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The low-skilled in the Czech Republic

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Alena Bičáková

Doktorát z ekonomie získala na Johns Hopkins University a od roku 2007 je členem akademického sboru na CERGE-EI, kde vyučuje ekonomii v doktorském programu a pracuje jako výzkumnice Národohospodářského ústavu Akademie věd. Ve svém výzkumu se věnuje především trhu práce, v poslední době například vztahu mzdové nerovnosti a nezaměstnanosti, genderovým mezerám v nezaměstnanosti a vlivu selekce na míru nezaměstnanosti.

Received her doctorate from economics at Johns Hopkins University and since 2007 is a member of the academic staff at CERGE-EI, where she teaches economics in doctoral programme and works as a researcher as well. In her research she focuses mainly on the labour market, most recently on the relationship between wage inequality and unemployment, gender gaps in unemployment and the influence of the selection on the unemployment rate.



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Absolvovala magisterské studium na Univerzitě Karlově a na CERGE-EI, kde nyní dokončila doktorské studium. Její dizertační práce se zabývá rolí veřejných politik na zaměstnanost žen. Ve svém výzkumu se zabývá především zaměstnaností a nezaměstnaností žen, chudobou, daňově-dávkovými systémy a rodinnými politikami.

Received her Masters degree at the Charles University in Prague and CERGE-EI, where she now completed doctoral studies. Her dissertation deals with the role of public policies on women's employment. Her research mainly deals with employment and unemployment of women, poverty, tax-benefit systems and family policies.

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The low-skilled in the Czech Republic¹

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Summary

- This study provides evidence on the characteristics, labor market conditions, and labor market outcomes of the low-skilled in the Czech Republic. It considers the most relevant policies to ensure the long-term inclusion of the low-skilled in the labor market. We use the standard definition of the low-skilled as those individuals with primary or lower-secondary education.
- The low-skilled in the Czech Republic form less than 7% of working age individuals. While the share of the low-skilled has been declining over time, there are indications that the trend may have reversed in recent years, as a rise in early school-leaving has increased the share of the low-skilled among the youngest cohorts. It is alarming that these new cohorts of low-skilled early school-leavers have very high inactivity rates.
- While the share of the low-skilled in the Czech working age population is relatively small, they fare much worse in the labor market than the rest of the population and also worse than the low-skilled in other EU countries. Over the 2014-2016 period, the employment rate among the low-skilled was as low as 41.8%, the share of unemployed was 11.4%, and the share of inactive was as high as 46.8%.
- What policies, then, can help to (re)integrate the inactive low-skilled into the labor market? Currently, the non-working low-skilled have low incentives to work. Their participation tax rates are as high as 50%, and thus half of their potential earnings would be lost in taxes paid or benefits lost if they started working. First, reducing tax rates for the low-skilled may be the most important tool to stimulate their participation in the labor market. Second, it is crucial to employ preventive measures against early school-leaving to stop the increasing share of the low-skilled among the youngest cohorts and avoid further accumulation of the low-skilled

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population. Third, given that substantially more women than men are in the inactive low-skilled population, effective reintegration policies should be tailored to the specific needs of women, such as decreasing the tax burden for secondary earners, increasing the supply of affordable child care, and providing more flexible working conditions.

- As a low-level of skills is often combined with other socio-economic problems that may further impede the return of the low-skilled to the labor market, effective (re)integration policies must also address these aspects. For example, interventions that focus on financial literacy or financial contributions that support regional mobility may be important supplementary measures to assist the low-skilled.
- The low-skilled who participate in the labor market also encounter many problems. They are highly likely to be long-term unemployed (61% of unemployed have been searching for a job for more than one year) and they often become unemployed due to the end of a temporary contract. The high prevalence of temporary contracts among the employed low-skilled (42% work on temporary contracts) is also connected to very short job tenure (median tenure of 2.2 years).
- In 2016, low-skilled jobs paid a median gross monthly wage of CZK 18,252, but the pay varied substantially from CZK 11,093 at the 10th percentile to CZK 29,261 at the 90th percentile. The low-skilled in the public sector earn much lower wages than those in the private sector, and the wage levels also differ by occupation. Elementary Occupations are the lowest paid, in which almost one third of the low-skilled work (50% of low-skilled workers in this occupation earn less than CZK 13,000 per month). Further, almost 40% of the low-skilled work as Plant and Machine Operators and Assemblers, earning a median wage of CZK 22,000.
- What policies can help the low-skilled acquire and retain a permanent (and a well-paid) job? First, the low-skilled typically have a much higher unemployment rate than other skill-groups. While active labor market policies assist job seekers in finding employment, the low-skilled participate mostly in public work programs, which are the least effective of the activating measures. There is clearly a need for well-tailored training programs that target specifically the low-skilled and that combine theory with practice provided by the employers. Second, the low-skilled often work on the basis of temporary contracts or one-off job agreements and struggle to retain a stable job. Additional incentives for employers to offer the low-skilled long-term contracts and invest in their skills via on-the-job training could help increase job stability. However, evidence that some low-skilled workers are not attractive to private employers, even when their jobs are partly supported by a state subsidy, implies that upskilling (i.e. acquiring labor-market relevant skills and competencies via lifelong learning) is the most important long-term solution to improving the situation of the low-skilled.

Osoby s nízkou kvalifikací v České republice⁴

BŘEZEN 2018

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Shrnutí

- Tato studie mapuje charakteristiky osob s nízkou kvalifikací v České republice, jejich fungování na trhu práce a diskutuje vhodné formy intervencí na zvýšení jejich začlenění na trhu práce. Pojmem osoba s nízkou kvalifikací jsou v této studii míněny osoby se základním nebo neukončeným středoškolským vzděláním.
- Osoby s nízkou kvalifikací tvoří v České republice méně než 7 % lidí v produktivním věku. Ačkoli tento podíl dlouhodobě klesal, v posledních letech zřejmě dochází k obratu. Příčinou je rostoucí výskyt předčasných odchodů ze vzdělávání u mladých ročníků. Je znepokojivé, že právě mladí odcházející ze školy s velmi nízkou kvalifikací vykazují zvyšující se míru ekonomické neaktivity.
- Osob s nízkou kvalifikací je v České republice poměrně málo a na pracovním trhu se jim daří výrazně hůře než osobám s vyšším vzděláním v České republice a také podstatně hůře než osobám s nízkou kvalifikací v jiných zemích EU. V letech 2014 až 2016 byla míra zaměstnanosti osob s nízkou kvalifikací na úrovni pouhých 41,8 %, podíl nezaměstnaných činil 11,4 % a podíl neaktivních dosahoval celých 46,8 %.
- Jaké politiky by mohly přispět k (re)integraci neaktivních osob s nízkou kvalifikací na trhu práce? Za prvé, osoby s nízkou kvalifikací jsou k práci motivovány jen minimálně. Participační daňová sazba u nich dosahuje 50 %, takže přicházejí o polovinu potenciálního výdělku na daních, které by museli platit, nebo na dávkách, které by po nástupu do zaměstnání přestali

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dostávat. Zdá se, že nejvýznamnějším nástrojem pro reintegraci osob s nízkou kvalifikací na trhu práce je tedy snížení daňových sazeb, kterým čelí. Za druhé, má-li se zabránit dalšímu zvyšování počtu osob s nízkou kvalifikací, je nezbytné zavést preventivní opatření proti předčasnému odchodu mladých ze vzdělávání. Za třetí, mezi neaktivními osobami s nízkou kvalifikací je podstatně více žen než mužů, takže je nutné zaměřit se také na politiky cílené na zvláštní potřeby této skupiny, například snížení daňového zatížení pro druhé výdělečně činné osoby v domácnosti nebo rozšíření nabídky finančně dostupné péče o děti a pružných pracovních podmínek.

- Jelikož je nízká úroveň kvalifikací často spojena s dalšími sociálně-ekonomickými problémy, které mohou rovněž bránit v integraci na trh práce, musí účinné politiky zaměřené na (re)integraci osob s nízkou kvalifikací na trhu práce řešit i tyto aspekty. Významnými doplňkovými opatřeními mohou být například intervence, které se soustředí na finanční gramotnost osob s nízkou kvalifikací, nebo finanční příspěvky, které podpoří jejich regionální mobilitu.
- Osoby s nízkou kvalifikací čelí řadě problémů i na trhu práce. Často jsou dlouhodobě nezaměstnané (61 % nezaměstnaných hledá práci déle než jeden rok) a stávají se nezaměstnanými, protože jim skončila pracovní smlouva na dobu určitou. Vysoká míra výskytu pracovních smluv na dobu určitou nebo jiných forem krátkodobých smluv u osob s nízkou kvalifikací (42 % pracuje na dobu určitou) je také spojena s krátkou dobou zaměstnání (medián délky zaměstnání činí v této skupině pouze 2,2 roku).
- Mediánová hrubá měsíční mzda osob s nízkou kvalifikací v roce 2016 činila 18 252 Kč, ale mzdy se výrazně lišily pro různé skupiny pracovníků, a to od 11 093 Kč v 10. percentilu do 29 261 Kč v 90. percentilu. Ve veřejném sektoru vydělávají lidé s nízkou kvalifikací výrazně méně než v soukromém sektoru. Výše mzdy nízkokvalifikovaných se také liší podle povolání. Téměř jedna třetina osob s nízkou kvalifikací pracuje jako pomocní a nekvalifikovaní pracovníci, což je nejhůře placená kategorie povolání (polovina těchto pracovníků vydělává méně než 13 000 Kč hrubého měsíčně). Současně téměř 40 % nízkokvalifikovaných osob pracuje jako obsluha strojů a zařízení a vydělává v těchto povoláních mediánovou mzdu 22 000 Kč.
- Jaké politiky by mohly pomoci osobám s nízkou kvalifikací získat a udržet si stabilní a dobře placenou práci? Za prvé, obvykle je u nich výrazně vyšší míra nezaměstnanosti než u skupin s vyšším vzděláním. Aktivní politiky zaměstnanosti by jim v této situaci měly pomoci najít práci. Osoby s nízkou kvalifikací se ale většinou účastní programů veřejně prospěšných prací, které jsou ze všech aktivačních opatření nejméně účinné. Bylo by tedy vhodné zavést cílené školicí programy uzpůsobené osobám s nízkou kvalifikací, které spojí teorii s praxí, kterou poskytnou samotní zaměstnavatelé. Za druhé, osoby s nízkou kvalifikací velmi často pracují na základě dočasné pracovní smlouvy nebo na dohodu o provedení práce a mají problém udržet si stálou práci. Stabilitu zaměstnání osob s nízkou kvalifikací by mohly posílit pobídky pro zaměstnavatele k tomu, aby těmto osobám nabízeli dlouhodobé smlouvy a investovali do jejich dovedností prostřednictvím profesní přípravy na pracovišti. Bohužel se ale ukazuje, že osoby s nízkou kvalifikací často nejsou pro zaměstnavatele atraktivní pracovní silou, ani když jsou částečně dotované státem. Z toho tedy vyplývá, že nejdůležitějším dlouhodobým řešením vedoucím ke zlepšení situace osob s nízkou kvalifikací je rozšiřování jejich dovedností, především pak získávání dovedností a schopností žádaných na trhu práce formou celoživotního vzdělávání.

