The Shape of (Central) Europe 2022
The Future of the Czech Labor Market

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A unique model shows what lies ahead for the Czech labor market and employees from the supply and demand perspective – employment for individual professions and sectors, upskilling and reskilling needs and overall productivity factors. In cooperation with the expert group, we also present a number of measures and recommendations for the state, employers and employees.

Introduction

A labor market model, designed specifically for the Czech Republic at the level of 130 professions in 31 sectors, shows the following prognoses:

• The structure of the labor market will change. There is currently a shortage of approximately 180 thousand workers on the labor market. By 2030, about 330 thousand current employees will have lost their jobs because their positions will no longer exist, while over half a million new jobs will be created.

• The workforce will age. By 2030, the number of people aged 50–65 will have grown by 18%. This group will become the main workforce.

• The number of unfilled positions will grow. The shortage of workers on the market will grow to a “mere” 190 thousand by 2030, but due to the demographic structure of the workforce, the gap will grow rapidly to 400 thousand in 2040.

Unless the state, companies and employees actively adapt to these changes, the Czech economy is at risk of a loss of competitiveness, an increase in unemployment and a slowdown in GDP growth by approximately 0.8 percentage points per year.

Based on a detailed model, expert opinions and foreign experience, this study analyzes future developments in the Czech labor market and proposes measures designed to increase productivity by increasing the number of workers and their qualifications.
The situation and anticipated changes in the labor market

In recent years, with the exception of 2020, the Czech economy has been growing by 3–6% on a year-on-year basis. Apart from the current high inflation, further GDP growth will be hindered mainly by the lack of an effective labor force (in simplified terms, a combination of the education/skills factor and the gross quantity of labor). In addition to the already existing labor shortage, which will continue to grow due to demographic developments, the structure of the labor market will change significantly: some positions will disappear and new ones will appear.

The Czech labor market currently consists of approximately 5.2 million economically active persons. Demand on the Czech labor market has greatly exceeded supply in recent years, resulting in 180 thousand vacancies. The Czech Republic currently has the second highest vacancy rate in the EU, specifically, 4.9% as compared to the European average of 2.3%. At the same time, the Czech Republic has a very low unemployment rate. The current labor shortage is thus - in addition to the structure of the economy - due mainly to the lack of an actively working population, rather than incompatible skills.

Economic impacts

The high number of vacancies represents the unfulfilled potential of the Czech economy of about 3% of GDP (0.4 percentage points of growth), i.e., up to CZK 200 billion in 2030. Failure to adapt to global trends (digitization, robotics, sharing economy, green technologies, etc.) would further entail reduced competitiveness of the Czech economy and increased unemployment with all the secondary negative impacts on individuals and society. By 2030, about 330 thousand people will have lost their jobs due to the disappearance of their positions, which may slow down the annual growth of the economy by about 0.8 p.p., i.e., CZK 400 billion in 2030.

An aging population

After 2030 in particular, unfavorable demographic projections will further amplify the significance of these effects. The aging of the working population may become a major obstacle to maintaining overall productivity. The question is not whether this will happen, but how we will manage to deal with it. The current setup of the labor market and society will have to undergo a fundamental transformation. On the one hand, the stigma of lower

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1) Eurostat JVR (vacancies / all positions), Q4 2021. Our model works with scrubbed data on vacancies, and thus a lower percentage.
performance and the reluctance of companies to hire older applicants (the existence of this phenomenon is a proven fact, the prejudice of lower performance is refuted save for purely manual professions) has to be addressed. On the other hand, older workers will need to be motivated to learn and be open to a more significant change of profession.

Possible solutions
We believe there are two complementary approaches to increasing productivity, maintaining competitiveness, maintaining or reducing the excess of demand over supply, and thus ultimately fulfilling the economic potential of the Czech Republic:

• Increasing education and qualifications – a long-term activity aimed both at the general population, so as to adapt to changes in the economy, and special activities focusing on reskilling workers who will have to switch to other jobs due to the same effects.

• Supplementation of the labor force – short-term measures including increased immigration, a higher proportion of seniors in the labor market (possibly increasing the retirement age), greater involvement of women in the labor force during and after parental leave (or its possible reduction).

