23	2.28	2.62	2.78	2.55	2.05	2.02	2.44	2.68	2.21
Physical fitness	3.28	3.37	3.55	3.55	3.48	2.16	1.95	2.10	2.64	2.10
Coping with stressful situations	3.22	3.35	3.58	3.78	3.55	2.76	2.85	3.28	3.57	3.02
Willingness to take responsibility for completing tasks	3.52	3.68	3.97	4.22	3.94	3.03	3.19	3.72	3.85	3.36
Ingenuity, creativity	3.27	3.41	3.71	3.98	3.68	2.75	2.98	3.42	3.94	3.14
Time management and keeping deadlines	3.39	3.57	3.81	4.08	3.79	3.03	3.24	3.56	3.93	3.35
Independent organisation of work	3.51	3.74	3.98	4.28	3.97	2.88	3.29	3.77	4.02	3.40
Teamwork	3.58	3.75	3.92	4.09	3.90	3.20	3.28	3.70	3.82	3.43
Ease of networking with people	3.75	3.85	3.98	4.11	3.97	3.48	3.53	3.79	4.05	3.64
Being communicative and conveying thoughts clearly	3.46	3.65	3.9	4.15	3.87	3.15	3.29	3.75	4.07	3.46

Skills	Able-bodied individuals					Individuals with a disability				
	Lower secondary and below	Basic vocational	Secondary	Tertiary	Total	Lower secondary and below	Basic vocational	Secondary	Tertiary	Total
Cooperating with individuals of different nationalities	2.64	2.77	3.19	3.52	3.14	1.93	2.28	2.96	3.43	2.50
Performing administrative work and record-keeping	2.05	2.18	3.10	3.77	2.99	1.66	1.86	3.20	3.89	2.39
Coordinating the work of others	2.59	2.87	3.32	3.7	3.26	1.98	2.51	3.19	3.44	2.68
Resolving conflicts between people	2.91	3.11	3.45	3.64	3.38	2.61	2.85	3.27	3.52	2.98
Fluency in spoken and written Polish	3.28	3.42	3.92	4.29	3.85	2.78	3.04	3.70	4.04	3.26
Willingness to travel frequently	2.62	2.72	3.00	3.09	2.93	2.19	2.23	2.60	3.24	2.42
Willingness to work non-standard hours	2.85	3.03	3.25	3.22	3.15	2.30	2.48	2.78	3.00	2.57
N	780	1947	3195	2501	8423	127	230	172	49	578

Remark: All differences are statistically significant at the level of $p < 0.01$, the Kruskal-Wallis test.

Source: BKL – Population Survey 2017-2021.

Table 8.8. Average level of general skills among people with a disability certificate and others, by age (average on a scale from 1 – low level to 5 – high level)

