

Mobility in Low-skilled Labour Markets: The Case of Europe

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Abstract

The EU28 had a labor force of 241 million in 2018 including 33 million or 14% who were foreign born, i.e., first generation migrants. About 17% of all wage and salary employees (38 million people) were low-skilled, with large differences between the EU-MS. The countries with the highest shares of low-skilled workers are in the South of Europe, Portugal taking the lead with 47%, and the lowest in Central and Eastern European Countries (CEECs) with 4% to 10%.

Foreign born are more often low-skilled than natives, but again with large variations between EU-MS. The proportion of migrants who are low-skilled is highest in Southern European countries, with Greece in the lead with 47%, and the lowest in CEECs, which have very low shares of migrants to begin with, and hardly any migrants with low-skills.

The incorporation of low-skilled migrants into the labour market differs between EU-MS, in response to differing economic and technological development levels, institutional landscapes and the degree and type of segmentation of the labour market. In general, low-skilled migrants tend to access employment in the secondary labour market. But the character of the secondary labour market differs between EU-MS. While Austria tends to have a certain complementarity between low-skilled migrant and better skilled native workers, Southern European countries and France tend to differentiate between permanent employees and contract labour, independent of skill level.

Germany opened up a low-wage sector similar to Anglo-Saxon countries (with the Hartz reforms after 2002), reducing the generosity of the benefit systems and lowering levels of protection against

dismissal. Structural and institutional systems differ between the EU-MS, but they are the major vehicle for labour market flexibility. However, all limit movement between the sectors, thereby reducing the social mobility of low-skilled workers, many of them migrants.

As demand for low-skilled labour is declining, investment in education and training has been identified by the EU-MS as a crucial factor for improving their employment prospects. To promote education and training, the EU2020 strategy includes the establishment of a system of lifelong learning (LLL) in all MS. The implementation of lifelong learning systems is monitored on the basis of indicators that are included in the European Skills Index, which has three pillars, skills development, skills activation and the matching of skills supplied by workers and required by employers. While most countries have fairly well-developed instruments for upskilling and activation, matching is in challenging, given different degrees of complexity of labour markets across Europe.

The EU-MS in the forefront of technological and structural change are among the best in skills development, adapting worker skills to the new needs. Accordingly, Nordic countries are the best performers relative to skills development (pillar one), followed by Estonia, Slovenia, Luxembourg and Austria. At the lower end are Southern European countries, together with some CEECs (Romania, Bulgaria and Hungary), and France and Ireland.

As rapid change implies frequent phases of unemployment over the lifetime, activation measures are important instruments of active labor market policy in most EU-MS to avoid long-term unemployment and social exclusion. The best performing countries in activation are Sweden, the Netherlands and Austria, while the worst-performing activation countries are the same as those in pillar one. In contrast, in pillar three, the most effective countries relative to job matching are a the Czech Republic in the lead, followed by Malta, Luxembourg, Hungary and Poland. At the lower end are Southern European countries and Ireland and the UK.

The diverse performance of the various EU-MS at the level of pillars indicates that not one EU-MS is outperforming other countries in all dimensions of skills adaptation to the needs of the labor market on the one hand and personal aspirations on the other. This implies that there is room for learning from best practice examples of institutional performance in the one or other country and policy area.

The high score of Nordic countries in skills development is mirrored in the highest participation rate of workers in education and training, while Southern European countries, some CEECs as well as Germany are at the lower end of education and training participation rates. The discrepancy in the participation rate in education and training between EU-MS is largely a consequence of differing welfare models, with the Nordic countries focusing on the adaptation of skills of workers in contrast to Germany, which emphasizes workfare, Southern European countries with large secondary labour markets and residual welfare models and CEECs ???with an already highly skilled workforce.

It is difficult to judge the degree and composition of job losses resulting from digitalisation as artificial intelligence is not a singular technology but applicable in various tasks. In order to ensure social cohesion and political stability it will be important to have an eye on the transition to a digitalised labour market and to identify the winners and losers. This is a precondition for providing effective and targeted further education and training, preferably on an applied basis as in the apprenticeship system, to ensure their continued employability and decent living.

Introduction

Mobility of low-skilled workers is not only about geographical mobility but also about social mobility and thus the upward mobility in terms of wages and equality of chances in the labour market. Segmented labour markets on the demand side and 'superdiversity' of labour on the supply side open up a complex set of opportunities and career paths for low-skilled workers in the various EU-MS. While skilled migrants generally enter the primary labour market, alleviating domestic skill shortages in specific occupations, thus gaining access to the (social) mobility ladder available to natives, low-skilled migrants tend to be relegated to the secondary labour market, with little chance of moving up the occupational and social ladder. Further education and training offer opportunities for low-skilled migrants as well as natives to stay in employment and escape the trap of dead-end jobs, low wages and difficult working conditions.

The low-skilled and their mobility in Europe: some facts and figures

This chapter identifies the level and composition of the low-skilled population in the European Union (EU) by country or region of birth. The focus is on their integration into the labour market, based on labour force participation and unemployment rates.