The market cannot be relied upon to resolve the situation by itself. The natural tendency of companies is to maximize short and medium-term profits, while measures designed to support education and the general skills of the population bear return in the long run. That is why it is more of the public good – while this goal is in everyone’s interest, the state will have to define the framework and incentives for its achievement.

According to statistics, the Czech Republic is lagging behind in long-term employee training (on the part of both employers and employees), which demonstrably increases productivity and resilience to change. The structure and focus of the Czech economy as a supplier country are not conducive to marked capital accumulation. Therefore, in the absence of resolute action, we cannot expect outperformance to come close to that of Western and Scandinavian countries.
Based on model outputs for individual positions (131 positions at NACE-3\(^3\) level), the Czech labor market can be divided into three categories in light of the expected development of the economy:

<table>
<thead>
<tr>
<th>Employee category</th>
<th>Number</th>
<th>Relevant action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees in positions that will remain relevant but with gradual transformation of their work due to global megatrends</td>
<td>4.2 million workers</td>
<td>Employees will have to adapt to developments in professions so as to maintain productivity in the context of natural economic growth – upskilling(^4)</td>
</tr>
<tr>
<td>Employees in positions threatened by changes in the economy(^5) and newly created positions</td>
<td>1 million workers</td>
<td>Some of the employees will need to change focus and retrain to be able to hold new positions – reskilling(^6)</td>
</tr>
<tr>
<td>Labor shortage for vacancies</td>
<td>190 thousand vacancies</td>
<td>Vacancies need to be filled</td>
</tr>
</tbody>
</table>

**Methodology**

- The labor market model was designed on the basis of scrubbed data at the level of 131 ISCO-3 professions in 31 NACE-1 sectors.
- The model assumes three scenarios of trend development of the economy and productivity and takes into account selected global megatrends that will impact individual sectors and labor market developments (e.g., green economy and electromobility, shift towards a tertiary economy, continued digitization and robotics).
- We have identified a total of 520 thousand future job vacancies that currently do not exist in the Czech Republic, as well as 330 thousand existing jobs that will no longer be needed in the future.
- We have constructed a probability matrix for the transition between 131 professions based on 45 defined educational profiles. We have used this matrix to simulate feasible job changes effected via a change of profession (natural adaptation to a changing labor market) to determine the requisite reskilling types and capacities.
- The resulting labor market model maps the current situation and the projected situation in 2030 and enables us to estimate both the missing jobs and the required reskilling of current employees.

\(^3\) Nomenclature of Economic Activities – Statistical Classification of Economic Activities in the European Community.

\(^4\) **Upskilling** is defined as a voluntary increase and expansion of knowledge and skills of the individual within his/her current professional role.

\(^5\) Output from the model reflecting both supply and demand developments – professions at NACE-3 level with a labor surplus in excess of 10%.

\(^6\) **Reskilling** is defined as learning completely new knowledge and skills for the purposes of a change of role.
Upskilling to remain competitive and to increase productivity and satisfaction

Although a period of change awaits the Czech labor market until 2030, mainly due to global megatrends, most jobs (4.2 million) will change only gradually, and employees will be able to remain in their professions without the need for any major retraining. This does not mean, however, that they will be unaffected by changes in the economy. Employees will have to adapt and develop new knowledge and skills in order to simply keep their jobs. In order to accelerate the rate of economic growth to the level of Western countries, an incremental increase in employee upskilling will be required.

Current status of upskilling

According to European Commission statistics, the Czech Republic ranks among countries with a low percentage of adults in continuing education. In 2021, 5.8% of adults undertook regular monthly education. The EU average is 10.8%, the best countries being Sweden, Finland and the Netherlands with 25–35%. Mandatory occupational training required to perform a job (new technologies, corporate processes, etc.) and safety training is not classified as upskilling in the true sense of the word, because it is not a shift based on the individual’s motivation: it merely enables the performance of the current position.