1. Introduction

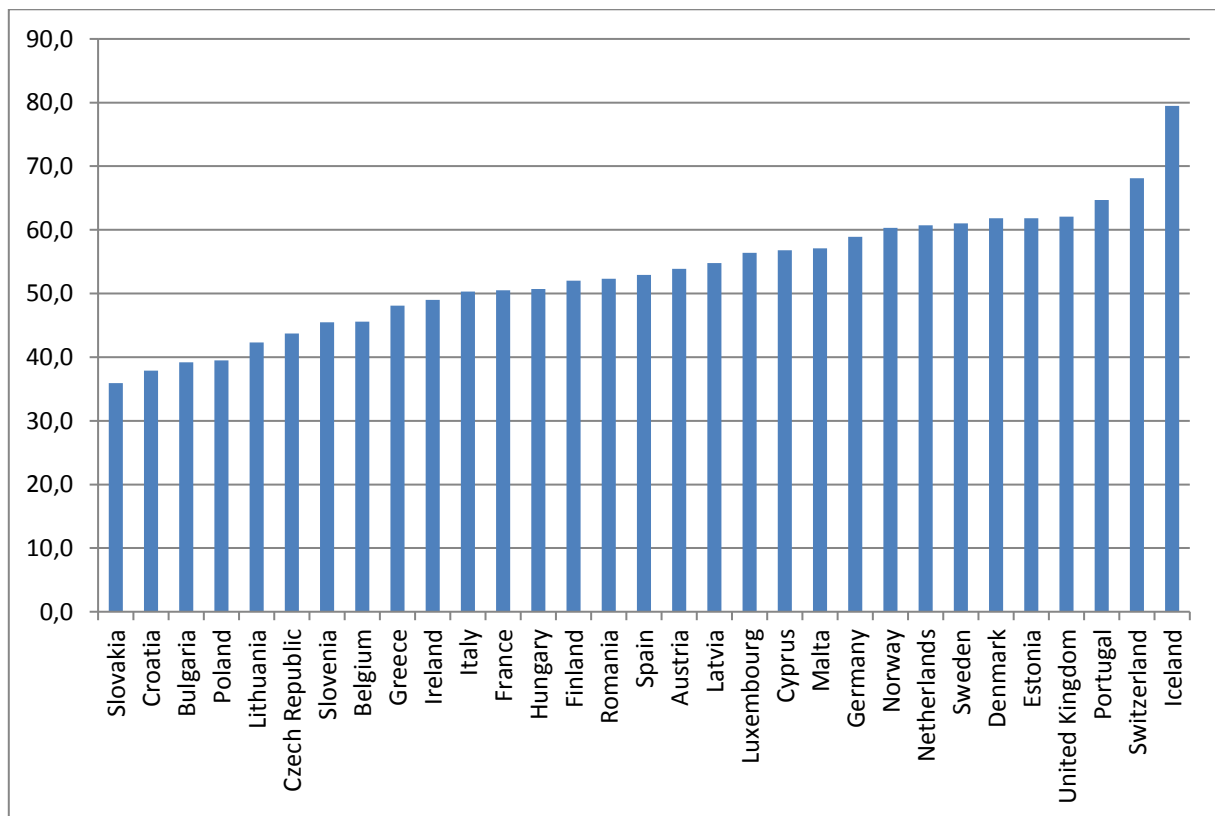
Over the last two decades, EU labor markets have undergone substantial structural changes with increasing value placed on skills. The long-term decline in the demand for low-skilled workers is expected to continue. The situation of the low-skilled worsened after the economic and financial crisis of 2008; they were one of the most affected groups with long-lasting consequences. Their employment rate is typically very low, and the economic and social costs of the non-working low-skilled are substantial. Re-integration of the low-skilled into the labor market is therefore one of the key policy challenges for EU countries. The documented evidence and the existing economic and policy research are consistent in their recommendations: 1. Upskilling of the low-skilled is the way to bring them back to the labor market permanently; 2. Investing in providing skills to the low-skilled (through adult and lifelong learning) pays off when compared to the related costs. However, efficient reintegration policies tailored specifically to the needs of the low-skilled must be based on a full understanding of the characteristics of the low-skilled and of their current position in the labor market (for evidence regarding the EU and policy discussion, see Cedefop 2017). The purpose of this study is to contribute to the policy debate and provide policy makers with additional evidence on the situation of the low-skilled in the Czech Republic.

The labor market in the Czech Republic has recently been very tight and is currently suffering from labor shortages rather than excess labor and high unemployment. The Czech Republic currently has one of the lowest unemployment rates in the EU (see Table 1 in the Joint Employment Report 2017). It is also among the countries with the lowest share of adults who are low performers in basic skills (see Figure 10, as above). Despite the positive overall performance of the Czech labor market, there are groups that remain underrepresented in the labor force (see for example Country Report Czech Republic 2017) and that perform much worse in the Czech Republic compared to the EU average.

The low-skilled in the Czech Republic belong to one of these groups. Although they form less than 7% of working age individuals, they fare much worse than the rest of the population and worse than the low-skilled in other EU countries. The 43.7% employment rate of the low-skilled in the Czech Republic is among the lowest in the EU (see Figure 1). The participation rate among the low-skilled is only 54.8% compared to the EU average of 64% and the unemployment rate is 20.4% compared to the average of 16.1% in the EU (Eurostat, 20-64-year-olds, low-skilled defined as ISCED 2011 levels 0-2).

This study aims to increase our understanding of the characteristics and position of the low-skilled in the Czech Republic. In particular, we use available microdata to describe the key characteristics of the low-skilled (who they are and where they reside) and their labor market outcomes (how they perform in the labor market). We consider labor market policies that could mobilize the low-skilled and ensure their long-term inclusion in the labor market.

Figure 1. Employment Rate Among the Low-skilled (%)



Source: Eurostat, people 20-64 years old, low-skilled defined as ISCED 2011 levels 0-2.

This study is structured as follows: We first describe the data and methodology used in the analysis. In the next two sections, we focus on the characteristics of the low-skilled, their labor market performance, and their jobs. The next two sections present evidence on the motivation of the low-skilled to work and on the distribution of the low-skilled and the variation in their performance across regions. The seventh section considers an alternative definition of the low-skilled as the low-paid. The eighth section discusses – based on the presented evidence – the main causes of the poor labor market performance of the low-skilled and suggests relevant policy recommendations. The ninth section concludes.

2. Data Description and Methodology

This study takes advantage of three main datasets: the Czech Labor Force Survey (LFS), the Average Earnings Information System (AEIS), and the Czech Survey of Income and Living Conditions (SILC).

The LFS is collected by the Czech Statistical Office and is a large quarterly dataset providing detailed individual-level information about the highest level of education, labor market status, and other socio-demographic characteristics of the surveyed individuals. However, it has no information about wages. We use LFS data for years 2014-2016.

The AEIS data are collected by a private consulting company, Trexima Ltd, which produces wage statistics for the Czech Ministry of Labor and Social Affairs. The AEIS data set has extensive information on earnings, hours paid, and the personal characteristics of employees (as well as employer characteristics) in the Czech Republic.⁷ We use AEIS data for years 2014-2016.

The SILC is collected by the Czech Statistical Office as a part of the EU-SILC project. We use the latest available SILC issue (SILC 2016) along with a TAXBEN model that simulates the taxes and benefits for individuals and households in the SILC dataset (for details on the TAXBEN model, see Dusek, Kaliskova and Munich 2013). We use the TAXBEN model and the SILC data for the sole purpose of describing the work incentives of low-skilled individuals.

We focus on the population of individuals aged 20-64, unless otherwise stated. The definition of the low-skilled is based on the highest level of education successfully completed by a respondent, which is standard in the literature (e.g. European Commission, 2014). We define the low-skilled as those with primary or lower-secondary education, i.e. the ISCED 2011 categories 0-2. For comparisons across skill levels, we define the other three skill categories as follows: Lower middle-skilled are those with upper-secondary education without a school-leaving qualification (ISCED category 3); upper middle-skilled are those with upper-secondary education with a school-leaving qualification or post-secondary non-tertiary education (ISCED categories 3 and 4); and high-skilled are those with tertiary education (ISCED categories 5 and 6).

⁷ For more information, see: <https://www.ispv.cz/en/about-ispv.aspx>

In Section 7, we consider an alternative definition of the low-skilled based on their productivity as reflected by their (potential) full-time equivalent gross monthly wage. We also discuss the pros and cons of this definition and barriers to its application in practice.

The economic status of individuals in the sample is determined based on their self-reported status in the LFS data. We use the standard classification of economic status from the International Labour Organization (ILO). According to the ILO definition, an individual is unemployed if s/he does not have a job, is actively seeking a job, and is ready to start working within two weeks. Employed persons are those aged 15 years and more who either worked for at least one hour for pay or profit or were not at work, but had a job or business from which they were temporarily absent, during the reference week. Economically inactive persons are those who are neither employed nor unemployed. The analysis of wages reports the full-time equivalent gross monthly wages (calculated according to AEIS data methodology).

In the analysis of work incentives, we use a standard measure of extensive margin work incentives – the participation tax rate (PTR). The PTR is defined as one minus the financial gain to work as a proportion of gross earnings. In this study, we use three measures of work incentives:

- *PTR for working*: The PTR calculated based on the actual labor income of employees, simulated for the situation in which they stopped working.
- *PTR for non-working (switch to full-time work)*: The PTR calculated for non-working individuals (having zero income from both employment and business) who fulfill the definition of potential workers (aged 18-retirement age, not students, not disabled). It is simulated for the situation in which they start working 40 hours per week for an imputed wage.⁸
- *PTR for non-working (switch to part-time work)*: The PTR calculated for non-working individuals who fulfill the definition of potential workers. It is simulated for the situation in which they start working 20 hours per week for an imputed wage.

⁸ Heckman's two-step regression is used to calculate imputed wages. It is adjusted for selection term (identified using dummies for the presence of children of different ages in the household) and is estimated for men and women separately to allow for different determinants of earnings across genders. The explanatory variables in the wage regression include education, age, marital status, and nationality.

3. Who are the Low-skilled in the Czech Republic?

The share (and number) of the low-skilled in the Czech Republic is rather small.

While the low-skilled in the Czech Republic perform worse in terms of employment and labor market participation, their share in the population is much smaller than in the majority of EU countries. They form less than 7% of the Czech population compared to the EU average of about 23% (Eurostat).

In 2016, there were about 450 thousand low-skilled individuals. Among women, the share of low-skilled was 8.7%, while among men it was only 5.4% (Table 1). About 61% of the 20-64-year-old low-skilled are women. Note that women in the Czech Republic also dominate the group of individuals with the highest level of skills, but not so substantially (about 52% of people with tertiary education are women).

Table 1. Skill Distribution by Gender

	male	female	Total
Low-skilled	5.4%	8.7%	7.0%
Lower middle-skilled	41.3%	28.0%	34.7%
Upper middle-skilled	33.5%	41.1%	37.2%
High-skilled	19.8%	22.3%	21.1%

Source: LFS data 2014-2016, own calculation.

The share of the low-skilled has declined over time, but the trend may reverse.

The share of the low-skilled in the population of 20-64-year-old individuals has declined steadily over time, with 12.6% in 2000 and to less than 7% in 2016 (see Table A1 in the Appendix). This is mostly due to the high share of low-skilled among the elderly (even today, almost 12% of individuals aged 55-64 are low-skilled, see Table 2). However, the younger cohorts (aged 20-24) have exhibited some increase in the share of the low-skilled in recent years, which may eventually reverse this trend (Appendix Table A2). This trend reversal has also been documented by the European Commission (2017), indicating a rise in the share of early school-leavers among individuals aged 18-24 from 5.4% to 6.6% between 2013 and 2016.