Skills	Able-bodied individuals					Individuals with a disability				
	18-29 years	30-39 years	40-49 years	50-69 years	Total	18-29 years	30-39 years	40-49 years	50-69 years	Total
Analysing information and drawing conclusions	3.78	3.87	3.71	3.4	3.65	3.20	3.40	3.14	2.98	3.05
Learning new things	4.04	4.02	3.83	3.39	3.76	3.74	3.52	3.29	3.01	3.13
Using a computer, tablet and smartphone,	4.3	3.96	3.47	2.63	3.46	3.97	3.48	2.88	2.05	2.39
Operating specialised computer programmes	3.26	3.03	2.62	1.98	2.61	2.59	2.56	2.11	1.53	1.76
Operating machines, tools and technical equipment	3.15	3.30	3.24	2.86	3.10	2.58	2.32	2.48	2.66	2.60
Assembling and repairing machines and technical equipment	2.37	2.53	2.55	2.33	2.43	2.01	1.88	2.08	2.22	2.16
Performing simple calculations	3.99	4.01	3.92	3.74	3.89	3.50	3.59	3.26	3.36	3.37
Performing advanced mathematical calculations	2.92	2.84	2.68	2.37	2.66	2.48	2.32	2.19	2.07	2.13
Artistic skills	2.70	2.62	2.63	2.37	2.55	3.20	2.43	2.48	2.05	2.21
Physical fitness	3.84	3.69	3.57	3.09	3.48	3.31	2.76	2.18	1.92	2.10
Coping with stressful situations	3.59	3.70	3.65	3.37	3.55	3.28	2.93	3.15	2.98	3.02
Willingness to take responsibility for completing tasks	3.95	4.06	4.02	3.80	3.94	3.42	3.42	3.38	3.35	3.36
Ingenuity, creativity	3.81	3.85	3.75	3.45	3.68	3.51	3.17	3.28	3.08	3.14
Time management and keeping deadlines	3.76	3.92	3.88	3.68	3.79	3.11	3.40	3.31	3.37	3.35
Independent organisation of work	3.94	4.13	4.05	3.83	3.97	3.34	3.33	3.53	3.39	3.40
Teamwork	3.97	4.01	3.97	3.75	3.90	3.40	3.55	3.60	3.39	3.43
Ease of networking with people	3.99	4.05	4.00	3.88	3.97	3.65	3.88	3.64	3.61	3.64
Being communicative and conveying thoughts clearly	3.91	3.99	3.95	3.73	3.87	3.38	3.61	3.59	3.42	3.46
Cooperating with individuals of different nationalities	3.43	3.42	3.22	2.73	3.14	3.29	2.85	2.66	2.37	2.50
Performing administrative work and record-keeping	3.08	3.24	3.01	2.76	2.99	2.85	2.93	2.33	2.30	2.39
Coordinating the work of others	3.24	3.43	3.40	3.08	3.26	2.65	2.63	2.59	2.70	2.68
Resolving conflicts between people	3.41	3.47	3.46	3.25	3.38	2.81	2.85	2.97	3.01	2.98
Fluency in spoken and written Polish	4.02	3.99	3.88	3.65	3.85	3.44	3.49	3.26	3.23	3.26
Willingness to travel frequently	3.23	2.89	2.97	2.75	2.93	2.77	2.62	2.54	2.34	2.42
Willingness to work non-standard hours	3.29	3.10	3.29	3.02	3.15	2.78	2.65	2.75	2.51	2.57
N	1706	1940	1834	2944	8425	29	48	88	413	578

Remark: All differences are statistically significant at the level of $p < 0.01$, the Kruskal-Wallis test.

Source: BKL – Population Survey 2017-2021.

9. Methodological note on the sampling and research implementation in the 2nd edition of the Human Capital Balance Study in 2017-2022

Employer surveys

Basic assumptions

Employer surveys were conducted between 2017 and 2022, in two forms: core surveys and mid-term surveys. The core surveys, conducted every two years, comprised a panel of medium and large enterprises (N = 1000) and a cross-sectional sample (N = 2,500) with an overrepresentation of small enterprises. The mid-term surveys comprised a panel of large enterprises and a panel of medium-sized enterprises.

Population

Like the Human Capital Balance Study conducted in 2010-2015, the survey of employers covered economic entities that employ at least one worker. Furthermore, some groups of entities were excluded, such as: local units from division 94, entities from sections: A, O, T, U, entities of special legal form e.g. foundations, churches, associations, political parties, and several others listed in the BKL Methodology.

The panel surveys were based on the structure of entities in 2017. The cross-sectional surveys reflected the structure in 2019 and 2021.

Sampling frame

The sampling frame comprised entities listed in the Polish Database, owned by Dun & Bradstreet (formerly Bisnode). The database is based on data from the National Official Business Register (REGON). Additionally, the database is verified for data accuracy, and supplemented with contact information available on the Internet. The sampling frame for the 2019 and 2021 cross-sectional surveys was the same, but it was checked if the entities had been selected for surveys in the previous waves.

Sampling

The assumptions for the sampling scheme of the first wave (founding wave of the panel study) included net sample realisation rate (36%), sampling frame error, reserve contacts, and accumulation of an appropriate reserve for the subsequent editions of the panel.