The individual motivation of a person drives the expansion of skills and qualifications above and beyond the necessary training. While in the past, state support for training focused in particular on the building of infrastructure (e.g., training centers) and supporting institutions and companies, the current trend has shifted towards funding through the support of demand – i.e., the financial incentive has shifted to the trainees who can choose how they wish to take advantage of it.

Upskilling for higher productivity and competitiveness

We believe that genuine upskilling which can help the individual outside their current role, and at the same time, help society and the economy, involves training aimed at expanding knowledge and competencies that are not strictly necessary but that enhance performance in the current role, or that are important for general usefulness and employability. These include digital skills, major world languages and soft skills.

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7) Adult learning statistics 2021 (Dataset: trng_lfse_01), Eurostat
8) 47% of employees indicate that their motivation for education is their sense of incompetence for the work being performed. Educational needs in companies 2019, LMC.
Continuing digitization is one of the main factors that will affect most jobs. The main competences that will need to be built are “digital competences” or more broadly “competences for the digital world”, which include other cognitive\(^9\) and non-cognitive\(^\) skills, in addition to the ability to handle technology. It is a proven fact that a higher percentage of the population with digital skills is associated with higher work productivity.

The labor market model shows that the proportion of jobs requiring at least basic digital skills will have grown from the current 54% to 92% in 2030. Although the Czech Republic is above the EU average in the percentage of the population with at least basic digital skills, it will still need to upgrade the digital skills of up to 2.2 million workers. The education system will partly take care of this need through the emergence of up to approximately 900 thousand digitally skilled graduates. The working and older population, however, in particular will be exposed to this separately.

**Current status and future need for digital skills**

<table>
<thead>
<tr>
<th>% of the population in thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult population</td>
</tr>
<tr>
<td>-2–3%</td>
</tr>
<tr>
<td>~0.2M</td>
</tr>
<tr>
<td>60–70%</td>
</tr>
<tr>
<td>~5M</td>
</tr>
<tr>
<td>30–40%</td>
</tr>
<tr>
<td>~3M</td>
</tr>
<tr>
<td>Expert users</td>
</tr>
<tr>
<td>Programming skills, working with advanced software</td>
</tr>
<tr>
<td>Everyday users</td>
</tr>
<tr>
<td>Day to day users of commonly used software (word and table processors…), orientation in data</td>
</tr>
<tr>
<td>Passive users</td>
</tr>
<tr>
<td>Information searching, basic electronic communication, basic software</td>
</tr>
<tr>
<td>No digital skills</td>
</tr>
</tbody>
</table>

**Work requiring digital skills**

<table>
<thead>
<tr>
<th>Year</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert users</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Everyday users</td>
<td>36%</td>
<td>39%</td>
</tr>
<tr>
<td>Passive users</td>
<td>46%</td>
<td>45%</td>
</tr>
<tr>
<td>No digital skills</td>
<td>9%</td>
<td>9%</td>
</tr>
</tbody>
</table>

**Upskilling – absolute need**

- 2.2M workers will have to acquire digital skills
- Growth due to the increase of digital positions plus the digitization of the current “analogue” positions
- Approx. 900 thousand school graduates will have at least basic digital skills

Language skills will be another important factor. According to Eurostat statistics,\(^{11}\) 79% of the adult Czech population (25–64 years of age) declare that they speak at least one foreign language, which is above the EU average (64%). We are the second worst, however, in terms of the level of knowledge of those who report knowing a foreign language. Sweden, Luxembourg, Denmark, Malta and Finland are the best: more than nine out of ten adults

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9) Reading and comprehension of text, analytical and calculation skills, ability to solve problems...
10) Communication skills, ability to manage, learning motivation, creativity...
11) Foreign language skills statistics 2016 (edat aes 121, edat aes 131), Eurostat.
According to Education First statistics, the Czech Republic currently ranks 27th in the world (23rd in Europe) in proficiency in English as a foreign language. There has been an unfavorable trend in recent years – a gradual decline, with other countries moving ahead of the Czech Republic.

Cognitive and non-cognitive skills are important factors associated with higher productivity. These are important competencies that are essential to success in one’s current job or when changing jobs. In addition to the economic benefits, continuous training, even in areas completely outside the job (e.g., knitting or a sommelier course), has been shown to contribute to building “social capital” and a sense of satisfaction. This is in turn reflected in the economy, for instance, in the form of indirectly increased productivity and reduced sickness.