Native and foreign born low-skilled population

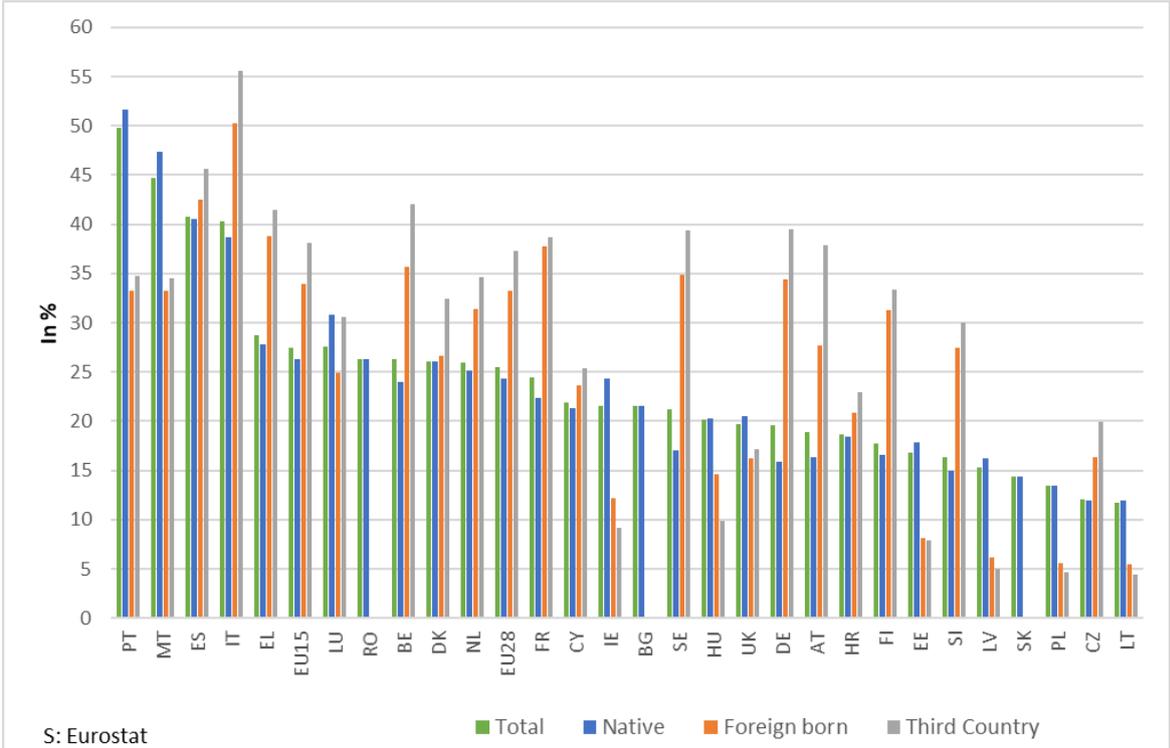
In 2018, some 527 million people lived in the European Economic Area (EEA) and 512 million in the EU28. In the EEA 63.3 million or 12% are foreign born, not dissimilar to the 11.7% in the EU28 (60 million). 65% of the total population were of working age (15-64); of the migrant population (foreign born) a much larger percentage is of working age, namely 78%. This is an indication of labour migration being the main driver of migration, partly for economic reasons promoted by the right to free movement of workers within the EU, partly as a consequence of immigration policy with its focus on labour migration from third countries; family migration is restricted to the partner and dependent children; accordingly, dependent children - but above all older persons - are underrepresented in the migrant population.

The proportion of the population of working age with a low educational attainment level (less than primary, primary and lower secondary education = ISCED levels 0-2) amounted to 25.5% in the EU-28 (83 million). The share was somewhat higher in the EU15 with 27.6% (71 million) and significantly lower in the Central and Eastern European Member States (15.2%). Even Romania, the country with the highest share of low-skilled in the Central and Eastern European EU-MS, has a slightly lower share of low-skilled persons in the population of working age (26.3%) than the EU15 on average. This is a result of the high priority given to education by the former communist regimes. The latter aimed at establishing a new society radically different from the former, eliminating social classes via educational upward mobility and homogenization, identifying education as a panacea for inequality. (Olejnik, 2017; Beblavý et al. 2011; Russell 2009)

On average in the EU28, it is the migrant population that has higher shares of low-skilled persons with 33.3%. The native population of working age had a somewhat lower share of low-skilled persons (24.3% in the EU28), with large variations between the EU-MS. The EU countries with the lowest shares were, as mentioned above, amongst the new EU-MS in the East: the Czech Republic and

Lithuania (both 11.9%) taking the lead, followed by Poland (13.5%), Slovakia (14.4%) and Slovenia (15%). In contrast, in the EU15, the share of low-skilled amongst the native active population amounted to 26.3%, with a spread of 15.9% in Germany, followed by Austria (16.3) and the Nordic countries - Finland (16.6%) and Sweden (17%) - and a high of 38.7% in Italy. The Southern European Member States have the highest shares of native low-skilled persons with Portugal (51.6%) in the lead, followed by Malta (47.4%) and Spain (40.5%) – largely a result of their economic development level with comparatively large labour intensive agricultural & fisheries sectors and small family businesses. The high shares of low-skilled workers may also be attributed to the prevalence of large informal sectors (see Tudose and Clipa, 2016) which tend to offer employment opportunities for native as well as migrant workers.

Figure 1: Share of low skilled (ISCED 0-2) in the population of working age (15-64) by country / region of birth in %: 2018



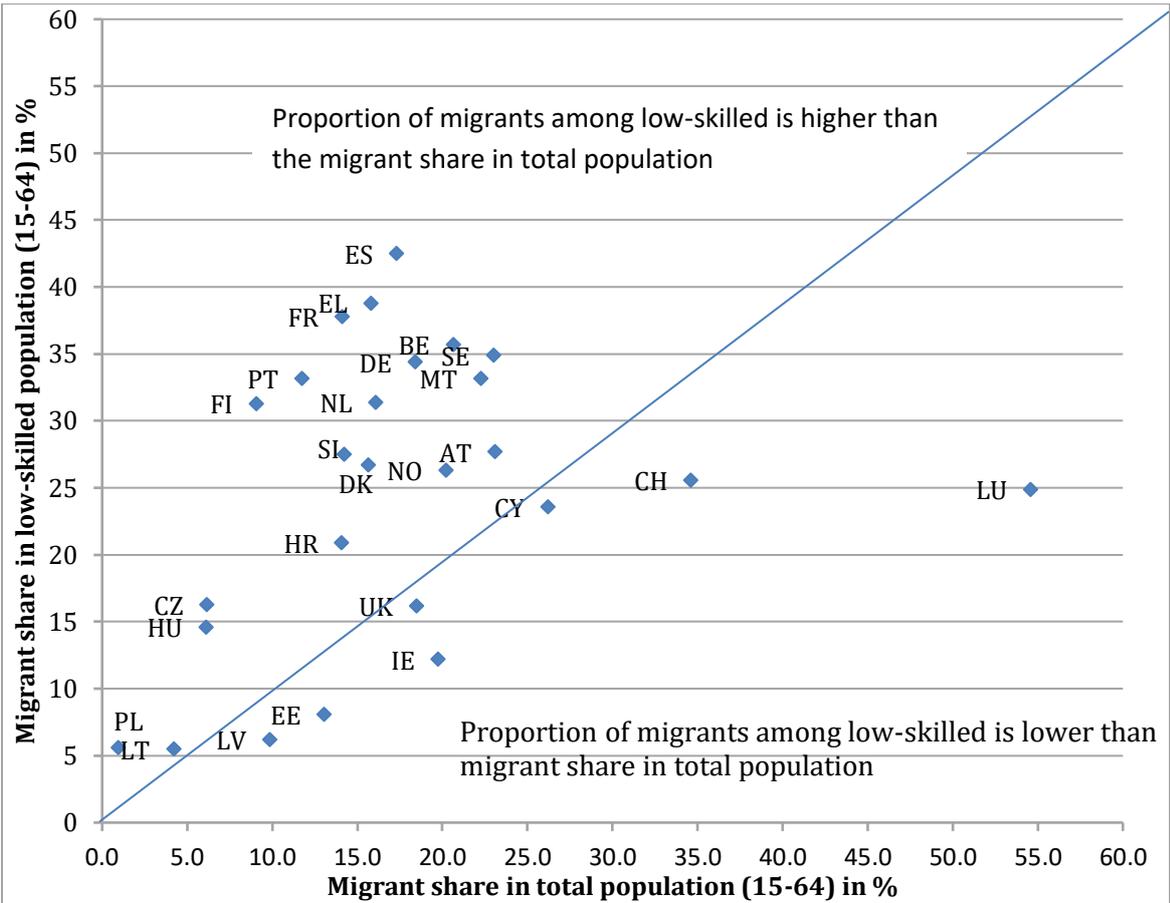
It can be taken from Figure 1 that the proportion of low-skilled migrants in the population of working age differs greatly between EU-MS: The diversity is not only a consequence of economic and technological development, but also of immigration policy, in more recent years also of refugee inflows. Accordingly, the countries with the highest shares of low-skilled third country citizens are Italy with 55.6%, followed by Belgium (42%), Greece (41.5%), Germany (39.5%), Sweden (39.4%), France (38.7%) and Austria (37.9%).