Table 2. Skill Distribution by Age Group

	Low-skilled	Lower middle-skilled	Upper middle-skilled	High-skilled	Low-skilled and a student	Lower middle-skilled and a student
15-19	88.3%	4.1%	7.5%	0.0%	85.5%	1.5%
20-24	9.8%	20.1%	59.0%	11.1%	2.6%	1.7%
25-34	6.1%	25.8%	37.2%	30.9%	0.0%	0.0%
35-44	4.3%	36.1%	37.2%	22.4%	0.0%	0.0%
45-54	5.5%	39.3%	35.6%	19.6%	0.0%	0.0%
55-64	11.7%	43.9%	29.5%	14.9%	0.0%	0.0%

Source: LFS data 2014-2016, own calculation.

The low-skilled have distinct characteristics.

It is a well-established stylized fact that a low level of skills results in worse labor market outcomes. Earnings, job quality, job tenure, and the probability of having a job are increasing functions of human capital in any economy. The unemployment rate, on the other hand, is always highest among the least skilled. Apart from the low level of skills, the low-skilled are often disadvantaged in other aspects. Among the low-skilled in the Czech Republic, there is a higher share of women and individuals with disabilities (15% of the low-skilled are disabled, compared to less than 3% in other educational categories). Further, the low-skilled tend to be concentrated in regions with higher unemployment (as documented later in Table 22).

4. Labor Market Performance of the Low-Skilled

4.1 Economic Activity of Low-Skilled Individuals

Compared to the rest of the population, the low-skilled face almost three times higher probability of unemployment and are twice as likely to be inactive.

The employment rate among the low-skilled who were aged 20-64 in the 2014-2016 period was as low as 41.8%, the share of unemployed was 11.4%, and the share of inactive was as high as 46.8% (Table 3). Compared with the rest of the population, the employment rate is almost half of the overall employment rate (75%), the share of the unemployed is almost three times higher than the overall share in the population (3.9%), and the inactivity rate more than twice as high as the overall inactivity rate (21.1%). The labor market performance of the low-skilled is therefore much worse than the rest of the population, including the lower-middle skilled whose outcomes are similar to the population averages.

Table 3. Economic Status by Skill Level

	employed	unemployed	inactive
Low-skilled	41.8%	11.4%	46.8%
Lower middle-skilled	76.6%	4.7%	18.8%
Upper middle-skilled	75.5%	2.9%	21.6%
High-skilled	82.8%	2.1%	15.2%
Total	75.0%	3.9%	21.1%

Source: LFS data 2014-2016, own calculation.

Almost 70% of the inactive low-skilled aged 20-64 are pensioners and disabled individuals.

Of the total inactive low-skilled population, students account for 7%, pensioners 38%, disabled people 31%, individuals engaged in housework 15%, while individuals who consider themselves unemployed but do not meet all conditions in the ILO unemployment definition constitute about 9% (Table 4). Although the share of the inactive among the low-skilled is almost twice as high as among the lower middle-skilled, the structure by different types of (reasons for) inactivity is rather similar in the two groups. As almost 70% of the inactive low-skilled aged 20-64 are pensioners and disabled individuals, any policy measure designed to activate a substantial share of the inactive low-skilled must primarily focus on these two groups.

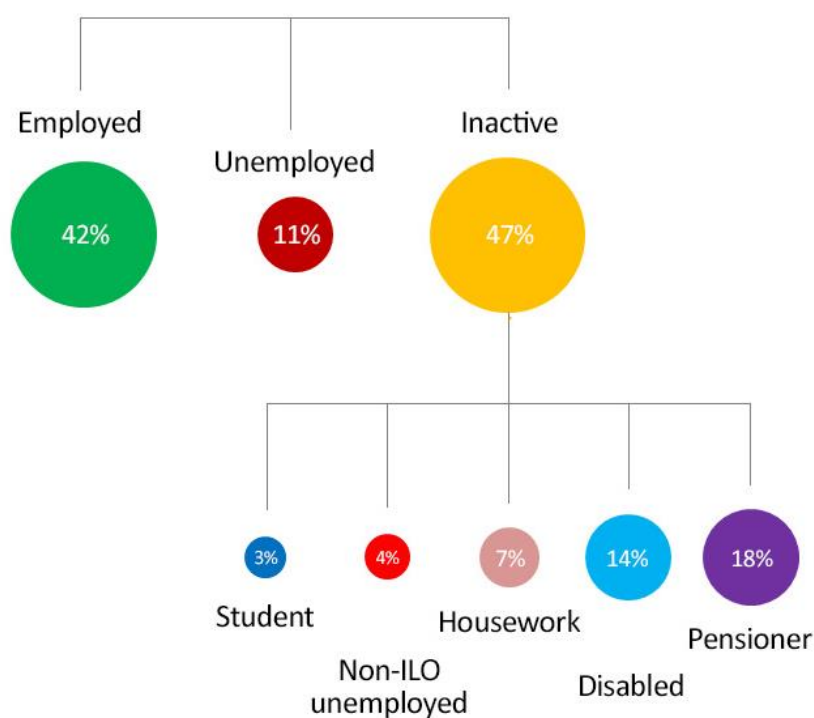
Table 4. Economic Status of Inactive Persons by Skill Level

	student	pensioner	disabled	non-ILO unemployed	housework
Low-skilled	7.0%	38.3%	30.7%	8.7%	14.9%
Lower middle-skilled	2.4%	48.7%	24.4%	7.2%	16.9%
Upper middle-skilled	39.1%	25.1%	8.2%	3.6%	23.7%
High-skilled	27.8%	16.3%	4.5%	3.1%	47.9%
Total	21.0%	33.1%	16.2%	5.4%	23.9%

Source: LFS data 2014-2016, own calculation.

Figure 2 shows the relative share of each of the low-skilled groups by their economic status (employed, unemployed and inactive), as well as the different types of inactive persons in the overall population of the working age low-skilled.

Figure 2. Structure of the Low-skilled Population (aged 20-64)



Source: LFS data 2014-2016, own calculation.

Low-skilled women are more likely to be inactive and less likely to be unemployed than low-skilled men.

Low-skilled women are even less likely to be employed than men (only 35% of women work), but they are also less likely to be unemployed (9.6% of unemployed among low-skilled women compared to 14% among low-skilled men, see Table 5). The employment rate among the disabled low-skilled is only 3%, compared to between 7% and 10% among the other skill groups.

Table 5. Economic Status of the Low-skilled by Gender

	employed	unemployed	inactive
Low-skilled men	52.0%	14.1%	33.9%
Low-skilled women	35.3%	9.6%	55.1%

Source: LFS data 2014-2016, own calculation.

The young low-skilled, who left the education system, have a very low employment rate.

Table A2 in the Appendix shows that the share of the low-skilled among the youngest cohorts has increased in recent years. One potential explanation could be the current economic situation with the low unemployment rate, which may motivate young individuals to drop out of school and enter the labor market early (rather than postpone labor market entry and risk that their entry will occur when the labor market is less tight). However, Table 6 reveals that young individuals who left the educational system without finishing upper secondary school have a very low employment rate (only 26% of low-skilled non-students aged 15-19 works). Therefore, if young individuals drop out of education with the intention to enter employment, their strategy appears to be unsuccessful. The high share of the unemployed and inactive among low-skilled early school-leavers is rather alarming given that their chances of successfully finding a job with the low level of skills and no work experience will be even lower in the future.

Table 6. Economic Status of the Low-skilled who are not Students

	employed	unemployed	inactive
15-19	26.2%	26.5%	47.3%
20-24	41.7%	18.9%	39.4%
25-34	45.2%	16.2%	38.6%
35-44	55.5%	15.7%	28.8%
45-54	60.7%	14.0%	25.2%
55-64	28.7%	4.6%	66.7%
Total	43.2%	11.7%	45.0%

Source: LFS data 2014-2016, own calculation.

The majority of low-skilled unemployed are in unemployment for more than one year.

61% of the unemployed low-skilled are long-term unemployed, i.e. unemployed for more than one year. About 43% of the unemployed low-skilled have been unemployed for more than 2 years, whereas the share for all the unemployed with such unemployment duration is 27% (Table 7).

Table 7. Duration of Unemployment

	Low-skilled	Lower Middle-skilled	Total
0-3 months	13.4%	19.7%	20.9%
3-6 months	11.0%	14.6%	15.3%
6-12 months	14.2%	18.2%	18.5%
12-24 months	18.1%	18.9%	18.2%
2-4 years	21.6%	16.1%	15.2%
4 and more years	21.7%	12.6%	12.0%

Source: LFS data 2014-2016, own calculation.

Regarding reasons for ending previous employment, 34.3% of the unemployed low-skilled state the end of a temporary contract as the reason for their current unemployment. This percentage is far above the shares among the other skill groups, which range between 23% and 25.8% (Table 8). The high unemployment rate among the low-skilled is therefore also driven by the temporary nature of the jobs they hold and by the high job turnover they typically experience.

Table 8. Reason for Ending Previous Employment

	Low-skilled	Lower middle-skilled	Upper middle-skilled	High-skilled	Total
Being fired	44.7%	41.1%	37.0%	44.6%	41.2%
End of temporary contract	34.3%	25.8%	23.0%	24.5%	26.8%
Other	21.0%	33.1%	40.1%	30.9%	32.1%

Source: LFS data 2014-2016, own calculation.

Only 9.4% of the working low-skilled are self-employed.

The low-skilled who are in employment are about 50% less likely to be self-employed than the rest of the employed population (Table 9). Among the working low-skilled, only about 9.4% are self-employed, while the share ranges between 16.6% and 17.1% in the other skill groups.

Table 9. Share of Self-employed by Skill Level

	Low-skilled	Lower middle-skilled	Upper middle-skilled	High-skilled	Total
Self-employed	9.4%	16.9%	16.6%	17.1%	16.6%
Employee	90.6%	83.1%	83.4%	82.9%	83.4%

Source: LFS data 2014-2016, own calculation.

There is a high prevalence of part-time work and underemployment among the low-skilled.

The employed low-skilled have the highest share of those who work part-time (9.6%), and the highest share of those who work part-time but would prefer to work more (2.3%, see Table 10). Part-time work is especially common among low-skilled women (14% work part-time), but the prevalence of underemployment is similar among both genders. Thus, it seems that for women part-time work is often their choice.

Table 10. Part-time Work and Underemployment

	Working part-time		Working part-time and wanting to work more	
	Total	Women	Total	Women
Low-skilled	9.6%	14.1%	2.3%	2.9%
Lower middle-skilled	4.2%	9.1%	1.0%	2.1%
Upper middle-skilled	5.3%	8.7%	0.8%	1.4%
High-skilled	6.7%	10.4%	0.9%	1.4%
Total	5.4%	9.5%	0.9%	1.6%

Source: LFS data 2014-2016, own calculation.

4.2 Low-skilled Jobs

We next provide the key characteristics of low-skilled jobs using information about the jobs of employed individuals (i.e. employees) in the population of 20-64 by skills.

The share of the low-skilled among employed individuals is about 7%.

The rise in the share of the low-skilled among employed individuals from 6.46% to 6.94% between 2014 and 2016 corresponds to the decline in the unemployment rate and reflects the tight labor market that helps even the low-skilled to find jobs (Table 11).