The sample for the first wave and for cross-sectional surveys in 2019 and 2021 was selected using disproportionate stratified sampling by size category of the entity (3 size categories of enterprises):

- Micro and small enterprises (2 to 49 employees),
- Medium-sized enterprises (50 to 249 employees),
- Large enterprises (250 or more employees),

and groups of PKD sections, equally represented in the sample (6 categories):

- Industry and mining (sections B, C, D, E)
- Construction and transport (sections F, H)
- Trade, accommodation, catering, support services (sections G, I, N),
- Specialised services (sections J, K, L, M, R, S)
- Education (section P),
- Healthcare and welfare (section Q).

Weights

Four types of weights were constructed:

1. **trunc_dweight_smpl – a weight reflecting the population structure by the stratifying variables applied at the stage of sampl**ing, in which observations representing an extremely high number of entities were assigned the weight of one. As a criterion of extremeness, Tukey's upper hinge was adopted, i.e. value equal to the upper quartile increased by twice the interquartile range. This weight should be used when performing standard analyses. Trimming in the weight were made within the range of entity size categories.
2. **trunc_dweight_pop – a weight with** trunc_dweight_smpl structure. Once the weight is applied, sample size adds up to population size. This weight should be used in cases where the analysed variables have meaningful interpretations in population categories, for example, to estimate the number of workers needed in various sectors of the economy.
3. **dweight_smpl – an analytical weight that combines weights related to the sampl**ing scheme and non-response weights, giving the sample population structure, but summing up to sample size. This weight is used to control the trimming effect used in the previously described weights.
4. **dweight_pop – a weight with** the structure and application of dweight_smpl. Once the weight is applied, sample size adds up to population size.

Depending on the wave of the survey, the above types of weights referred to the panel sample, cross-sectional sample or combined sample.

Table 1. Key information about the particular waves of the employer survey.

		2017	2018 Panel	2019 Cross-sectional/Panel	2020 Panel	2021 Cross-sectional/Panel	2022 Panel
Basic information	Dates conducted	21.08.2017-1.12.2017 [quality control 27.02.2018-06.04.2018)	03.09.2018--03.12.2018	13.09.2019 (from 29.08 pilot survey) – 07.02.2020	05.10-10.12.2020 (pilot survey 02.09-09.09.2020)	20.09--30.12.2021 (pilot survey 17.08-31.08.2021)	21.10-23.12.2022 (pilot survey 05.09-16.09.2022)
	Sampling frame	Bisnode Polish Database	PANEL 2017 (Sample realised in 2017 + reserve from the Bisnode Polish Database)	Bisnode Polish Database from 2019 with reserves from previous years/PANEL 2017	PANEL 2017	Bisnode Polish Database from 2021 with reserves from previous years/PANEL 2017	PANEL 2017
	Sampling scheme	stratified disproportionate	stratified disproportionate	stratified disproportionate	stratified disproportionate	stratified disproportionate	stratified disproportionate
	Data collection technique	3.481 CAPI interviews (96%) + 163 CATI interviews (4%)	CAPI	98.6% CAPI + 1.4% CATI	22.1% CAPI + 77.9% CATI	25.9% CAPI + 73.8% CATI	17% CAPI + 83% CATI
	Number of completed interviews	3.644	1.035 (1,008 panel + 27 reserve)	2.539/1.000	1.096	2,573/1,073	1018
	Average interview duration	40 minutes	31 minutes	32 minutes/ 35 minutes	21 minutes	26 minutes/ 26 minutes	24 minutes
	Net sample realisation rate	34%	57.4%	74.7%/75.2% panel retention rate	65.6% panel retention rate	37.1%/70.2% panel retention rate	66.9% panel retention rate
Sampling	Sampling frame relevance	06.2017	12.2017 (08.2018 reserve)	07.2019/12.2017 (08.2018 reserve)	12.2017 (08.2018 reserve)	07.2021/12.2017 (08.2018 reserve)	12.2017 (08.2018 reserve)
	Stratification variables	size, PKD	size, PKD	size, PKD	size, PKD	size, PKD	size, PKD
	Sample size (including the main one)	11.667 (9.723)	1.800 (1,755)	6.945/1.782 (1.755)	1.782 (1.755)	6.943/1.782 (1.755)	1.782 (1.755)
	Number of clusters	--					
	Cluster size	--					
Realisation	Sample size used	11.619	1800	3416/1224	1325	6943/1782	1782
	Error contacts[42]	900	3	16/3	130	9/85	65
	Refusals and other reasons for non-implementation	7.075	762	861/221	99	4361/624	699