An analysis of the EU migrant stock shows that the population of migrants originating from the EU28 countries tends, on average, to have a slightly higher share of low-skilled (25.2%) than the native-born population (EU28: 24.3%), but significantly lower shares than third country origin migrants (37.3% in the EU28). Exceptions are the Southern European countries Portugal and Malta; they have the highest shares of un- and semi-skilled native populations in the EU28, surpassing even the share of low-skilled third country migrants in their countries.

One may learn from Figure 2 that in most EU-MS the share of low-skilled migrants amongst the low-skilled population is higher than the average migrant share in the population, indicating that there is a demand for low-skilled migrant labour. Austria may serve as an example with a share of migrants in

the total population of working age of 23.1% compared to a share of migrants among the low-skilled population of 29.7%. This pattern is even more pronounced in Spain with a migrant share in the active population of 17.3% and a proportion of 42.5% amongst low-skilled persons. In contrast, in Switzerland, and even more so in Luxembourg, a relatively small proportion of the low-skilled are migrants (25.6% respectively 24.9%) but the migrant share in the total population is amongst the highest in the EEA with 34.6% respectively 54.6%.

Figure 2: Migrant share in total population of working age and proportion of low-skilled migrants (foreign born) among low-skilled population of working age in % in the European Economic Area: 2018



S: Eurostat data.

Labour force participation of the low-skilled

Different models of social organisation, which are historically grown and which constitute "incorporation regimes", determine the degree and type of integration of the population into the labour market. According to Soysal (1994), each country has a complex set of institutions which organise and structure socio-economic behaviour; these basic models of social organisation are extended to migrants and impact on their labour market behaviour. Brubaker (1992) argued in the same vein, suggesting that different labour market outcomes of immigrants flow from basic differences in national models of 'incorporation', comparing the effect of the French civic territorial model which grants citizenship rights to those born on its territory with the German ethno-cultural model, which grants citizenship on the basis of ethnic origin (Aussiedler).

In my view, it is above all the welfare model which structures labour market behavior of natives as well as migrants (Biffi 2004a; 2008). The four basic welfare models in the EU, the Nordic, the Anglo-Saxon, the Continental and the Southern European Model, give different roles and weights to the labour market, the state, and the household for the production of goods and services. Countries which relegate a large portion of work, in particular social services, to the household sector by tax incentives or transfer payments (Continental and Southern European countries) have a lower employment rate of women than countries in which the state (Nordic countries) or the private sector (Anglo-Saxon countries) are the major suppliers of these goods and services. Thus, the participation rate of migrants, in particular of migrant women, is determined by the labour market access rights stemming from the migration model (EU-mobile workers vs third country citizens) on the one hand, and the welfare model on the other. While the immigration model determines who may settle, access the labour market and under what conditions, the welfare model structures the division of work between the market and the household. Accordingly, labour force participation declines as one moves from the North to the South of Europe, together with the proportion of women in employment and the share of the public sector in total employment. The Anglo-Saxon model tends to differ somewhat in that it has a comparatively high degree of integration of women into the labour market but a fairly small public sector. This is due to the transfer of household services to the private sector and non-profit institutions: the services provided are often at the core of the low-wage sector. In contrast, in the Nordic countries these personal services, in particular care work and health services, are provided by the public sector with good working conditions and pay.