Table 11. Skill Distribution of the Employed

	2014	2015	2016	Total
Low-skilled	6.46	6.76	6.94	6.73
Lower middle-skilled	31.75	30.92	30.43	31.01
Upper middle-skilled	36.74	36.25	36.15	36.37
High-skilled	25.05	26.07	26.47	25.89
Total	100.00	100.00	100.00	100.00

Source: AEIS data 2014-2016, own calculation.

The age structure of low-skilled employees suggests that the share of low-skilled employees declines across cohorts as there is over 8% of the low-skilled among the aged 50-64 groups and less than 5.5% among the aged 30-49 groups (Table 12). While this is consistent with the long-term decreasing trend in the share of the low-skilled in the population (shown in Appendix Table A1), the potential reversal of this trend

(documented in Appendix Table A2) is not reflected among employees. This is again a warning signal that the low-skilled among the youngest cohorts are less attached to the labor market than those in older cohorts (this was also illustrated using the LFS data in Table 6 above).

Table 12. Skill Distribution of the Employed by Age Group

Age	Low-skilled	Lower middle	Upper middle	High-skilled	Total
20-29	8.45	24.85	40.19	26.51	100.00
30-39	5.36	25.87	35.49	33.28	100.00
40-49	5.29	35.17	36.82	22.72	100.00
50-59	8.15	35.67	34.96	21.22	100.00
60-64	8.85	35.23	31.53	24.39	100.00
Total	6.73	31.01	36.37	25.89	100.00

Source: AEIS data 2014-2016, own calculation.

Note: Group 20-29 is affected by the high-skilled being still in education.

Low-skilled employees is the skill group with the highest share of foreigners. In recent years, the share of foreigners has risen steadily, reaching 11% in 2016.

The average age among low-skilled employees is about 42. The share of women is 55% and the share of foreigners is about 9.3%. The low-skilled is the skill group with the highest share of foreigners, followed by the high skilled group (Table 13). While the age and gender composition of low-skilled employees was rather stable between 2014 and 2016, the share of foreigners rose from 7.5% in 2014 to about 11% in 2016.

Table 13. Demographic Composition of the Employed

	Female	Age	Foreigners
Low-skilled	0.552	42.0	0.093
Lower middle-skilled	0.419	43.2	0.038
Upper middle-skilled	0.567	41.0	0.03
High-skilled	0.541	40.5	0.054
Total	0.514	41.6	0.043

Source: AEIS data 2014-2016, own calculation.

The low-skilled work mainly as Plant and Machine Operators and Assemblers, and in Elementary Occupations.

Regarding types of occupations classified by the International Standard Classification of Occupations (ISCO), the majority of the low-skilled work as Plant and Machine Operators and Assemblers (37%), in Elementary Occupations (28%), and as Services and Sales Workers (19%). The ISCO group with the highest share of the low-skilled (27%) is, as expected, Elementary Occupations.

Of the low-skilled jobs, 37% are in the manufacturing industry.

As for industry structure, 37% of low-skilled employees work in Manufacturing (NACE⁹ C), followed by 13.5% in Administrative and Support Service Activities (NACE N), and 12% in Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles (NACE G).

Compared to other skill groups, the low-skilled are much less likely to work on a permanent contract, and they experience higher job turnover.

With regard to job characteristics, the share of the employed low-skilled who had a permanent contract in 2016 (58%) was considerably lower – by 16 p.p. – than among other skill groups (the overall share among the employed is 74%, see Table 14).

While the total annual hours of work by the low-skilled who worked in 2016 was 1,688, it was 1,767 for the rest of the population. The median duration of the time spent with the same firm (job tenure) of the low-skilled was also much shorter (2.2 years) than in the rest of the population in 2016 (6.4 years). Therefore, the much higher unemployment or non-employment rate among the low-skilled is, at least to some extent, a consequence of the low share of permanent contracts and high job turnover compared to the rest of the population.

⁹ NACE is the statistical classification of economic activities in the European Community. For details, see <http://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF>

Table 14. Share of Individuals Working on a Permanent Contract

	Permanent contract
Low-skilled	0.575
Lower middle-skilled	0.738
Upper middle-skilled	0.772
High-skilled	0.743
Total	0.739

Source: AEIS data 2016, own calculation.

The median gross monthly wage of the low-skilled was CZK 18,252 in 2016, which was about 55% of the median wage of the high-skilled. The median wage of the low-skilled in the private sector was about 30% higher than that in the public sector.

In 2016, the median gross monthly wage of the low-skilled was CZK 18,252. However, the gross monthly wage of the low-skilled ranged from CZK 11,093 at the 10th percentile to CZK 29,261 at the 90th percentile (Table 15). The median low-skilled earned about 55% of the median gross monthly wage of the high-skilled (CZK 33,694). The wage gap between the low-skilled and the high-skilled was somewhat larger in the public sector than in the private sector. The median gross monthly wage of the low-skilled in the private sector of CZK 18,786 was about 30% higher than that in the public sector of CZK 14,500.

Table 15. Distribution of Gross Monthly Wages by Skill Groups

	p10	median	p90
Low-skilled	11093	18252	29261
Lower middle-skilled	11931	21088	33879
Upper middle-skilled	14087	25724	43311
High-skilled	19449	33694	72174

Source: AEIS data 2016, own calculation.

Low-skilled women earn substantially less than low-skilled men, but only in the private sector.

The median low-skilled man in the private sector earned CZK 21,031, whereas the median low-skilled woman in the same sector earned only CZK 17,109 (Table 16). This points to a substantial gender gap in wages in the low-skilled category in the private sector. However, this gap is not present in the public sector, in which the median low-skilled man earned CZK 14,531, while the median low-skilled woman earned CZK 14,495.

**Table 16. Median Gross Monthly Wages
(in CZK) by Sector and Gender**

	Women	Men
Private Sector		
Low-skilled	17,109	21,031
Lower middle-skilled	17,455	23,803
Upper middle-skilled	22,368	28,386
High-skilled	30,020	41,012
Public Sector		
Low-skilled	14,495	14,531
Lower middle-skilled	16,093	21,909
Upper middle-skilled	26,139	29,968
High-skilled	30,428	36,281

Source: AEIS data 2016, own calculation.

The low-skilled is the only group in which the median gross monthly wage stagnates or even declines with age.

In general, wages rise with age, even if at a decreasing rate or with a slight decline at a later stage. The age profiles of all skill groups except the low-skilled show an overall increasing trend, which is steeper the higher the skill level. The low-skilled is the only group in which the median gross monthly wage stagnates or even declines with age (from CZK 19,636 among those aged 20-29 to CZK 17,835 among 60-64-year-olds, see Table 17). This is driven predominantly by the low-skilled in the private sector. In the public sector, seniority is more important in wage determination and wages there rise with age even among the low-skilled.

Table 17. Median Gross Monthly Wages (in CZK) by Age Group

	20-29	30-39	40-49	50-59	60-64
Low-skilled	19,636	19,013	17,901	17,135	17,835
Lower middle-skilled	20,452	21,313	21,290	20,766	22,288
Upper middle-skilled	22,838	26,084	26,366	26,637	28,174
High-skilled	27,107	34,987	36,123	35,123	37,472

Source: AEIS data 2016, own calculation.

Low-skilled wages grew somewhat more over the 2014-2016 period compared to the wages of other skill groups, particularly in the private sector.

While wage levels have increased over the 2014-2016 period for all skill groups and in both sectors of the economy, low-skilled wages grew somewhat more (median gross monthly wage grew from CZK 16,235 to CZK 18,252, see Table 18) than the wages of other skill groups, and the wage growth came predominantly from the private sector (median gross monthly wage grew from CZK 16,766 to CZK 18,786).

Table 18. Median Gross Monthly Wages (in CZK) by Sector and Year

	2014	2015	2016
Overall			
Low-skilled	16,235	16,804	18,252
Lower middle-skilled	19,236	20,000	21,088
Upper middle-skilled	23,676	24,739	25,724
High-skilled	31,230	32,317	33,694
Private Sector			
Low-skilled	16,766	17,320	18,786
Lower middle-skilled	19,576	20,324	21,443
Upper middle-skilled	23,159	24,260	25,177
High-skilled	33,403	34,537	35,449
Public Sector			
Low-skilled	13,319	13,841	14,500
Lower middle-skilled	16,364	17,100	17,997
Upper middle-skilled	24,874	25,840	27,147
High-skilled	29,202	30,218	31,833

Source: AEIS data 2014-2016, own calculation.

Since inflation was very low over the three considered years, we report nominal wages rather than deflated levels. As indicated below, the CPI barely changed between 2014 and 2016 (Table 19).

**Table 19. Consumer Price Index
According to COICOP (basic index)**

Year	2014	2015	2016
CPI	99.7	100	100.7

Source: Czech Statistical Office

In addition to the tight labor market, the rise in low-skilled wages (especially at the bottom of the wage distribution) was undoubtedly also a consequence of a substantial increase in the statutory minimum wage over the 2014-2016 period. Specifically, the statutory minimum wage was raised from CZK 8,500 to CZK 9,200 (EUR 340) in January 2015, to CZK 9,900 (EUR 366) in January 2016 and to CZK 11,000 (EUR 407) in January 2017, reaching approximately 40% of the current average gross monthly wage.

Low-skilled jobs in Elementary Occupations are the least paid.

The low-skilled in Elementary Occupations receive the lowest wage (median gross monthly wage of CZK 13,890), whereas Technicians and Associate Professionals earn the highest wage (median gross monthly wage of CZK 25,451, see Table 20).

**Table 20. Median Gross Monthly Wage (in CZK)
of the Low-skilled by Occupation**

Occupation	
Managers	19,553
Professionals	16,990
Technicians and Associate Professionals	25,451
Clerical Support Workers	20,194
Services and Sales Workers	15,689
Skilled Agricultural, Forestry and Fishery Workers	20,722
Craft and Related Trades Workers	20,548
Plant and Machine Operators and Assemblers	21,953
Elementary Occupations	13,890

Source: AEIS data 2016, own calculation.

5. Motivation to Work – Participation Tax Rates

The non-working low-skilled have very little incentives to start working as half of their potential earnings would be forgone in higher taxes and lower benefits.

The working low-skilled face the lowest effective taxation of all skill groups. The participation tax rate (PTR) is 36% for the low-skilled compared to 43% PTR for other groups (Table 21). However, if we look at the PTR for non-working individuals (describing the disincentives associated with the decision to start working), the low-skilled have by far the highest participation tax rates. The low-skilled PTR is as high as 50% if they start working full-time (compared to 43-46% for higher skill groups) and 48% if they start working part-time (compared to 39-44% for high skill groups). Therefore, if the low-skilled entered paid work, half of their potential full-time wage would be taken by the government in the form of income taxes, social security and health contributions, or in benefits they are no longer eligible for. The combined tax and benefit system thus provides very strong disincentives to work.

The large difference between the PTRs of the working and non-working low-skilled is likely due to the fact that the group of working low-skilled is highly selective (the employment rate of the low-skilled is almost half of the overall employment rate, see above). Naturally, those with the lowest effective tax rates start working first. Thus, the working low-skilled are a specific group of people who have a low PTR and this makes them much more likely to enter the labor market.¹⁰

Table 21. PTR by Skill Level and Work Status

	Average PTR for working	Average PTR for non-working (switch to full-time work)	Average PTR for non-working (switch to part-time work)
Low-skilled	0.364	0.502	0.478
Lower middle-skilled	0.43	0.435	0.389
Upper middle-skilled	0.432	0.434	0.408
High-skilled	0.43	0.464	0.443
Total	0.428	0.453	0.422

Source: TAXBEN model and SILC data 2016.