<table>
<thead>
<tr>
<th>Selected measures</th>
<th>Details</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enactment of the right to time off for training</strong></td>
<td>Every employee will be entitled to time off for further education after working for a particular employer for a certain period of time. The time off may be in the form of unpaid leave or financially supported. While the employer may have a say in the timing of the time off, it must not prevent it. The employee will be entitled to return to work.</td>
<td>FIN, SWE, GER</td>
</tr>
<tr>
<td><strong>Financial support or tax breaks for up-skilling of low-skilled professions</strong></td>
<td>Focus outside the core job duties. The state may define supported areas (digital skills, soft skills). Tax relief/bonus linked to the education of both employees and self-employed people.</td>
<td>GER</td>
</tr>
<tr>
<td><strong>Mandatory publication of structured information on employee training</strong></td>
<td>Indicator for job seekers as to how the relevant employer supports/enables continuous training.</td>
<td>USA</td>
</tr>
<tr>
<td><strong>Direct financial support for individuals</strong></td>
<td>Shift towards supporting individual responsibility for upskilling. Form: co-financing, vouchers, individual account. Scope: selected groups, persons who register voluntarily, across the board... Funding options depending on scope – state funding (e.g., out of funds), mandatory funding by companies (e.g., in connection with tax relief), individual “saving” for training programs.</td>
<td>FRA</td>
</tr>
<tr>
<td><strong>Increasing self-motivation to educate oneself</strong></td>
<td>A financial bonus commitment in addition to unemployment benefits if the employee underwent training previously (continuous positive motivation).</td>
<td></td>
</tr>
</tbody>
</table>

08
Reskilling of workers who are at risk of loss of jobs or who will lose their jobs

Approximately 1 million workers work in professions that are at risk of job cuts and overstaffing. In total, approximately 330 thousand workers will have lost their jobs beyond regular turnover by 2030; their positions will disappear and they will no longer be able to work in their professions. This will happen gradually, over a period of years.

Compared to the current situation, the labor shortage will change – there will be a higher demand for workers with a greater individual added value at the expense of unskilled workers and workers performing easy-to-automate activities.

Change of structure of gaps in the labor market towards more highly qualified positions

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Professionals</td>
<td>12%</td>
<td>17%</td>
</tr>
<tr>
<td>Technicians and associate professionals</td>
<td>16%</td>
<td>14%</td>
</tr>
<tr>
<td>Clerical support workers</td>
<td>9%</td>
<td>3%</td>
</tr>
<tr>
<td>Service and sales workers</td>
<td>15%</td>
<td>19%</td>
</tr>
<tr>
<td>Skilled agr., forestry and fishery workers</td>
<td>2%</td>
<td>0%</td>
</tr>
<tr>
<td>Craft and related trades workers</td>
<td>15%</td>
<td>20%</td>
</tr>
<tr>
<td>Plant and machine operators and assemblers</td>
<td>17%</td>
<td>21%</td>
</tr>
<tr>
<td>Elementary occupations</td>
<td>7%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Increase primarily in the IT sector
Decline due to lower demand for intermediation
Impact of digitization and automation
Increase due to a shift towards the tertiary sector
Shortage in particular in the construction industry
Surplus in workers manning machinery, shortage of assembly workers and transportation equipment drivers (with no massive development of autonomous transport by 2030)

Top 20 professions at risk by 2030

The labor market model shows that due to demography, number of graduates, megatrends, changes in productivity, and demand, the biggest labor surplus will occur in the segment of laborers working in manufacturing, workers manning machinery and intermediation of services.

12) Professions at NACE-3 level with a theoretical surplus of labor over 10% in 2030.
Which professions will suffer from labor shortages?