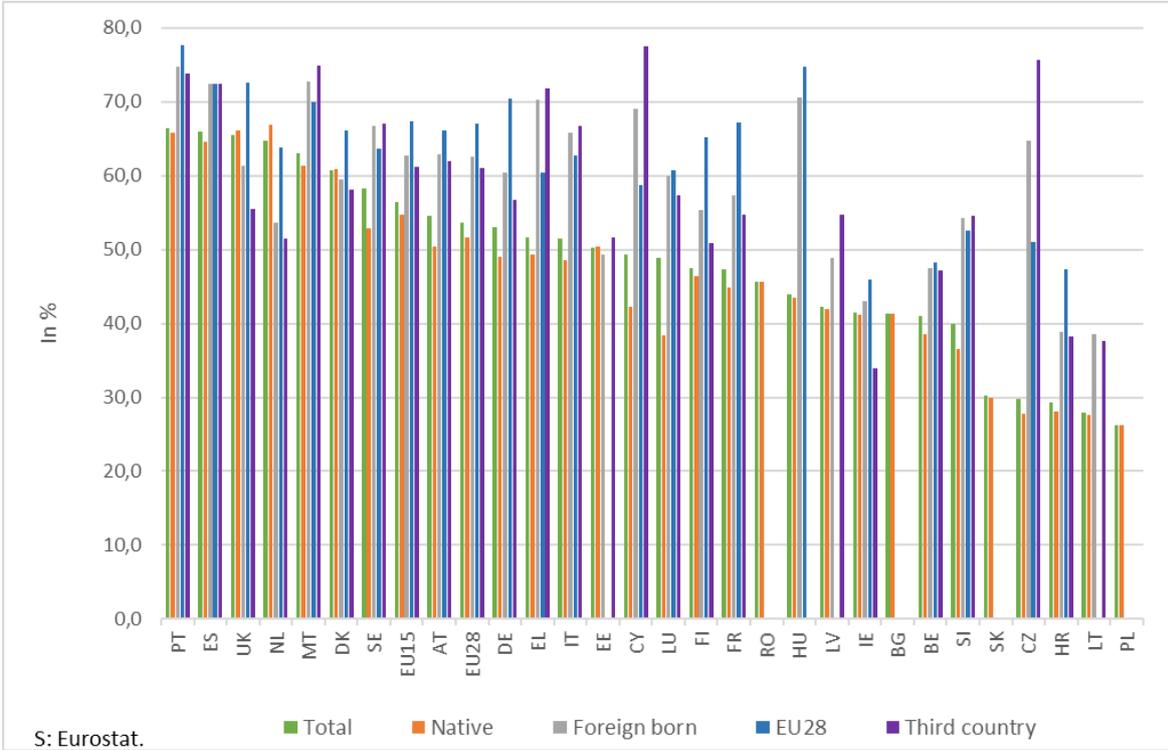
The labour force participation rates of low-skilled persons tend to be on average across the EU lower than those of the total population of working age: in 2018 the difference amounted to 25.9 percentage points in the EU28 (53.6% versus 79.5%). It is the low-skilled natives rather than the migrants with the lowest activity rates. While the natives had an activity rate of the low-skilled of 51.7% in the EU28, the foreign born had 62.6% (+10.9 percentage points). Amongst migrants the rate was higher for mobile low-skilled EU migrants (67%) and lower for third country low-skilled workers (61.1%).

The pattern of activity rates by country/region of birth differs between the various EU-MS, as can be taken from Figure 3. While the native born low-skilled workers tend to have the lowest activity rates in most EU-MS (exceptions are the Netherlands, the UK, Denmark, and Estonia), low-skilled migrants from third countries show a diverse pattern. In some countries they have higher activity rates than EU-citizens, e.g. in some Southern European countries - Cyprus, Malta, Italy and Greece - but also in Sweden and in some Central and Eastern European Member States, e.g. the Czech Republic and Slovenia. But in all other countries low-skilled third country migrants have at times significantly lower activity rates than EU citizens; the UK takes the lead with -17.1 percentage points, followed by Finland (-14.3 percentage points), Germany (-13.7 percentage points), France (-12.4 percentage points), and Ireland (-12 percentage points). This differentiation is the outcome of the interaction between the welfare system on the one hand and access rights of third country migrants on the other.

The low labour force participation of low-skilled native born tells us a lot about the state of the local labour market for natives, which tends to be marked by low wages and bad working conditions. (Hallek Vega and Elhorst 2016; Luginbühl and Musiolek 2016) In the face of such a situation, native workers who are able to move out of the region/country turn to countries/regions with better employment opportunities and higher wages. Accordingly, after Eastern enlargement of the EU, not only higher skilled workers but also low-skilled workers migrated from CEECs to EU-MS; an increasing outflow from South to North of Europe could be observed after the economic crisis of 2008/9, and only recently do we see a slowdown and in some cases even a turnaround of this movement.

From an economic perspective, labour mobility from areas with high unemployment and low wages to regions with labour scarcities is rational and efficient. Besides, with the introduction of the single currency, the euro, monetary instruments (exchange rate adjustments) can no longer be employed to counter macro-economic inequalities. Instead, labour market adjustment mechanisms, in particular wage flexibility and mobility of labour (flexibility of prices and quantities) have to come to play to reduce economic disequilibria. As wages tend to exhibit greater inertia than exchange rates, i.e., they respond more slowly to a changed environment, the adjustment process via wages is slow. Mouhoud and Oudinet (2006) point out that the elasticity of migrant flows relative to labour market inequalities (unemployment, wages) has to be high and surpass migration costs (network effects – family /friends, language and cultural barriers, welfare benefits, housing etc.). As differences in achievable wage rates continue to be pronounced between the East and the West, they are the main motivating force for out-migration. Accordingly, labour mobility within the EU has become the major instrument to even out labour market inequalities - just as in the USA, as Blanchard and Katz (1992) point out.

Figure 3: Activity rates of low-skilled workers (ISCED 0-2) by country / region of birth: 2018



In Europe, we see substantial out-migration of low-skilled workers from the periphery in the East, e.g. Romania, Bulgaria, Poland, to EU-MS with better labour market conditions (UK, Ireland) but also to EU-MS with lower language and cultural barriers (Italy, Spain, Portugal) and a flexible component of the labour market run on contract labour. But the increased inflow of EU low-skilled migrants from CEECs to the Southern periphery of the EU as well as the UK (Vasey, 2016) did not raise the labour force participation rates of native low-skilled workers. Instead, employment levels in low-wage jobs and industries were rising, flowing from job-creation via immigrant labour.

With increasing regional integration of production and regional specialization of certain processes in production chains between EU15 and the new EU-MS in the East, particularly between Germany and Austria and the CEECs, the latter could catch-up in terms of labour productivity and wages. (Fidrmuc et al., 1998, 1999; Havlik et al 2008; Levasseur 2019) The regional industrial specialisation processes

allowed the realisation of industry-specific economies of scale, resulting in increased economic growth which contributed to income convergence between the countries concerned. With time, also out-migration from CEECs to Western Europe is declining.