¹⁰ The level of PTR is affected not only by the potential wage, but also by other individual and household characteristics. Among the low-skilled, lower levels of PTR are likely to be present among individuals for whom the decision to work does not (substantially) affect the eligibility or amount of social benefits they collect. The main means-tested benefits in the Czech social assistance system are the housing benefit and child allowance. Thus, work incentives can be substantially affected by the level of housing costs and the number of children.

Interestingly, employed women have a much lower PTR than men in the low-skilled category, with 34% and 39%, respectively. However, there is no gender difference in the PTRs if we look at the group of non-working who would start working full-time (50% PTR for both groups, see Table 22).

Table 22. PTR by Gender for the Low-skilled

	Average PTR for working	Average PTR for non-working (switch to full-time work)	Average PTR for non-working (switch to part-time work)
Men	0.393	0.503	0.444
Women	0.343	0.5	0.507

Source: TAXBEN model and SILC data 2016.

6. Regional Aspects

The share of the low-skilled in the population is almost twice as high in Ústecký and Karlovarský regions compared with the share in the whole Czech population.

Skill distribution in the Czech regions is quite heterogeneous. Although Prague is a clear exception with only 3% of the low-skilled in its population, other regions show high variance: from less than 6% of the low-skilled in Jihomoravský, Vysočina, Středočeský, and Zlínský regions to more than 13% in Ústecký and Karlovarský regions (see Table 23).

To some extent, the share and absolute number of low-skilled individuals in Czech regions follows the regional distribution of the total population (the size of the region), with a high share of the low-skilled in the most populated regions, e.g. Moravskoslezský (over 65,000 low-skilled, see Table 23). However, there are many exceptions, e.g. Prague as a highly populated region with only 24,000 low-skilled at one end, and less populated Ústecký and Karlovarský regions with over 69 and 24 thousand low-skilled, respectively, at the other.

Table 23. Share of Low-skilled in the Population and Number of Low-skilled by Region

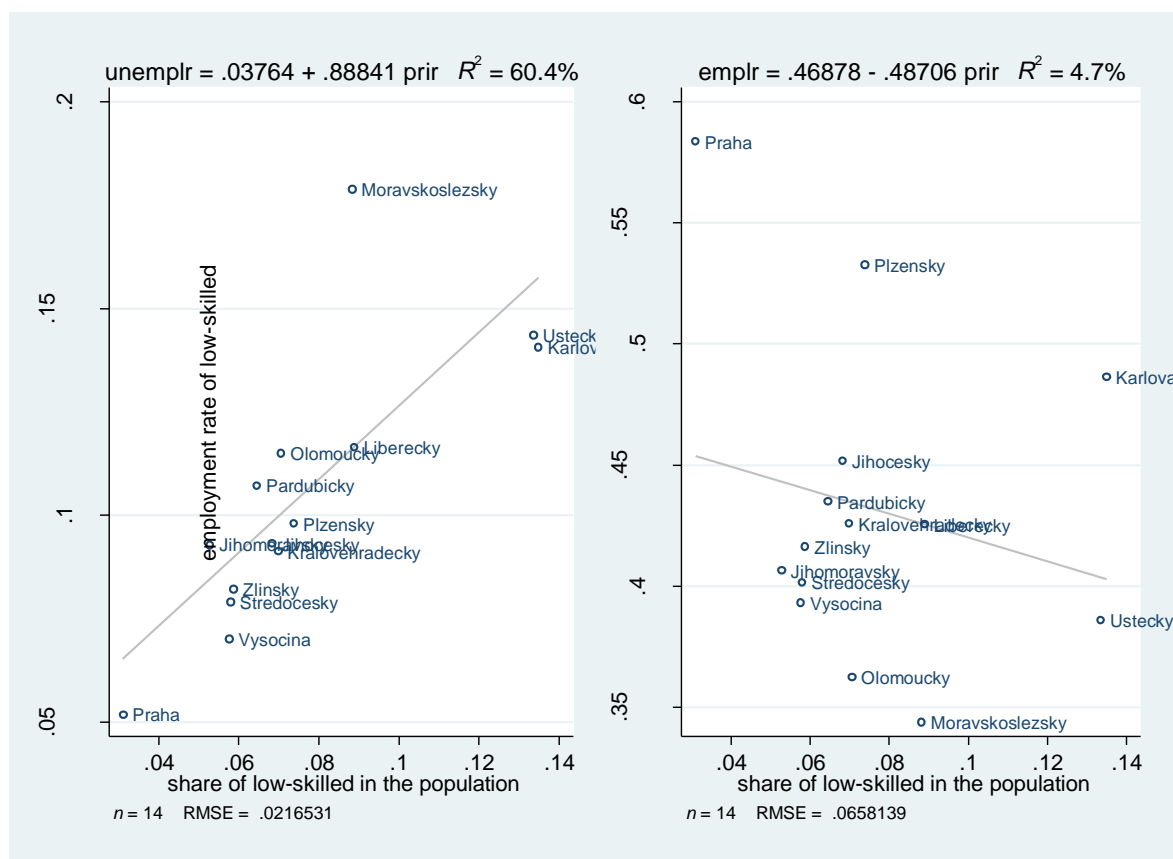
	Share of Population by Skills in the Region				Number of low-skilled individuals
	Low-skilled	Lower middle-skilled	Upper middle-skilled	High-skilled	
Praha	3.11	17.00	41.52	38.38	24,321
Jihomoravsky	5.28	31.66	36.82	26.23	31,333
Vysocina	5.77	41.87	35.76	16.61	18,009
Stredocesky	5.79	34.66	39.18	20.37	47,869
Zlinsky	5.87	40.01	35.61	18.52	22,472
Pardubicky	6.45	38.27	36.81	18.46	22,264
Jihocesky	6.82	37.86	37.85	17.47	25,327
Kralovehradecky	6.99	37.42	37.74	17.84	23,944
Whole CR	7.02	34.69	37.24	21.05	449,785
Olomoucky	7.06	39.01	35.77	18.15	26,061
Plzensky	7.38	36.91	37.85	17.86	26,680
Moravskoslezsky	8.83	37.68	35.61	17.89	65,713
Liberecky	8.89	39.2	35.29	16.61	22,364
Ustecky	13.35	38.43	34.71	13.51	69,389
Karlovarsky	13.49	39.67	34.73	12.11	24,040

Source: LFS data 2014-2016, own calculation.

Regions with a higher share of the low-skilled also have a higher unemployment rate for this group.

The share of the low-skilled in the region strongly positively correlates with their unemployment rate (left panel of Figure 3). Regions with a higher share of the low-skilled, such as Ústecký and Karlovarský regions, also have a higher unemployment rate among the low-skilled. The only exception is Moravskoslezský region with a very high unemployment rate among the low-skilled, but where they form less than 9% of the population. Although there is also a negative relationship between the share of the low-skilled and their employment rate, it is not as strong (right panel of Figure 3).

Figure 3. Regional Variation in the Share of Low-skilled and their (Un)Employment rate

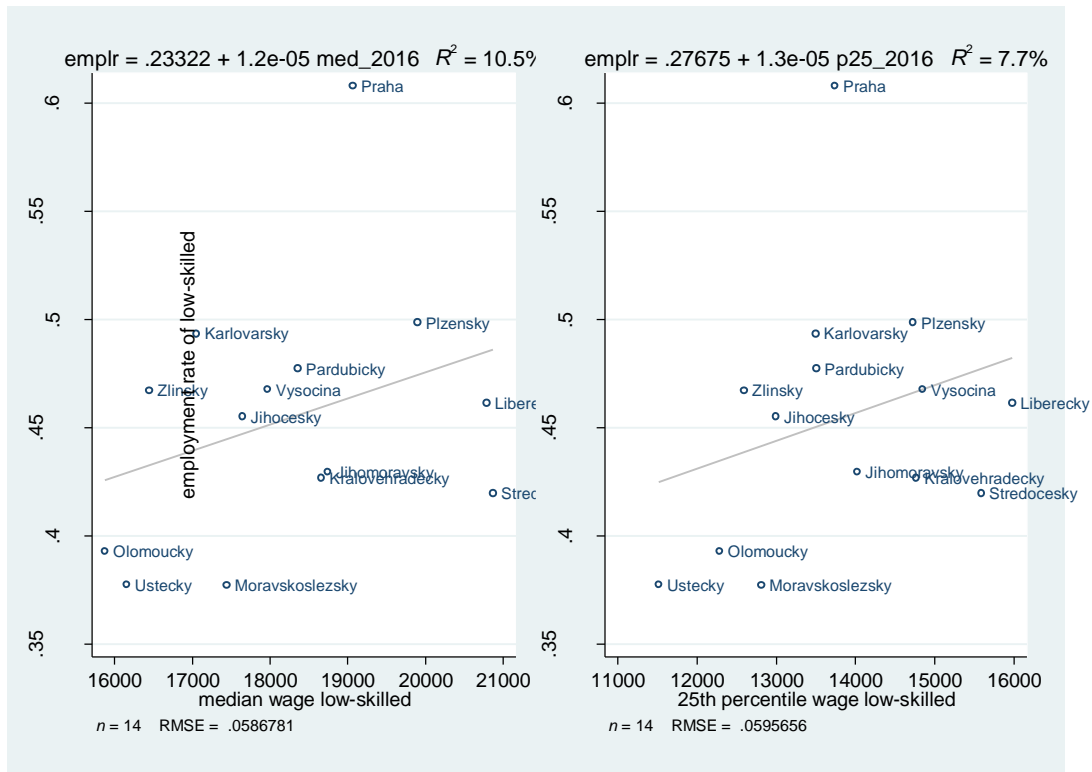


Source: LFS data 2014-2016, own calculation.

In some regions, the low-skilled face both low wages and low employment probability; in other regions they are better off in both aspects.

There is also a positive relationship between the employment rate of the low-skilled and their median wages. Thus, the low-skilled in some regions, e.g. Ústecký and Olomoucký, have both low wages and low employment probability, while in other regions, e.g. Liberecký and Plzeňský, they have both high employment probability and median wages (left panel of Figure 4). A similar relationship exists also between the employment rate and the gross monthly wage at the 25th percentile (right panel of Figure 4).

Figure 4. Regional Variation in Wages and Employment Rates of the Low-skilled



Source: AEIS data and LFS data 2014-2016, own calculation.