The surplus in most of the above positions is due to the impact of global trends, such as digitization and automation or the phase-out of industrial sectors. In some areas, the result is less intuitive, such as lawyers and physicians, especially in light of the current situation in the healthcare sector. It should be noted that the model is nationwide and without any regional differentiation. Moreover, a more detailed analysis shows that the current shortage of physicians is peaking this year and due to demographics (a decrease in the number of retiring physicians from about 2 thousand per year to 700 in the coming years) and increases in the capacity of medical specialties to over 2.5 thousand graduates per year, the number of physicians entering the healthcare system will be markedly higher than the number of physicians leaving. This is despite the fact that, due to the aging of the population, the model assumes a demand which is higher than the current one. This does not mean that physicians will be unemployed or that they will require any significant retraining. It can be expected that a reduction in overtime and an improvement in the quality of care will occur. In addition, the longer-term outlook shows that there will be a decline again from 2034 onwards.

A similar phenomenon can be observed in the legal profession (demographics and law school capacity) and teachers (absorption of surplus due to class size reduction). In contrast, the arts professions are among those difficult to model – these are estimates based on the number of artists relative to the population and school capacity.
We estimate that most employees who will lose their jobs will be able to shift “organically” to another profession. At the same time, there will be a gradual adjustment of the capacity of schools and of the number of graduates. The surplus in the form of reduced employability will not manifest itself immediately, and at the same time, schools have a certain “momentum” due to the length of study. The existing and newly created jobs (520 thousand positions in total) provide, however, sufficient scope for all candidates who will wish to work and will be open to reskilling for a new career.

**Top 15 professions with the worst labor shortages**

Based on economic changes, labor shortages can be expected to arise in the following professions:

- Building Frame and Related Trades Workers
- Cooks
- Software and Applications Developers and Analysts
- Painters, Building Structure Cleaners and Related Trades Workers
- Waiters and Bartenders
- General Office Clerks
- Engineering Professionals (excluding Electrotechnology)
- Mobile Plant Operators
- Assemblers
- Heavy Truck and Bus Drivers
- Personal Care Workers in Health Services
- Mining, Manufacturing and Construction Supervisors
- Physical and Engineering Science Technicians
- Other Stationary Plant and Machine Operators
- Building and Housekeeping Supervisors
- Labor shortage in absolute numbers

In total, there are 520 thousand positions which are opportunities for the 330 thousand workers who will have to change careers. The trajectory of individual reskillings cannot be accurately predicted, however, based on similarities between industries, the educational profile of employees and the labor market transition matrix, we estimate that approximately 275 thousand workers will find employment with relative ease. They will require only rather
simple reskilling or on-the-job training. Of the 520 thousand jobs, about 245 thousand will thus remain vacant after the “organic reallocation”:

<table>
<thead>
<tr>
<th>ISCO-3</th>
<th>Profession</th>
<th>Resultant shortage (thousands)</th>
<th>Education (^{13}) (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>711</td>
<td>Building Frame and Related Trades Workers</td>
<td>52.8</td>
<td>3.2</td>
</tr>
<tr>
<td>512</td>
<td>Cooks</td>
<td>28.8</td>
<td>3.2</td>
</tr>
<tr>
<td>251</td>
<td>Software and Applications Developers and Analysts</td>
<td>23.6</td>
<td>7.7</td>
</tr>
<tr>
<td>713</td>
<td>Painters, Building Structure Cleaners and Related Trades Workers</td>
<td>21.6</td>
<td>3.1</td>
</tr>
<tr>
<td>311</td>
<td>Physical and engineering science technicians</td>
<td>18.3</td>
<td>5.3</td>
</tr>
<tr>
<td>214</td>
<td>Engineering Professionals (excluding Electrotechnology)</td>
<td>14.5</td>
<td>7.2</td>
</tr>
<tr>
<td>312</td>
<td>Mining, manufacturing, and construction supervisors</td>
<td>14.3</td>
<td>4.1</td>
</tr>
<tr>
<td>834</td>
<td>Mobile plant operators</td>
<td>10.9</td>
<td>3.1</td>
</tr>
<tr>
<td>252</td>
<td>Database and network professionals</td>
<td>6.9</td>
<td>6.8</td>
</tr>
<tr>
<td>322</td>
<td>Nursing and Midwifery Associates (^{14})</td>
<td>6.7</td>
<td>4.2</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>245</td>
<td></td>
</tr>
</tbody>
</table>

There will be multiple and chain movements that cannot be completely captured. The figures provided are indicative only. The remaining 55 thousand workers (out of 330 thousand) will, however, presumably also find employment after a significant career change. This will require openness and interest on the part of the individuals, as well as support from the state and companies.