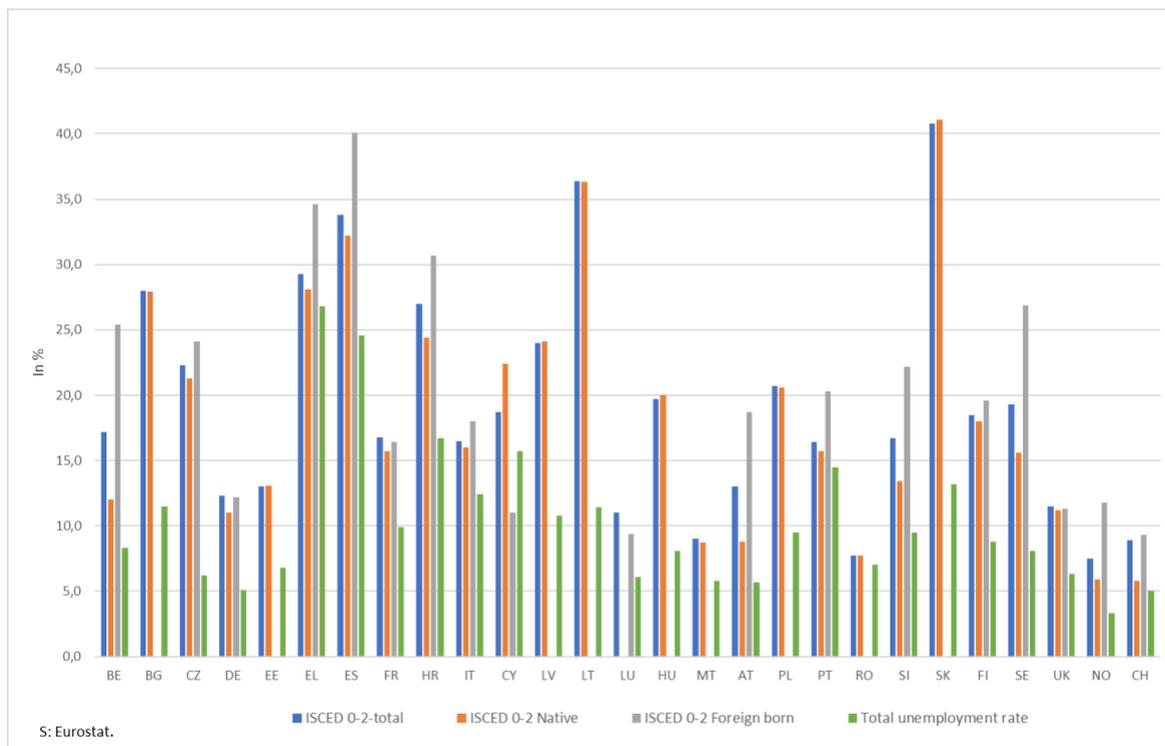
Apart from increased economic integration and the concomitant boost to trade relations, the EU structural funds (ERDF = European Regional Development Fund and the ESF = European Social Fund), the Cohesion Fund and the Common Agricultural Policy (CAP) contribute to a reduction of regional disparities in income, wealth and opportunities. (Biffi 2018a) They are implemented to equalize pay and working conditions across European regions, not least to eventually limit the flow of migrants from East to West and South to North. These instruments may somehow be likened in their effect to the fiscal federalism in the USA, where federal tax payments decline in case of a declining economic activity of a region/state, and federal transfers increase. (See Sala-i-Martin and Sachs 1991)

Low-skilled workers and unemployment

Not only do low-skilled workers have lower activity rates than higher skilled ones, they also suffer greater job instability. Accordingly, their unemployment rates are, depending on the business cycle, often significantly higher than those of better skilled persons. In 2018, at the peak of the business cycle, the average EU unemployment rate amounted to 7% compared to 14% for low-skilled workers. A differentiation by country/region of birth indicates that low skilled migrants are more affected by unemployment than equally skilled natives, as shown by a pilot study of Eurostat (2011) and a special EU-wide labour force survey (LFS) in 2014.

In the LFS of 2014, which focused on migrant integration, the unemployment rates of low-skilled workers were on average twice as high as the average unemployment rates in the European Economic Area (EEA). (Figure 4) Foreign born low-skilled workers were more affected by unemployment than native born with the exception of Cyprus. In Austria, the EU-MS with the then lowest unemployment rate of 5.7%, the rate of low-skilled workers reached 13%; foreign born suffered a rate of 18.7% compared to 8.8% of native born low-skilled workers. Even more pronounced was the differential between foreign born and native born low-skilled workers in Sweden, a country with an average unemployment rate of 8.1% in 2014. In this case the unemployment rate of low skilled foreign born amounted to 26.9% versus 15.6% of natives with equally low skills. In some countries there is, however, hardly a difference in unemployment rates of low-skilled natives and migrants, the UK being one example (natives 11.2% versus foreign born 11.3%), followed by France (natives 15.7% versus foreign born 16.4%), Germany (natives 11% versus foreign born 12.2%), Finland (natives 18% versus foreign born 19.6%), and Italy (natives 16% versus foreign born 18%).

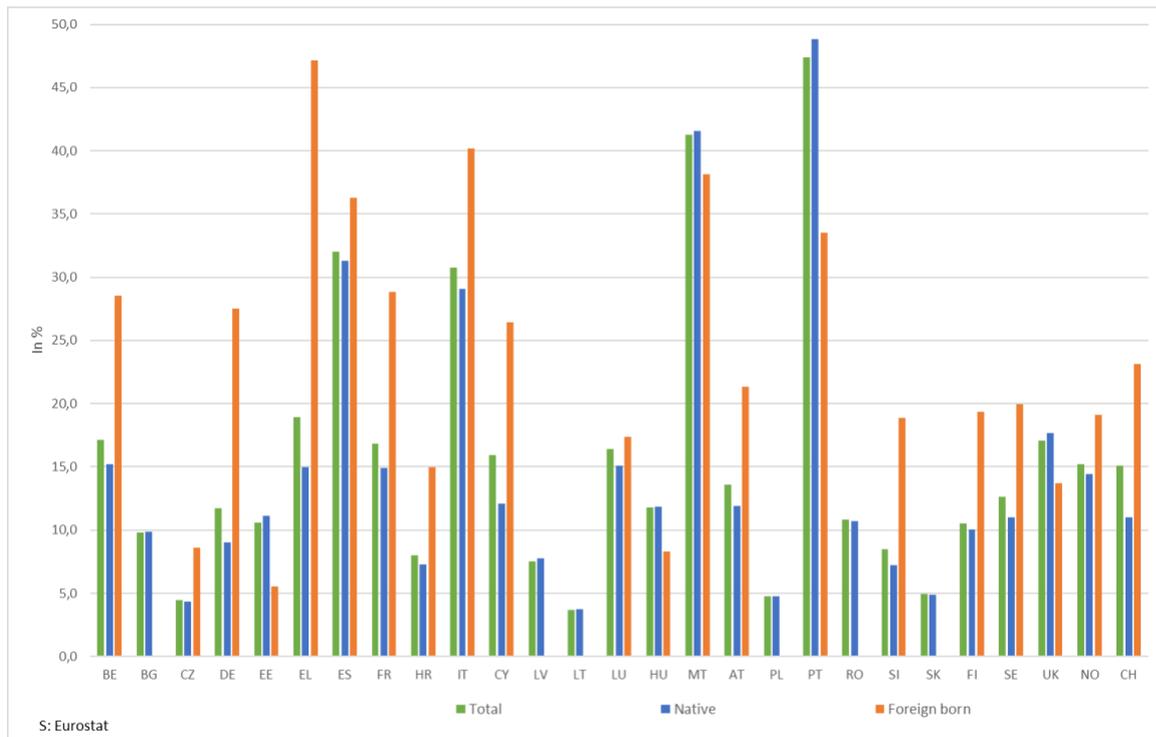
Figure 4: Unemployment rates of low-skilled workers (ISCED 0-2) by country/region of birth in the EEA: 2014