[42] Described in detail in the methodological report.

Adult surveys

Basic assumptions

Adult surveys were conducted between 2017 and 2023, in two forms: core surveys and mid-term surveys. Both forms of survey were carried out three times at two-year intervals. The core surveys consisted of a minimum of 4 000 interviews in each edition, divided into panel sample (N = 1 500) and cross-sectional sample (N = 2 500). The mid-term surveys only comprise a panel sample (N = 1500).

Population

The population surveyed in the panel's founding wave and in the cross-sectional surveys are Polish citizens, male and female, aged 18-69, residing in Poland. The panel survey comprises people surveyed in the founding wave, who consented to further contacts and were aged between 18 and 63 in 2017. This is consistent with the assumption that, in the final year of the survey, respondents on the panel should still belong to the survey population i.e. be not older than 69.

Sampling frame

The contact details come from the Polish Electronic Population Register System (PESEL), managed by the Ministry of Digital Affairs.

Sampling

Core surveys

The sampling is stratified proportionally by CSO sub-region, locality size class, and gender combined with age.

The assumptions for the selected sample size included the planned net sample realisation rate (56%), sampling frame error, and reserve contacts. Based on previous experience, it was assumed that the sampling frame error rate along with reserve contacts is approximately 38.5% of the selected sample.

Mid-term/panel surveys

The inclusion criteria for the panel sample identified 2702 individuals. In the first waves of the panel survey, the group was divided into the main and reserve sample. In the last three waves, due to difficulties in implementation related to COVID-19, division into the main and reserve samples was not conducted.

The structure of the panel, like the structure of cross-sectional surveys, reflects the structure of the sample in the core surveys. The sampling procedure stipulated that, in the successive waves of the panel survey, the survey provider would first contact respondents who had been surveyed the year before and, in the event of refusal, replace them with those surveyed two years before, followed by those surveyed three years before, and so forth. Panel retention rate, understood as the number of respondents surveyed in a given wave of the survey who were also surveyed in the previous wave relative to the number of respondents surveyed in the previous wave was to be 61% minimum. As shown in Table 2, the value of this indicator never fell below 68%.

Weights

Four types of weights were constructed:

1. **trunc_dweight_smpl – a weight reflecting the population structure by the stratifying variables applied at the stage of sampl**ing[43], in which respondents representing extremely high numbers were assigned the weight of one. As a criterion of extremeness, Tukey's upper hinge was adopted, i.e. a value equal to the upper quartile increased by twice the interquartile range. This weight should be used when performing standard analyses.
2. **trunc_dweight_pop – a weight with** trunc_dweight_smpl structure. Once the weight is applied, sample size adds up to population size. This weight should be used in cases where the analysed variables have meaningful interpretations in population categories,

[43] Due to the relatively small sample size, the weighting scheme does not perfectly reflect the random sampling scheme in the case of division by region and locality size class. A division into 7 macro-regions (according to NTS 1) and a division into 4 size classes of localities, i.e. (1) villages, (2) small towns/cities (<20,000 inhabitants, (3) medium-sized towns/cities (20-99,000 inhabitants) and (4) large towns/cities (> 100,000 inhabitants) were used for weighting. When broken down by the combination of gender and age, the weighting scheme reflects the sampling scheme.

for example, to estimate the number of people in Poland employed under civil law contracts in the past 12 months.