Labor offices currently spend approximately CZK 120 million per year on reskilling and upskilling. To cover only the necessary reskilling, there would be a need to spend approximately CZK 300–400 million annually. Therefore, the current projection of the capacity of reskilling organized by labor offices does not cover even half of the expected reskilling need. By comparison, about 10 billion is spent on unemployment benefits. The Czech Republic also loses part of its economic output due to job seekers staying out of a job for extended periods of time. This is particularly true for older job seekers. The unemployed in the 50+ category remain unemployed, for example, for 18 months on average. This constitutes a pure burden for the state budget.

13) Average number of years of study since completion of elementary education.
14) A further 2 thousand (approx.) with specialization.
Opportunity for a fundamental change of approach

In addition to the requisite capacity, there is also the need to change the internal attitudes of individuals and the overall approach of the state and companies to people losing their jobs. Massive redundancies due to an economic crisis cannot be predicted or modeled in advance. The affected employees are not prepared mentally or in terms of abilities, for a career change. The state can only react to the influx of people who have lost their jobs and help them when it is too late.

We now know in advance, however, which employees are at risk, and the reactive paradigm can thus be changed. This involves a shift from dealing with current “unemployment” to proactively addressing future “employability”. Labor offices should cease to be distributors of benefits to the unemployed and should instead become career centers for vulnerable groups, while they are still employed. As a last resort, immediately after a job loss, an active assessment of potential (e.g., by an assessment center) ought to be performed, with placement in a training program to follow as soon as possible. Even if the person does not want to change profession, the period of unemployment is ideal for upskilling (digital competences, soft skills...). Otherwise, after a certain period of time, motivation and habits will be lost and employability potential will decline.

<table>
<thead>
<tr>
<th>Selected measures</th>
<th>Details</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction of incentives (and obligations) for companies to outplacement their employees</td>
<td>Increasing labor market flexibility (facilitation of dismissal) at the cost of higher participation requirements for further employment of employees.</td>
<td>FIN, BEL, FRA</td>
</tr>
<tr>
<td>Proactive career services of labor offices</td>
<td>Service of labor offices for smaller and medium-sized employers. Promotion of own positions in large companies and employers.</td>
<td>UK</td>
</tr>
<tr>
<td>Focusing priority on direct financial support of individuals</td>
<td>Employees in selected at-risk professions can be selected as a pilot group, for instance, for individual training accounts (lower cost than a blanket introduction).</td>
<td>FRA</td>
</tr>
<tr>
<td>Second career support for selected groups/professions</td>
<td>Financial and non-financial individual support (co-funding of training, support even in voluntary unemployment while studying for a qualification...) if the individual decides by himself/herself to train for a new profession. A list of professions can be introduced, and graduated support provided according to the expected increase in productivity/added value.</td>
<td></td>
</tr>
</tbody>
</table>

Investments in reducing the term of unemployment have a major benefit in reducing the duration of welfare payments. In addition, it may be synergized with the digitization of the agenda and tools as a step towards the digital upskilling of the population.
Therefore, the following are the basic principles for managing the upcoming trans-
formation of the labor market without a negative impact on employment:

1. Pro-active identification of vulnerable groups by sector and profession still before job
   loss – the labor market model makes this possible.
2. Maximum employer involvement in the reskilling process in at-risk professions out-
   side necessary intervention by labor offices.
3. Transferring responsibility to the employees themselves through information, moti-
   vation and facilitation of processes.

This approach aims in particular at reducing the duration of economic inactivity, and
increasing the scalability of the system and the effectiveness of the training proper.

**Supplementing the labor shortfall**

Unless there is a significant increase in the skills of the existing workforce beyond adjust-
ment to trends, the missing workers will have to be found outside the current active popula-
tion. Three sources can help fill the surplus between demand and supply, which we estimate
at 190 thousand in 2030. These are foreign workers and higher participation of the econo-
mically inactive population: the population in the 50+ category and people taking care of
children.