Low-skilled workers and employment

Given below average activity rates and above average unemployment rates, low-skilled workers are underrepresented in the workforce relative to the population. Accordingly, in 2018, 17.1% of all employees, i.e. 38 million people, were low-skilled workers (15 – 64-year-olds) in the EU28. Their share was somewhat higher with 19.3% (34.3 million employees) in the EU15. The EU-MS with the lowest shares of low-skilled workers in total employment were the new EU-MS in Central and Eastern Europe – as mentioned above, with shares between 3.7% in Lithuania and 11.1% in Bulgaria; Romania has a share of low-skilled workers in total employment comparable to the EU28 average, with 17.3%. The countries with the highest employment shares of low-skilled workers are in Southern Europe; Portugal is taking the lead with 43.8%, followed by Malta (36.2%) and Spain (33%). In most countries of the EEA, the share of low-skilled migrants in migrant employment is higher than the share of low-skilled native born in the employment of natives. Exceptions are Portugal in the South of Europe (33.5% vs 48.8%), the UK (13.7% vs 17.7%) and many of the Central and Eastern European EU-MS, as the majority of migrants are in the upper skill segments.

Figure 5: Share of low-skilled workers in total employment by country/region of birth: 2014



This diverse pattern of low-skilled native and migrant workers in the European Union is the result of the interaction of diverging economic and technological developments, different institutional ramifications, regulatory systems and densities of regulation (OECD 2013). Economic and technological developments are intertwined with the institutions of socio-economic organization. The education system is an important element of the institutional landscape. It does not only provide skills and competencies for the labour market but represents also an instrument of social stratification. Pechar and Andres (2011) as well as Beblavý et al (2011) propose to use the concept of welfare regimes as an analytical tool to better understand national education policies. They focus on the three ideal welfare regimes postulated by Esping-Andersen (1990) – the liberal, the conservative/corporatist and the social-democratic – Czarnecki (2014) widens the scope by including ‘post-communist’ regimes – and identify interactions between social protection regimes and education policy. The conservative/corporatist welfare regimes of continental Europe (Germany, Austria, Belgium, France, Netherlands, Luxembourg) tend to preserve traditional status differentials, and education policy does not seem to be able to counter this basic policy orientation. Also liberal welfare regimes (United Kingdom, Ireland) do not aim at changing preexisting social hierarchies; as a matter of fact these countries exhibit more inequality in terms of income, Gini co-efficient, health and housing than the conservative regimes, and their education policy does not promote social mobility either, as Willis forcefully argues in his widely acclaimed book *Learning to Labour* (1981). The social-democratic regimes (Scandinavia), in contrast, are redistributive in character, based on a fairly flat wage and income distribution and the principle of equal opportunity and equal access to education. (OECD 2018, Waldenström 2016)

The Southern European or familial models on the other hand, tend to relegate a large proportion of work to the household, thereby promoting casual employment, employment in the informal sector and/or in the family, particularly of women. This system contributes to the comparatively low labour force participation of women and does not provide sufficient incentives for higher education, in particular of women and persons of poor socio-economic background. In addition, labour market reforms in Spain in 2012 opened up a secondary labour market on the basis of temporary contract labour, with hardly any chance to escape from low-wage and high-turnover employment. (Cabralés

et al. 2014) Accordingly, the demand for higher education and professional services is low; in addition, the gap between the rich and the poor is considerable – according to the OECD-Better-Life-Index¹ “the top 20% of the population earn close to seven times as much as the bottom 20%” in Spain.

Biffl and Isaac (2002:439) point out that youth of less advantaged background find it hard to access and succeed in higher education anywhere in Europe, independent of the welfare regime. Nikami et al (2019) argue in the same vein specifically for Nordic countries. However, in the majority of EU-countries the educational mobility of second-generation migrants with low-skilled parents is higher than that of their native peers. According to Oberdabernig and Schneebaum (2017:3726) “...the difference in educational attainment between natives and second-generation migrants has been narrowing across the two most recent generations.” This implies that in the long-run educational assimilation of migrants with natives can be expected.

In addition to economic developments and education, the immigration regime and historical trajectories impact on the skill composition of migrants. In the case of Austria, the guest-worker model channeled low skilled migrants into specific occupations and tasks, thereby paving the way for a labour market incorporation model built on complementarity between largely higher skilled native and low-skilled migrant workers. (Biffl 1996) In contrast, in Southern European countries as well as France, a different type of duality emerged, with permanent employees having high levels of job security and investment in training opportunities, while a large and growing segment is relegated to a secondary labour market distinguished by temporary labour contracts with a low level of employment protection, independent of skill level. (García-Serrano and Malo 2013; Garibaldi and Taddei 2013; Barbanchon and Malherbet, 2013) According to Ulu and Muzi (2015) also Sweden runs the risk of developing a dual labour market as it has one of the largest differences in employment protection between permanent and temporary employees, many of the latter low-skilled migrants. Temporary and contract workers are marginalized through low levels of pay, social benefits and training opportunities. (Biffl 2010, 2004b) While protecting employees is important, excessive protection, particularly if it differs across different types of employment contracts, has adverse effects on welfare and economic performance.