3. **dweight_smpl – an analytical weight that combines weights related to the sample selection scheme and non-response weights, giving the sample** population structure, but summing up to sample size. This weight is used to control the trimming effect used in the previously described weights.
4. **dweight_pop – a weight with** the structure and application of dweight_smpl. Once the weight is applied, sample size adds up to population size.

Depending on the wave of the survey, the above types of weights referred to the panel sample or cross-sectional sample.

Table 2. Key information about the particular waves of the adult survey.

		2017	2018 Panel	2019 Cross-sectional/Panel	2020 Panel	2021 Cross-sectional/Panel	2022 Panel
Basic information	Dates conducted	21.08.2017--07.11.2017	07.09.2018--29.10.2017	13.09.2019--21.12 2019	30.09.2020--11.01.2021	24.09.2021--03.04.2022	14.10.2022 – 23.01.2023
	Sampling frame	PESEL	(PANEL completed in 2017)	PESEL/PANEL	PANEL	PESEL/PANEL	PANEL
	Sampling scheme	stratified proportionate	stratified proportionate	stratified proportionate	stratified proportionate	stratified proportionate	stratified proportionate
	Data collection technique	CAPI	CAPI	CAPI	24% CAPI, 68% CATI, 8% CAWI	55%/28% CAPI, 35%/63% CATI, 10%/9% CAWI	16% CAPI, 76% CATI, 8% CAWI
	Number of completed interviews	4.056	1.511	2.533/1.514	1.560	2.529/1.506	1.560
	Average interview duration	37 minutes	23 minutes	41 minutes/ 32 minutes	29 minutes	40 minutes/ 27 minutes	28 minutes
	Net sample realisation rate	52%	78.6% (68.6%)*	41.7%/68.5% panel retention rate	75.6% panel retention rate	53.2%/78.3% panel retention rate	79.3% panel retention rate
Sampling	Sampling frame relevance	07.2017	07.2017 update in 2017	07.2019/07.2017 update in 2017	07.2017 update in 2017	07.2021/07.2017 update in 2017	07.2017 update in 2017
	Stratification variables	subregion, size of the locality, gender + age	macroregion, size of the locality, gender + age	macroregion, size of the locality, gender + age	macroregion, size of the locality, gender + age	macroregion, size of the locality, gender + age	macroregion, size of the locality, gender + age
	Sample size (including the main one)	11.609 (7.144)	2.204 (1.500)	8,928 (4.464)/2.664 (1.500)	2,612	8,929 (4.464)/2.702	2,702
	Number of clusters	893	776	558 (+558 reserve)/776	776	558 (+558 reserve)/776	776
	Cluster size	13	4.52 (from 1 to 9)	8/4.52 (from 1 to 9)	4.52 (from 1 to 9)	4.53 (from 0 to 13)	4.52 (from 1 to 9)
Realisation	Sample size used	11,.319	2204	8835/2610	2612	7257/2702	2602
	Error contacts[44]	3.552	282	2757/485	279	2504/330	223
	Refusals and other reasons for non-implementation	3.711	408	3545/649	773	2213/865	859

* depending on the counting method (the agreed counting method, subject to settlement, is given in brackets)

[44] Described in detail in the methodological report.

Surveys of institutions and companies providing development services

Basic assumptions

The surveys of institutions and companies providing development services were carried out between 2017 and 2021, in the form of core surveys conducted three times at two-year intervals, 1,000 interviews in each edition.

Population

In the 2016-2023 Human Capital Balance Study, the definition of entities identified as institutions or companies providing development services was made more specific, and thus narrower. In that study, such institutions or companies were understood as entities providing development services within non-formal and formal education, beyond the standard educational cycle[45], if they fulfilled a number of conditions (e.g. providing services on the territory of Poland, for more than one client in the headquarters or branch office, with a turnover of PLN 50,000 minimum from development services) listed in detail in the BKL Methodology.