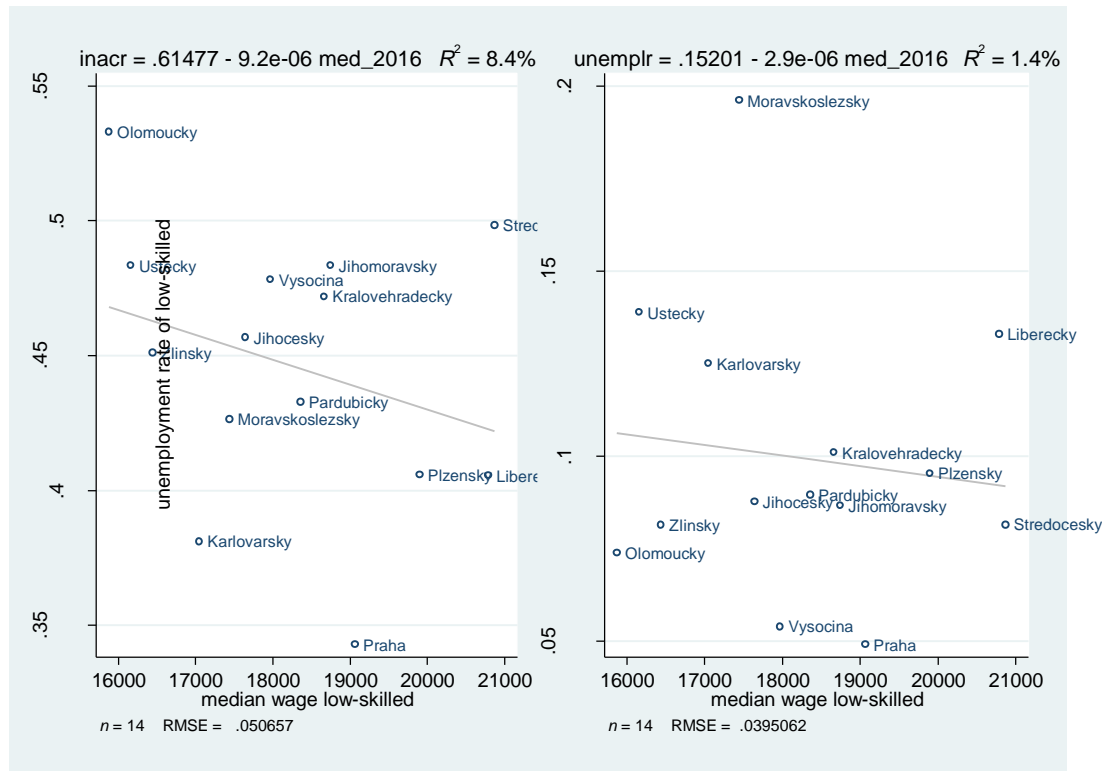
Incentives matter: The low-skilled are more likely to be inactive in regions with low wages.

The relationship illustrated in Figure 4 is partly driven by the regional variation in the overall economic situation across regions. However, it is also related to the regional variation in the work incentives of the low-skilled given by the region-specific wage levels relative to the nation-wide levels of social transfers and benefits received by the non-employed.

The importance of the work incentives given by the wage level is also documented by a negative relationship between the inactivity rate and the median wage (left panel of Figure 5). There is also a weak negative relationship between the unemployment rate and the median wage (right panel of Figure 5). However, except for the three regions with very high unemployment rates (Moravskoslezský, Ústecký and Karlovarský), the unemployment rate among the low-skilled tends to be higher in regions where the low-skilled are more costly (where they have a higher median wage, see right panel of Figure

5). This suggests that while higher wages motivate the low-skilled to enter the labor market, there are some constraints on the demand side, i.e. the positive relationship between the unemployment rate and the wage level suggests that employers are less willing to employ the low-skilled in regions where they have higher wages.

Figure 5. Regional Variation in Wages and Unemployment/Inactivity of the Low-skilled



Source: AEIS data and LFS data 2014-2016, own calculation.

Incentives matter: The low-skilled are more likely to be inactive in regions with higher effective taxation.

Finally, the role of work incentives is supported by direct evidence from the regional distribution of the participation tax rate of non-workers and its relationship with the labor market outcomes of the low-skilled.

The participation tax rate of the non-working low-skilled is positively correlated with their inactivity rate (left panel of Figure 6), suggesting that the low-skilled in regions with lower work incentives (as reflected by the high PTR of non-workers) are more likely to stay out of the labor market. There is also a negative relationship between the participation tax rate and the unemployment rate (right panel of Figure 6), but it is much less strong and mostly

driven by two regions with very low unemployment rates of the low-skilled (Praha and Vysočina). These findings further confirm the importance of work incentives and their likely impact on the decision of the low-skilled to enter the labor market.

Figure 6. Regional Variation in the Participation Tax Rates of the Non-working Low-skilled and the Unemployment/Inactivity of the Low-skilled



Source: LFS data 2014-2016, TAXBEN model and SILC data 2016, own calculation.

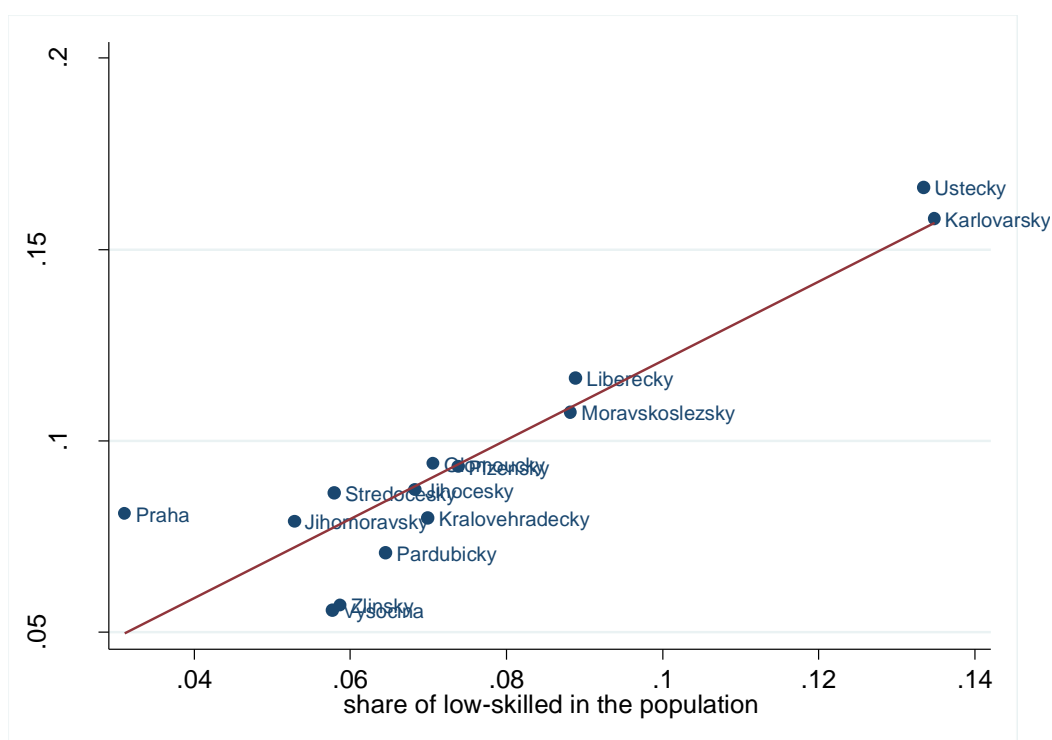
Indebtedness: Regions with more low-skilled are also more likely to suffer from high indebtedness

Long-term unemployment often leads to debt accumulation, insolvency, and personal bankruptcy. When a high share of wages goes towards repayment of debts, the motivation to start (legal) employment is very low. Moreover, wage garnishments¹¹ impose a further administrative burden on employers, who are less willing to hire people with debts. Consequently, indebtedness is also an important obstacle to (re)entering employment.

¹¹ Wage garnishment is the process of deducting money from an employee's monetary compensation (including salary), usually as a result of a court order.

Figure 7 shows that there is a strong positive correlation between the share of the low-skilled and the share of individuals under duress in the population of Czech regions. This provides some suggestive evidence that the low-skilled may suffer from over-indebtedness problems more than higher skill groups.

Figure 7. Relationship Between the Share of the Low-skilled in the Population and the Share of People Under Duress by Region



Source: LFS data 2014-2016, own calculation; <http://mapaexekuci.cz/>

Low regional mobility and regional supply-demand mismatch contributes to regional unemployment.

Regional mobility in the Czech Republic remains very low and is one of the reasons for the regional mismatch between labor supply and labor demand. Low labor mobility significantly contributes to regional unemployment and to the substantial and persistent differences in labor market performance across regions.

In 2016, there were around 51 thousand unemployed low-skilled individuals in the Czech Republic. In contrast, there were about 64 thousand vacancies reported at local labor

offices, which required the same level of skills.¹² The high numbers of both the unemployed and job postings for the same skill group may reflect a regional disparity in labor supply and demand. Alternatively, there may be mismatch in the supply of and demand for specific skills for particular industries or occupations. While we documented the regional variation in the share of the low-skilled unemployed as well as their distribution across different industries and occupations, the vacancy data posted by the Czech Ministry of Labour and Social Affairs are currently not available by region, industry or occupation for the specific skill groups. As a result, the supply-demand mismatch cannot be analyzed. There are additional data issues that make the mismatch analysis problematic. First, vacancy data from the Czech labor offices are not directly comparable to the unemployment data from the Labor Force Survey. Second, there is some evidence that vacancy data and vacancy advertising may not be representative of the actual labor demand.¹³

Finally, the coexistence of numerous low-skilled individuals and numerous low-skill vacancies may also be driven by the fact that the level of skills demanded by employers may not be fully captured by the skill level acquired in formal education, such that the low-skilled unemployed can only be matched to jobs after upgrading their skills. Without additional data, it cannot be determined to what extent it is the skill mismatch or the need for upskilling that prevents low-skilled job seekers from obtaining advertised low-skill jobs.

7. Alternative Definition of the Low-skilled

The standard definition of the low-skilled considers only the skills acquired in formal education. It classifies individuals with low education as low-skilled even if they have acquired additional skills out of school. Similarly, it classifies those with higher

¹² Source: Monthly vacancy data from the Czech Ministry of Labour and Social Affairs reporting the average number of vacancies that required at most ISCED 2 level of education in 2016: <http://portal.mpsv.cz/sz/stat/nz/qrt>.

¹³ There is anecdotal evidence that vacancies reported at Czech labor offices often offer unreasonably low wages for very demanding work, because the only reason employers post such vacancies is to comply with the legislative requirement of 30 days during which the vacancy must be advertised on the notice board of the labor office before it can be offered to an employee from outside the EU.

education as middle-skilled even though they may have lost their skills outside of the labor market or their skills may be obsolete.

So far, we have used the standard and widely used definition of the low-skilled as those with at most lower-secondary education, i.e. ISCED 2011 categories 0-2. While this is a reasonable definition, easy to implement, comparable across countries and widespread in both economic research and policy analysis, it captures only one rather limited dimension of skills: skills acquired in formal education. Ideally, skills should be measured directly based on particular, well-defined tests of various multidimensional types of skills important for one's productivity. Although cross-country comparable data are being collected (such as PIACC), the samples are too small and wider implementation would be prohibitively costly.

The main criticism of the definition of the low-skilled based on ISCED education levels is that the amount of skills at the end of formal education is likely to change over time, i.e. either increase or decrease (Cedefop 2017). On one hand, the definition does not capture any skills acquired outside of school, e.g. through on-the-job-training, accumulated work experience, or requalification courses (which do not, however, alter the achieved level of education as defined by ISCED). On the other hand, the definition does not capture the fact that the skills of individuals with a higher level of formal education than ISCED category 2 may become obsolete over time or depreciate, in particular, for those who have been out of the labor force for substantial periods since the end of schooling. As a consequence, the ISCED definition may either overestimate the share of the low-skilled (in the first case) or underestimate it (in the second case).

We consider an alternative definition of low-skilled individuals as those with low productivity. Specifically, we define “the low-paid” as those earning a gross monthly wage of CZK 12,970 (the 10th percentile of the wage distribution) or less.