The social mobility of low-skilled migrants in the EU-labour markets

This chapter has a focus on the choices and opportunities of low-skilled migrants in the receiving EU-countries, and what is needed for migrants to assimilate economically with natives. The social mobility of low-skilled workers, be they native or foreign born, depends crucially on chances to upgrade their skill levels. This is the tenet of human capital theory with its focus on labour supply characteristics. Its message is particularly pertinent in the situation of low-skilled labour saving technological progress and international outsourcing of low-skilled production in all EU-MS, reducing the demand for low-skilled workers. In addition, EU labour markets are divided into separate segments, distinguished by different characteristics and behavioural rules. (Reich et al 1973) A subcase of segmentation theories is the dual labour market theory according to which the primary sector tends to be reserved for the better skilled and the secondary sector for lower-skilled and/or marginalised groups of workers, with little mobility between the two. Insider-Outsider theories (Lindbeck and Snower 1986; Biffl 2000) make a bridge between labour supply and labour demand, by identifying Insiders as workers with stable and well-paying jobs, and Outsiders as workers with unstable employment conditions and low wages. The latter are prevented by Insiders from entering internal labour markets with high wages and career ladders. Accordingly, people with the same skills

¹ <http://www.oecdbetterlifeindex.org/countries/spain/>

but other socio-demographic characteristics or legal rights may have different employment careers. In the case of migrants in the EU, the different legal status of third country migrants as compared to natives and mobile EU-citizens may suffice to send them to the periphery of the labour market. Only if they have scarce skills may they become Insiders and move up the career ladder.

According to the above theoretical considerations, different ways of incorporating low-skilled migrants into the labour market may be expected in the various EU-MS, in response to differing economic and technological development levels, institutional landscapes and degree and type of segmentation of the labour market. The latter relates among various factors to occupation, industry, competitive position of the firm as well as firm size on the one hand and different types of workers on the other. All these have an impact on the access to jobs (recruitment), wages (remuneration) and employment stability (retention).

The complex labour demand conditions are confronted with an equally diverse and segmented labour supply. According to Vertovec (2007) labour supply is characterised by 'superdiversity' resulting from differing legal status of mobile workers (contract workers, seasonal workers, third country vs EU-migrants, dispatched workers, to a lesser extent irregular migrants), language and cultural background as well as age and gender. The complex structures and dynamics of labour supply and demand facilitate the differentiation between socio-economic groups in the recruitment process, in wage setting and the retention of workers. As a result, the process of job matching becomes increasingly challenging, requiring special attention by labour market institutions.

In their book, Meulders et al (2004) provide an overview of the labour market prospects of low-skilled workers in Germany, Belgium, Italy, the UK, Ireland and Switzerland. In the case of Italy, Cappellari (2004) provides evidence that low-paid workers have considerably higher job insecurity than better paid workers and that the former often get stuck in low-paid jobs. Not much different is the situation in Switzerland; de Coulon and Zürcher (2004) show that it is not the socio-demographic background but much rather a long duration of employment in low-paying jobs that hinders social mobility over the life cycle. D'Arcy and Finch (2017) tracked low-paid employees in the United Kingdom and showed that only a small proportion could escape low-wage jobs (17% over a 10-year-period of employment). Another important message for the UK is provided by Leontaridi and Sloane (2004), namely that there is no clear evidence that lower paid workers are less satisfied in their jobs than higher paid ones, in particular women part-time workers. This implies that there is more to the quality of a job than pay levels and that low-paying jobs are not necessarily bad jobs.

In the case of Germany, Geishecker (2004) establishes that labour demand for low-skilled workers declined substantially due to international outsourcing of production by certain manufacturing industries, in particular electrical engineering, chemical, office machinery/computer and the paper industry. Thereby the demand for low-skilled workers deteriorated, reducing employment opportunities of low-skilled workers. Mahy and Paindavoine (2004) provide proof for Belgium that monopsony power may entice firms to exploit low-skilled workers by paying lower wages than warranted.

For Austria, Biffl (2000) provides evidence of a dual labour market, with high wage industries and large internal labour markets employing almost exclusively native workers on the one hand, and small and medium sized enterprises under severe competitive pressure with a mixed workforce and on average lower pay. Employment in the primary segment is stable, with further education and training provided by the company, steady wage growth and good career prospects. In contrast, small-scale industries exhibit greater job fluctuations and wage flexibility for all workers, but more so of migrants than natives. In addition, migrants tend to be paid the collectively agreed minimum wage while natives tend to receive pay beyond the minimum wage. The high labour turnover in small-scale enterprises allows a quick adjustment of wages to new conditions on labour and goods markets. Of

all manufacturing industries, only textiles and clothing, i.e. industries at the bottom of the wage scale, provide relatively stable employment for migrant workers. In night shifts male migrant workers, mostly of Turkish origin, constitute the core work force, while migrant women are an important part of day shift workers. This industry experiences severe competitive pressure and owes its survival in Austria to migrant labour. But as wage differentials remained fairly restrained in Austria, given the highest regulatory density of employment via collective bargaining in Europe, covering 98% of workers, income inequality remains low. According to the OECD², the Gini coefficient was one of the lowest in the EU and with 0.28 equal to the one in Sweden in 2016. In Germany, in contrast, only 56% of workers are covered by collective wage agreements, which allowed Germany to develop a second labour market characterised by low wages and precarious working conditions. (Kampelmann et al. 2013:17; Knuth 2014) The development of a low-wage sector resulted from labour market reforms aiming at the reduction of unemployment. The reforms were initiated with the “Hartz reforms” in 2002, following the example of the Anglo-Saxon model, involving less generous benefit systems and lower levels of protection against dismissal. Temporary work became an important instrument to help long-term unemployed to gain a first foothold in the jobs market - but only a limited number of temporary workers eventually get permanent jobs. Also, the introduction of mini jobs, above all in cost-sensitive areas of the services sector, provided flexible and cheap part-time work. But again, people on mini jobs have little chance of promotion and are usually paid low hourly rates. This goes to show that not only firm size and industry have an influence on the social mobility of low-skilled workers but also labour market regulations. The jobs carrying limited opportunities for upward mobility are in food services, personal care services, sales, and cleaning. All that said, it seems that most EU countries have “migrant” jobs which tend to persist as natives do not seem to want to take these jobs even if it means to remain unemployed or out of the labour force.