Sampling frame

The basis for the complete sampling frame were the existing databases, including:

- data collected in the Educational Information System (hereinafter SIO),
- data collected in the POL-ON system (hereinafter POL-ON),
- data collected in the Development Services Database (hereinafter BUR),
- data collected in the Register of Training Institutions (hereinafter RIS),
- data collected for the implementation of the BKL survey of training institutions and companies in 2010-2015 (hereafter CEAPP).

[45] We consider the standard educational cycle to be primary, lower secondary, upper secondary and tertiary education for pupils and students (first, second and third cycle) usually aged between 6 and 24 years, usually completing the successive stages of education in an uninterrupted manner, usually using education services provided on a full-time basis.

The database constituting the potential sampling frame, comprising 30,350 entities, was properly completed and verified before the sampling work started. The procedure was repeated before each wave of the survey, and consisted of two parallel stages:

1. Telephone verification of a given entity belonging to the survey population.
2. Completion and online verification of the validity of data contained in the various databases.

Prior to each wave of the survey, the sample of institutions and companies providing development services was randomly divided into the main sample and the reserve sample. The size of the main sample was calculated to enable a survey with return rates of 31%, as planned by the survey provider

Sampling

As one of the objectives of the survey was to enable comparisons between different types of entities, an entity's ultimate inclusion in the sampling frame was determined by its belonging to a specific sampling stratum. In the first wave, stratification was determined by type of entity, according to entities' featuring in one of the data sources: SIO database – CKU, CKP, ODZ, upper secondary schools; POL-ON database; entities featuring in BUR; entities featuring in CEAPP or RIS. In the second and third waves, the basis for separating the strata was the division by data source: SIO, POLON and other databases, and the period of their functioning on the market.

Weights

As the same single stratifying variable was used in sampling and data weighting, thus resulting in the same analytical weights of all observations within a stratum, two types of weights were constructed:

1. **dweight_smpl – an analytical weight that combines weights related to the sampl**ing scheme and non-response weights, giving the sample population structure, but summing up to sample size. This weight should be used when performing standard analyses.
2. **dweight_pop – a weight with** the structure and application of dweight_smpl. Once the weight is applied, sample size adds up to population size. This weight should be used in cases where the analysed variables have meaningful interpretations in population categories, for example, to estimate the number of people in Poland who participated in various types of training in the past 12 months.

Table 3. Key information on the particular waves of the survey of institutions and companies providing development services

		2017	2019	2021
Basic information	Dates conducted	24.08.2017-07.12.2017 (quality control 26.02.1028-18.04.2018)	13.09.2019 (29 August pilot survey) – 27.01.2020	20.09.2021-07.01.2022 (17.08-01.09 pilot survey)
	Sampling frame	own base	own base completed by the survey provider in accordance with the provisions of the contract	own base completed by the survey provider in accordance with the provisions of the contract
	Sampling scheme	stratified disproportionate	stratified disproportionate	stratified disproportionate
	Data collection technique	859 CAPI interviews (86%) + 145 CATI interviews (14%)	1009 CAPI interviews (94.1%) + 64 CATI interviews (5.9%)	273 CAPI interviews (27.0%) + 733 CATI interviews (72.5%) + 5 CAWI interviews (0.5%)
	Number of completed interviews	1.004	1073	1011
	Average interview duration	43 minutes	37 minutes	30 minutes
	Net sample realisation rate	32%	49.4%	33.1%
Sampling	Sampling frame relevance	08.2017	08.2019	08.2021
	Stratification variables	type of institution	type of institution + length of time on the market	type of institution + length of time on the market
	Sample size (including the main one)	3.388 (3.226)	3.226	3.226
	Number of clusters	--	--	
	Cluster size	--	--	
Realisation	Sample size used	3.363	2.197	3.061
	Error contacts[46]	252	23	9
	Refusals and other reasons for non-implementation	2.107	1.095	2.041

[46] Described in detail in the methodological report.