As the standard definition of the low-skilled based on formal education may not correctly reflect the current level of skills, we use wage as a proxy for the productivity of those employed, and therefore for their current skill level. Under the assumption of a reasonably competitive labor market, the wage should reflect an individual's marginal productivity. Even under labor market monopsony, the ranking of individuals by productivity and skills should broadly correspond to their ranking by wage level. The main drawback of this approach is that wages are observable only for those employed. While potential earnings could be imputed for non-working individuals, this approach is often limited by data availability. As information on wages is not available in the VSPS data, we cannot apply

the alternative definition of the low-skilled using the whole sample of individuals representative of the population.¹⁴ However, we can apply the alternative definition to those employed (which we observe in the AEIS data) and compare the two alternatively defined groups of the low-skilled. In what follows, we define “the low-paid” as those individuals in the AEIS data whose gross monthly wage is at the level of the 10th percentile of the wage distribution (about CZK 12,970) or lower. We continue in denoting “the low-skilled” as those with ISCED education level 0-2.

The alternative definition of the low-skilled as “the low-paid” reveals the groups of individuals that may be misclassified by the standard definition of ISCED group 0-2.

Based on our alternative definition, there is only about 11% of the low-skilled in the private sector and 41% in the public sector who are low-paid (Table 24). The remaining shares of the low-skilled earn more than the 10th percentile of the wage distribution. On the other hand, there is as much as 5.6% among the lower middle-skilled (ISCED group 3) in the private sector and 16.3% in the public sector who are classified as low-paid.

Table 24. Relationship Between the Low-skilled and the Low-paid

	Share of Low-paid in %	
	Private Sector	Public Sector
Low-skilled	10.87	41.42
Lower middle-skilled	5.59	16.26
Upper middle-skilled	2.16	2.53
High-skilled	0.56	0.29

Source: AEIS data 2014-2016, own calculation.

Plant and Machine Operators and Assemblers with ISCED 0-2 level of education are probably (based on their wage and occupational skills) misclassified as the low-skilled, whereas lower-middle skilled individuals (ISCED 3) working in Elementary Occupations should be classified (based on their wage and the skills used in their jobs) as the low-skilled but are not.

¹⁴ Moreover, the wage imputation technique uses demographic characteristics to calculate potential earnings of the non-working, and the main predictor of potential earnings is usually the highest level of education attained. Therefore, wage imputation cannot solve the problem of the standard definition of the low-skilled (by education), because wage imputation is largely built on the level of formal education.

The distribution of the low-skilled and the low-paid across the different types of occupations as classified by ISCO reveals the groups that are likely to be misclassified. Almost 40% of the low-skilled work as Plant and Machine Operators and Assemblers, an occupation with only about 10% of the low-paid (Table 25), which requires specific skills and offers reasonable labor market prospects. At least a subset of this group should probably not be classified as the low-skilled. On the other hand, 50% of the low-paid are concentrated in Elementary Occupations, but only 28% of the low-skilled work in this type of occupation.

Table 25. Distribution of the Low-skilled and the Low-paid by Type of Occupation

	Low-skilled	Low-paid
Managers	0.21	0.4
Professionals	0.00	0.32
Technicians and Associate Professionals	1.35	1.42
Clerical Support Workers	3.6	3.04
Services and Sales Workers	18.98	28.99
Skilled Agricultural, Forestry and Fishery Workers	0.5	0.27
Craft and Related Trades Workers	9.23	4.45
Plant and Machine Operators and Assemblers	37.67	9.84
Elementary Occupations	28.47	50.38
Unknown	0.00	0.89
Total	100	100

Source: AEIS data 2014-2016, own calculation.

This implies that there is a group of people with education higher than ISCED 2 who work in Elementary Occupations and are low-paid. In particular, in Elementary Occupations we observe only 27% of the low-skilled and 31% of the low-paid in our data, suggesting that at least 4% of individuals with ISCED higher than 2 work in occupations that require only basic skills and offer little pay and poor career prospects. Therefore, this group should probably be classified as the low-skilled (despite the higher ISCED level of education).

8. Discussion of the Causes of Poor Performance of the Low-skilled and Policy Recommendations

We have provided evidence on the characteristics, labor market conditions, and labor market outcomes of the low-skilled in the Czech Republic. Further, we have discussed factors that affect their position in the labor market and labor market performance. In this section, we review the reasons for the inactivity of the low-skilled who are not in the labor force, and the causes of unemployment and poor job characteristics of the low-skilled who are in the labor market. We also consider policies that could help the (re)integration of the low-skilled into the labor market, reduce their unemployment, and improve their job quality and career prospects.

8.1. Inactive Low-skilled

There is a high share of the inactive among the low-skilled. If our aim is to increase the labor market participation of the low-skilled, we first have to address the low incentives to work that they face. As the non-working low-skilled have participation tax rates as high as 50%, half of their potential income would be lost in taxes paid or benefits lost if they started working. This is a substantial problem particularly in combination with the extra expenditures on food, travel, and sometimes also childcare that are connected to labor market participation.

The Czech tax system has two features that make it especially unfavorable for low-skilled workers: high taxation of employment income and low progressivity of the tax system (Dušek, Kalíšková, and Münich 2013). To mobilize the low-skilled who are out of the labor market, we first need to decrease the participation tax rates they face. This could be achieved by decreasing the social security contribution rates of employees or employers (or both), as these contributions constitute the main part of the labor taxation of low-income individuals. On the other hand, decreasing the personal income tax rate for low-income individuals would not solve this problem as they usually do not pay income tax; their income is too low for their income tax to exceed the basic personal tax credit. Another potential solution is some form of working tax credit (negative income tax for low-income individuals). In the Czech Republic, there is a child bonus (negative income tax) for low-income individuals with dependent children. However, the child bonus is only for individuals with dependent children and thus does not solve the problem of young individuals, childless families, and the elderly. In addition, there is some evidence that the

child bonus is largely misused. Consequently, there is little political will to strengthen this measure.

Another approach to avoid high labor taxation in the Czech Republic is to work as a self-employed person, as their tax rates are much lower (Dušek, Kalíšková, and Münich 2013). This strategy is mostly used by women with children, as it also allows them to have more flexibility in their work life (Hašková et al., 2015). However, our statistics suggests that the low-skilled are rarely able to start their own business. Therefore, if our goal is to help the low-skilled to enter the labor market (under lower taxation) as self-employed workers, we need to provide them with further assistance and know-how regarding how to become an entrepreneur. The best solution to improving the work incentives of the low-skilled thus seems to be decreasing the social security contribution rates, which could be further tailored to specific groups of disadvantaged individuals.

Decreasing the participation tax rates then needs to be complemented with other specific measures tailored to different groups of the low-skilled and aimed at facilitating their entry to the labor market. First, the majority of the inactive low-skilled are either pensioners or individuals with a disability. Therefore, it may be difficult to activate them and increase their labor market participation. The high share of the low-skilled who are pensioners reflects the evolution of the skill structure of the population, as there are more low-skilled among the older cohorts, but it also reveals the high use of early retirement in this group. While there is no reason to reintegrate regular pensioners into the labor market, policies reducing the incentives for early retirement among the low-skilled could help reduce the share of the inactive low-skilled. Further, the share of people with a disability who are employed is much higher in the other skill groups than among the low-skilled. Thus, there may be some room for improvement also in that case, with policies designed to attract at least some of the low-skilled disabled (who are not seriously constrained) to the labor market

Second, while the low-skilled are primarily concentrated among the older cohorts, one alarming finding of this study is the recently increasing number of early school-leavers who increase the share of the low-skilled among the youngest cohorts, and who also tend to have high inactivity rates. Here, we see a major role in preventive measures that keep individuals at school, such as relevant and engaging curriculum, flexible educational pathways, high-quality and attractive vocational education, etc. (for details on policy recommendations, see European Commission, 2013).

Third, there is substantially more women among the low-skilled than men in the Czech Republic and they are much more likely to be inactive. We have shown that there is a large gender wage gap among the low-skilled in the private sector, suggesting that low-skilled women have even lower incentives to work than men. On top of that, as women are typically secondary wage earners, they are subject to a higher effective tax rate when deciding to enter the labor market than men (Šatava, 2016). Further, as the primary caregivers, low-skilled mothers also face the same constraints as other Czech women in terms of the lack of affordable child care and flexible work conditions that enable them to balance work and family life (Kališková, 2017). Finally, the low-skilled mothers of young children are unlikely to be eligible for job protection (due to the high share of temporary contracts in this group). As a result, their re-integration into the labor market after parental leave is even more difficult than in other skill groups. Policies aimed at reintegrating inactive low-skilled women and, in particular, low-skilled mothers of young children, need to take these aspects into account.

Finally, the low-level of skills is often combined with other socio-economic problems such as welfare dependence, indebtedness, poverty, domestic violence, and criminality. To be effective, policies aimed at reintegrating the low-skilled into the labor market must consider and address these aspects as well.

8.2. Low-skilled in the Labor Market

The group of the low-skilled who participate in the labor market also faces its specific problems. First, the low-skilled typically have a much higher unemployment rate than the other skill-groups. While they have a lower chance of finding a job due to the lower level of skills, they are also more likely to lose their jobs as they are less likely to acquire firm-specific human capital while working. Given the low level of skills and the often temporary nature of these workers' jobs, employers do not have significant incentives to invest in their human capital (e.g. via job training) as compared to the other skill groups. Moreover, they often work on temporary contracts and have to search for a job (become unemployed) when the contract ends.

This is also the situation of the low-skilled in the Czech Republic. Their unemployment rate (11.4%) is more than two times higher than the lower middle-skilled, and almost half of those who work do not have a permanent contract. The high job turnover results in

higher unemployment, as over one third of the low-skilled unemployed state the end of their temporary contract as the reason for their unemployment.

The inability of the low-skilled unemployed to find a job results in long term unemployment. Over 60% of the low-skilled unemployed in the Czech Republic are unemployed for more than one year. After such a long period, the unemployed typically not only lose much of the skills acquired at school or through work experience, but also work habits and social skills. Moreover, debts and other socio-economic problems are likely to accumulate during a prolonged period of unemployment.

When the low-skilled unemployed are not able to find a job, active labor market policies should help them (re)enter employment. However, these policies often do not specifically target the low-skilled and may not always be effective. In the Czech Republic, if the low-skilled participate in some type of active labor market policies, it is mostly public works (Horáková, 2017). The low-skilled account for more than one third of all the participants in public works. The low-skilled are much less likely to participate in training programs because there is a lack of suitable tailor-made programs that respect their specific needs and help them overcome the skills barriers (Horáková, 2017). They are also not attractive for private employers; even the state subsidy for private employers does not increase their attractiveness. Thus, the low-skilled rarely enter a subsidized job in the private sector (Horáková, 2017). The public works require few skills and represent the only “job offer” (made by state rather than the private sector) that the low-skilled often have. These employment programs are effective in maintaining work habits and increasing the income of the low-skilled (and thus reducing other problems such as indebtedness or criminal behavior), but they are quite costly and were found to be the least effective type of active labor market policy in helping the unemployed to find a regular job (Hora and Sirovátka, 2012). The unemployed low-skilled would probably benefit most from well-tailored training programs, ideally long-term and/or modular training and work experience programs combining theory with practice provided by the employers themselves (Horáková, 2017).

However, to be effective, these policies must also take into account other socio-economic aspects that may create further obstacles for the low-skilled to enter employment. Debt accumulation and insolvency can generate disincentives not only for the low-skilled to start a job (when the high share of wages goes towards repayment of debts) but also for employers to hire the low-skilled with debts (as wage garnishments impose a further administrative burden on employers). The specific active labor market policies targeted to

the low-skilled should therefore be accompanied by measures that would help remove these additional obstacles. For example, interventions for the long-term unemployed that focus on financial literacy and solving financial problems may be crucial to complement the activation measures.