**Increasing the number of foreign workers**

Foreigners are a natural tool to resolve the labor shortage. In the Czech Republic, they make
up around 14% of the workforce, even with only 5% of foreigners living permanently in the
population. Over the last ten years, the number of foreign workers has increased by an aver-
age of about 27 thousand per year.

The current refugee crisis, which is primarily humanitarian, is also a unique oppor-
tunity to supplement the missing labor. Many studies show that in most historical cases, the
reception of refugees has had favorable economic benefits. Negative social and socio-econo-
mic impacts can arise mainly due to cultural differences and lack of integration. From
a macroeconomic perspective, increasing the population with a good age structure has
a positive impact on the long-term growth of GDP.

**Increase in the number of workers in the 50+ age group**

In light of projected demographic developments, employment in the 50+ category and em-
ployers’ attitudes to these workers will become increasingly important and will influence
the overall development of the economy.
Models show that an across-the-board increase in retirement age will have only a partial effect on the labor market. Due to the lower compatibility of the current pre-retirement workforce, in order to fully cover the long-term shortfall, the retirement age would need to be raised by up to eight years by 2050 which would also have many negative consequences due to the impact of only partial employability.

Selective measures aimed at motivating and supporting pre-retirement and retirement-age workers (reducing early retirement and increasing the participation of retirees in the labor market) can have the same quantitative positive effect on the occupational gap – but without the negative consequences.

Measures to support this objective should target both employers and workers at a much earlier age, as the quality of work, working hours and motivation during working life have a major impact on the length of active labor market participation. A higher percentage of part-timers in the 55–65 age group is associated with longer working lives. The Czech Republic has one of the lowest percentages of part-time work in this category (8% of all employment vs. 18% EU average) and is also below the average for active working life. All European countries with a higher average working life expectancy have a higher percentage of part-time jobs in this age category.

Even a small extension of the working life by a few months offsets a much longer period (on the order of years) of preferential part-time work in terms of overall economic benefits. Thus, if part-time work leads to an extension of working life, the economic effect is clearly positive. It will also be necessary to motivate people in higher age groups to be willing to learn new things and possibly change careers to adapt to current demands.

The enactment of the right to work part-time at pre-retirement age appears to be of key importance. Greater attractiveness can be ensured by the employer’s obligation to actively offer such working hours, with possible concessions and bonuses if it is used.

**Greater involvement of women during and after parental leave**

Approximately 240 thousand to 270 thousand people are directly involved in taking care of children under the age of three. Over 98% of them are women. Overall, around 570 thousand women are outside the labor market due to study, childcare or earlier retirement. This represents a huge potential for an additional labor force.

Foreign experience shows that it is impossible to prevent the outflow of women from the labor market without the greater involvement of men in childcare. Another important
factor for women’s employment after parental leave is maintaining contact with the world of work. Companies can be helpful in this regard, for example, by sending information on a regular basis, allowing them to keep their computers and/or access to the intranet, offering days off for employees on parental leave, etc., but also by employees actively maintaining contacts, skills and knowledge.

An essential condition is to increase the availability of institutional care so that carers themselves find it worth their while to participate in the labor market at least partially. While the introduction of the “children’s groups” format has helped, with less than 10% of carers involved in the labor market, we are still well below the EU average of 34%.

Studies also suggest that the possibility for mothers to continue working and pursue a career leads to higher birth rates. Given the unfavorable demographic development of the Czech population, this ought to be taken into account as a markedly positive effect that justifies even the higher direct costs.

### Conclusion and strategic recommendations

Our project has focused on increasing the performance of the Czech economy through reskilling and upskilling, which will be needed due to market developments and the impact of global megatrends. This issue turns out to be not only a question of increasing performance above the current level, but also a question of maintaining the current growth rate. Already by 2030, there will be significant changes in the labor market, and both current and future workers need to be prepared for these, otherwise there is a risk of increased unemployment, reduced competitiveness of the Czech Republic and a slowdown in the economy. The detailed model has shown that, in addition to the need to increase and change competences, the Czech economy will also be hindered by labor shortages which will increase in the future.

This study is based on data and trends up to 2021 and models the projected development of the labor market until 2030. Reskilling and upskilling will have to respond, however, to current developments and will certainly not end in 2030. The specific demographic curve (the impact of the generation of children born during President Husák’s era) will continue to exert growing pressure on productivity. Advances in technological developments will pose new and new challenges for the workforce. The state should aim to build, as soon as possible, a robust yet flexible system that supports and motivates individuals to educate themselves and to remain employable in the long run.
Finance is an obvious constraint for the proposed measures, both on the side of the state budget and on the side of companies. Education is often one of the first areas to suffer cutbacks when necessary. The Czech Republic has long ranked among the last EU countries in terms of active employment policy spending. It needs to be stressed that effective spending (apart from unconditional unemployment benefits)\(^{16}\) is primarily an investment. A longer-term perspective needs to be applied to cost calculations. Omission to invest in human capital and insufficient support to individuals to adapt to changes in the economy will clearly lead to a slowdown in growth, reduced competitiveness, lower state budget revenues and, as a result, many times higher expenditure in the future.

The most important factor in managing these challenges will be to correctly set up and balance a comprehensive array of measures and spending on activities with the greatest impact on workers’ skills. Reskilling and upskilling are fundamental and non-negotiable tools for increasing labor productivity and bringing us closer to Western countries.

- **Reskilling and upskilling as a strategic priority of the state.** Creation of a central program/dedicated action group coordinating activities (conceptual and legislative changes) focused on upskilling and reskilling under the auspices of the Ministry of Labor and Social Affairs, with the involvement of the Ministry of Industry and Trade, the Ministry of Education, Youth and Sports, and the Ministry of Finance.

- **Strategic communication of expected changes.** Publication of at-risk professions and professions in short supply, support for shifting mental responsibility for employability, support for a turnaround in thinking and approach to long-term education.

- **Focus on prevention.** Shift to proactive preparation for expected changes in the labor market, including a change in the functioning of the labor office towards more active career guidance, especially for vulnerable groups.

- **The state as an example for private companies.** The public sector with nearly a million of employees (about 460 thousand are state employees) is the largest “employer” in the Czech Republic and should therefore set an example in the upskilling and reskilling of its employees and in engaging inactive groups within the population.

\(^{16}\) This measure naturally must and ought to exist in some form as an element of the welfare state.
• Promoting motivation and changing the powers and responsibilities to individuals, employers and local governments. Facilitating flexible adjustment of the system by means of parameters reflecting the local situation, methodological support from central authorities, and setting up criteria for review of the results achieved.
Acknowledgments

The authors would like to thank the AICE expert group for their valuable input on the topics addressed in this report:

- Milan Vašina, Executive Director, Aspen Institute CE
- Josef Müller, Deputy Director, Aspen Institute CE
- Kateřina Štěpánková, Deputy Minister for Employment, Ministry of Labor and Social Affairs
- Jana Skalková, Adviser to the Minister, Ministry of Labor and Social Affairs
- Jakub Drbohlav, Deputy Head of Department of Regional Education Management, Ministry of Education, Youth and Sports
- David Navrátil, Chief Economist, Česká spořitelna
- Tomáš Ervín Dombrovský, Labor Market Analyst, LMC
- Daniel Prokop, Sociologist and Founder, PAQ Research
- Martin Kálovec, President, BCG Business Club
- Martina Grygar Březinová, Consultant, Egon Zehnder
- Peter Chrenko, Founder, People Experience Centre
- Michal Kadera, External Relations Manager, ŠKODA AUTO
- Lukáš Němec, Life-long Education Adviser, ČMKOS

The authors would further like to thank: Jan Siuda, Elizaveta Konstantinova, and Štěpán Koláček (all of BCG) for preparing the labor market model; and outside advisers for consultations: Anna Dumont (Ministry of Labor and Social Affairs), Ladislav Frühauf (České priority) and Michal Kejak (CERGE-EI).
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Dušan Šenkypl, Jan Barta, David Holý a Uršula Králová

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