Matching the low-skilled to their jobs must also consider the constraints on the demand side. There is substantial variation in the demand for the low-skilled across regions, but the low-skilled are typically the least flexible to commute for work or to move. The recently introduced measure “Příspěvek na podporu regionální mobility” (Contribution to Support Regional Mobility) aims to increase the employability of the unemployed by enhancing their regional mobility. Job-seekers who are registered at local labor offices and who accept jobs outside of the area of their permanent residence are entitled to two types of benefits: *Commuting Support*, which can be used for any work-related costs incurred to a person that accepts a distant job, such as cost of transportation, fuel expenditures, accommodation or child care costs, and *Reallocation Support*, which helps cover the cost of moving to a new area because of a new job. While these measures could help the low-skilled considerably, they are likely to be predominantly used by higher skilled jobless individuals, who are also more likely to find both local and distant jobs. Implementation of these measures should therefore specifically focus on the low-skilled and be complemented with additional assistance in helping the low-skilled to find more distant jobs and encouraging higher mobility with the help of these subsidies.

An alternative approach to assist the low-skilled in entering paid work would be via self-employment. As noted previously, the low-skilled are much less likely to be self-employed than the other skill groups. Active labor market policies that provide a subsidy to the unemployed who start their own business are rarely used by the low-skilled. This is likely driven by the lack of relevant labor-market skills as well as by the lack of know-how with respect to becoming an entrepreneur. In the case that the low-skilled possess relevant skills for the labor market, providing them with advice and specific assistance in starting their own business could be a viable strategy.

The high unemployment rate among the low-skilled is driven not only by the low probability of exit from unemployment (as the unemployed cannot find jobs), but also the high probability of entry. The employed low-skilled, who often struggle to retain a stable job, face a high risk of unemployment. We have seen that the low-skilled jobs are not only typically low-paid, but are also often only temporary. One of the reasons for the high prevalence of temporary contracts among the low-skilled are the high employer

contributions that demotivate employers to hire low-skilled individuals on a standard employment contract. The low-skilled are thus very often employed on temporary contracts or so called “dohoda” (one-off job agreements), which are subject to lower taxation. Consequently, the low-skilled have much shorter job tenure, face worse career prospects, and are rarely offered any training by their employers.

The question therefore arises as to how we can ensure that the low-skilled have better jobs and do not re-enter unemployment. The situation of the employed low-skilled could be improved by additional incentives provided to employers to offer the low-skilled long-term contracts and invest in their skills via on-the-job training.

However, there is evidence that some of the low-skilled are not attractive to private employers even when partly covered by the state subsidy (Horáková, 2017), in which case the above-mentioned incentives might not be enough to improve the career prospects of the low-skilled. Rather, the lack of relevant skills that would be valued in the labor market seems to be the main barrier for the low-skilled to enter employment with reasonable long-term prospects. We have shown that a very high share of the low-skilled work in Elementary Occupations, which require only the most basic skills. However, almost 40% of the low-skilled employees work as Plant and Machine Operators and Assemblers, an occupation with relatively high pay, which requires specific skills and offers reasonable labor market prospects. This suggests that the acquisition of relevant labor market skills can, to a certain extent, compensate for the low level of skills acquired via formal education.

The upskilling of the low-skilled (i.e. acquiring labor market relevant skills and competencies via lifelong and adult learning) seems, therefore, the main long-term solution to improving the position of the low-skilled. The relevant policies, however, must consider the incentives of all the relevant parties: motivate low-skilled individuals to participate in lifelong learning, motivate employers to recognize the value of lifelong learning, and ensure efficiency of the lifelong learning providers.

9. Conclusion

The aim of this study was to present evidence on the characteristics and the position of the low-skilled in the Czech Republic, discuss their labor market performance and consider policies to ensure their long-term inclusion into the labor market. The low-skilled in the Czech Republic form less than 7% of working age individuals, but they fare much worse than the rest of the population and worse than the low-skilled in other EU countries. The employment rate among the low-skilled who were aged 20-64 in 2014-2016, was as low as 41.8%, the share of unemployed was 11.4%, and the share of inactive was as high as 46.8%. Low-skilled women are even less likely to be employed than men (only 35% of them work), but they are also less likely to be unemployed. Almost 70% of the inactive low-skilled aged 20-64 are pensioners and individuals with a disability. Over 60% of the unemployed low-skilled are long-term unemployed (over 1 year). Over one third of the unemployed low-skilled states the end of the temporary contract as the reason for their current unemployment.

In addition to the lack of skills, the low-skilled often belong to disadvantaged groups in other aspects as well. There is higher share of women, of individuals with a disability, and they tend to be concentrated in regions with higher unemployment. While the share of the low-skilled has been declining over time, there are indications that the trend may have reversed, with a higher share of the low-skilled among the young cohorts. Moreover, only a small fraction of these early school leavers seems to directly enter the currently very tight labor market. The fact that the employment rate among the younger cohorts of the low-skilled is less than 50%, which is even less than among the older cohorts, is a warning signal.

Among the low-skilled in employment, less than 10% are self-employed compared to more than 16% in other skill groups. Less than 7% of employees are low-skilled. They are the skill group with the highest share of foreigners, which has steadily risen over time and reached 11% in 2016. The low-skilled work predominantly as Plant and Machine Operators and Assemblers, in Elementary Occupations, or as Services and Sales Workers. The ISCO group with the highest share of the low-skilled (27%) is Elementary Occupations. 37% of low-skilled jobs are in the manufacturing industry. Only 58% of low-skilled employees have a permanent contract compared to 74% in the whole population. The low-skilled also have much higher job turnover, with a median tenure of 2.2 years (6.4 years for the whole population).

In 2016, the median gross monthly wage of low-skilled employees was CZK 18,252, ranging from CZK 11,093 at the 10th percentile to CZK 29,261 at the 90th percentile. The median gross monthly wage of the low-skilled in the private sector was about 30% higher than that in the public sector. The median low-skilled earned about 55% of the median gross monthly wage of the high-skilled. The wages of the low-skilled grew somewhat more over the 2014-2016 period than the wages of the other skill groups, in particular in the private sector. This increase was most likely driven by the gradual increase in the statutory minimum wage and, to some extent, by the tight labor market. Low-skilled women earn much less than low-skilled men, but only in the private sector. The low-skilled is the only group in which the median gross monthly wage stagnates or even declines with age. The least paid low-skilled jobs are in Elementary Occupations and among the Services and Sales Workers.

There is substantial variation both in the share and in the labor market performance of the low-skilled across regions. The share of the low-skilled in the population is almost twice as high in Ústecký and Karlovarský regions than in the whole Czech Republic. Regions with a higher share of the low-skilled also face a higher unemployment rate for this group. In some regions, the low-skilled face both low wages and low employment probability, while in other regions they are better off in both aspects. The low-skilled are more likely to be inactive in regions with low wages and higher effective taxation.

An alternative definition of the low-skilled as “the low-paid” (those earning a gross monthly wage less or equal to the 10th percentile of the wage distribution) addresses the groups of individuals that may be misclassified by the standard definition of ISCED group 0-2. Based on our definition, only about 11% of the low-skilled in the private sector and 40% in the public sector belong to the group of the low-paid. On the other hand, 5.6% among the lower middle-skilled (ISCED group 3) in the private sector and 16.3% in the public sector are classified as the low-paid. Plant and Machine Operators and Assemblers with ISCED 0-2 level of education are probably (based on their wage and occupational skills) misclassified as the low-skilled, whereas lower-middle skilled individuals (ISCED 3) working in Elementary Occupations seem to be low-skilled (based on their wage and the skills used in their jobs), but are classified as higher skilled by the standard definition.

Based on the presented evidence, we identify the main obstacles preventing the low-skilled from (re)entering the labor market and formulate policy recommendations. There is a high share of inactive among the low-skilled. The key obstacle to the labor market participation of the inactive low-skilled is low incentives to work. The non-working low-

skilled face participation tax rates as high as 50%. Consequently, half of their potential income is forgone in taxes paid or benefits lost if they started to work. (Re)integration of the low-skilled into the labor market requires decreasing their participation tax rates, which could be achieved by decreasing the social security contribution rates of employees or employers (or both). Such a decrease could be further tailored to specific groups of disadvantaged individuals. Another solution (that proved effective in other economies) would be an increase in the work incentives of the low-skilled via some form of working tax credit (negative income tax for low-income individuals).

Additional incentives provided to employers to offer the low-skilled long-term contracts and invest into their skills via on-the-job training could help increase their job stability and improve their career prospects.

Active labor market policies to help the unemployed find a job should be evidence-based and always tailored to the specific subgroups of the low-skilled. The policies should also be accompanied by complementary measures that facilitate the entry to the labor market, such as providing the low-skilled who possess relevant skills with motivation and assistance to start their own business, increasing the flexibility of the low-skilled and their chances to find a job by subsidies that increase their mobility, or helping the low-skilled to solve their financial problems to facilitate their entry into the labor market.

Although increasing employers' incentives to hire the low-skilled on long-term contracts via job subsidies or lowering employers' social insurance contributions should help at least some low-skilled to find and keep their jobs, it is first unlikely to improve the long-term career prospects of the low-skilled and, second, unlikely to help some groups of the low-skilled at all. Active labor market policies other than public works are often ineffective in situations in which the low-skilled are not at all attractive to employers due to the lack of any relevant skills.

Therefore, the only way to increase the chances of some of the unemployed low-skilled to find a long-term job is through skill upgrading. Whether the upskilling is provided via public or non-profit adult and lifelong learning institutions or supported by subsidies to increase employers' incentives to invest in their employees' skills via on-the-job training depends on the characteristics and needs of the different types of the low-skilled.

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Appendix

Table A1. Share of Low-skilled and Other Skill Categories in the Population of 20-64

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Low-skilled	12.7	12.1	11.6	11.0	10.7	9.9	9.6	9.3	9.0	8.5	8.1	7.7	7.7	7.4	7.1	7.1	6.9
Lower middle-skilled	42.6	41.9	41.8	42.3	41.9	41.1	40.5	39.8	38.8	38.5	37.8	37.3	36.4	35.8	35.0	34.7	34.4
Upper middle-skilled	34.3	35.3	35.7	35.6	36.0	36.9	37.4	38.1	38.6	38.3	38.3	37.8	37.6	37.3	37.6	37.3	36.8
High-skilled	10.5	10.7	11.0	11.0	11.4	12.1	12.5	12.7	13.6	14.6	15.8	17.2	18.3	19.5	20.3	21.0	21.9

Source: LFS data 2000-2016, own calculation.

Table A2. Share of Low-skilled and Other Skill Categories in the Population of 20-24

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Low-skilled	8.3	8.58	7.7	7.79	8.49	8.85	8.24	8.18	8.39	8.06	8.12	8.32	9.06	9.13	9.35	9.6	10.39
Lower middle-skilled	36.26	34.68	33.18	32.01	30.93	29.01	28.55	26.59	24.3	23.09	21.91	20.96	20.86	19.85	19.45	20.18	20.63
Upper middle-skilled	51.78	52.84	55.1	56.84	56.47	58.25	59.09	61.11	61.54	62.01	62.37	62.81	60.51	60.43	60.52	59.32	57.09
High-skilled	3.67	3.9	4.02	3.35	4.1	3.89	4.13	4.11	5.76	6.85	7.61	7.91	9.57	10.6	10.68	10.89	11.89

Source: LFS data 2000-2016, own calculation.

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The low-skilled in the Czech Republic

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