Further education and training fosters social mobility of low-skilled workers

The complexity of jobs is increasing across all industries. This trend is driven by innovations in information and communication technologies and other skill-biased technological change, as well as workplace reorganization. As a result, employment opportunities of low-skilled migrants, as well as natives, are crucially dependent upon their chances to access ways of up-, re- and multi-skilling. Given the importance of skills formation and upgrading in an era of technological change and globalization, the European Union focused on life-long-learning in the Lisbon agenda of 2000-2010, and further in the Europe 2020 strategy currently in place. The aim of the EU-employment strategy is to overcome the slow productivity and economic growth performance of the EU without compromising inclusive welfare systems, social cohesion and a healthy natural environment. This is to be achieved by the promotion of innovation, a major pillar of which being the development of a “learning economy”. The Europe 2020 strategy and its application are monitored by the European Commission within the framework of the so called “European Semester” on the basis of indicators in the various target policy fields. The European semester allows EU countries to discuss their reform plans and monitor progress at specific times throughout the year. (EC 2016) In order to reach the targets postulated in the education field, EU-MS are beginning to invest in the skills of low-skilled workers including low-skilled migrants, to combat labour scarcities flowing from workforce ageing and to reduce the potential negative employment effects of digitalization on this skill group.

² See <https://data.oecd.org/inequality/income-inequality.htm>

In order to promote the implementation of national policies and measures to reach the national targets, the EU co-funds measures and projects through a system of "shared management"; measures to improve employment and education opportunities are largely co-funded by the European Social Fund (ESF).

To be able to cope in an environment in which technologies, which digitize everything that can be digitized, are affecting everyday life, the acquisition of information-processing skills is a must, in order not to become marginalised. The extent to which low-skilled workers may gain competencies in information processing varies across EU-MS because of differences in industry structure and technology employed, as well as the quality of and access to lifelong learning, in particular on the job training and active labour market policy measures. A major policy challenge in this respect is that on-the-job training and upskilling tend to be offered to employees with higher educational attainment levels rather than to low-skilled workers – as “learning begets learning” (OECD 2014:1), and the effectiveness of further education and training by the labour market service tends to be lower for the low-skilled.

Still another challenge is the depreciation of skills with age. (Paccagnella 2017) According to the International Assessment of Adult Competencies (PIAAC) of the OECD (OECD 2016:79) *“age-related differences in literacy and numeracy skills are even more pronounced when it comes to proficiency in problem solving in technology-rich environments. Given that the widespread use of ICTs is a relatively recent phenomenon, older adults were clearly in a position of relative disadvantage compared to younger adults.”* Another handicap still is migration, as language proficiency is an important facilitator of lifelong learning. (OECD 2016:68)

Skills, however, do not only affect earnings and employment opportunities but have wider implications. They promote health and well-being in addition to boosting the self-esteem and self-confidence of the individuals concerned. In addition, adults with lower skills are less likely than persons with better literacy and numeracy skills to actively participate in political processes; in consequence, upskilling the low-skilled does not only make economic sense but also political sense, as it may stabilize democratic systems. (OECD 2016) Accordingly, upskilling and reskilling are of social value and represent a public good, involving the cooperation between public institutions, social partners, civil society and the beneficiaries; upskilling is a means of empowerment of low-skilled workers to better cope in the labour market and the society.

The European Skills Index

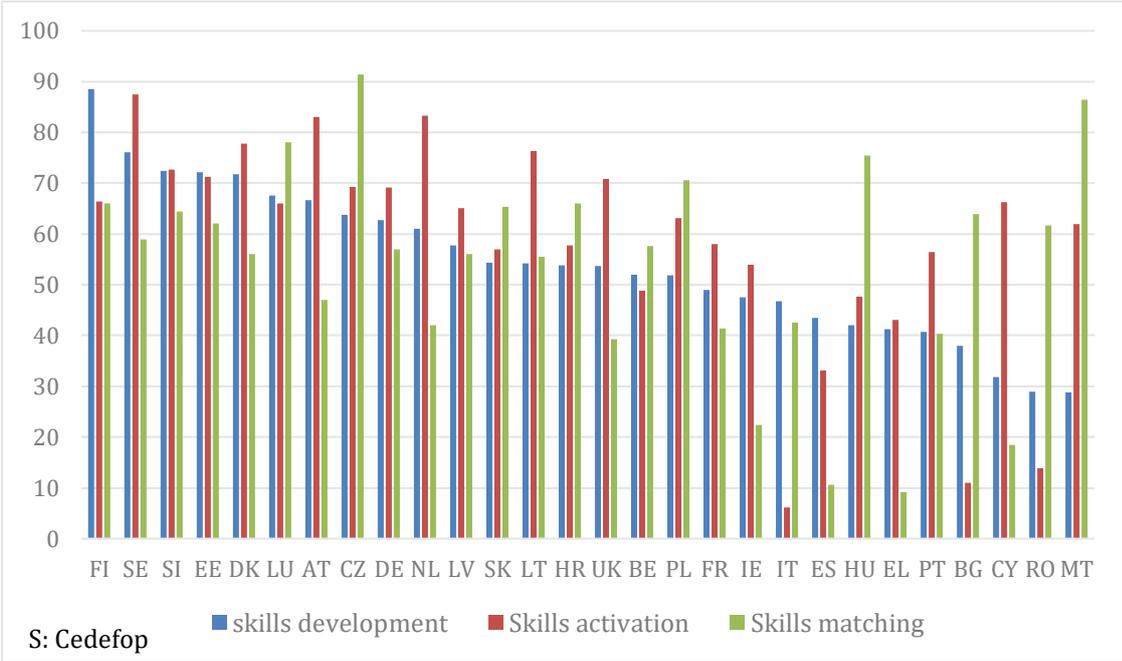
In order to better monitor the achievements of the various EU-MS in skills formation and skills matching, the European Skills Index (ESI) has been developed (Livanos 2018).³ The Index builds on the various elements of skills systems, which go beyond compulsory education and include various forms of formal and informal training and education, further (continuing) and higher education including academic and vocational education and training (VET). Also taken into account are ways of lifelong learning (LLL), including on-the-job-training, as well as activation measures which promote the labour force participation of specific groups of workers.

The concept of the ESI is based on human capital theory according to which the individual as well as society profit from investment in skills. Accordingly, various dimensions of skills are taken into account, differentiating between those that drive productivity, as distinct from those promoting social inclusion and employment. Therefore, a complex set of indicators is taken into account: those informing about skills development and activation of potential workers on the one side and those

³ For more see <https://www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/european-skills-index/skills-development>

addressing the matching process between skills supplied by workers and required by firms on the other. They are compiled under three pillars as can be taken from Figure 6. The three indicator-sets comprise all in all 15 separate indicators. Interrelationships between the various indicators are possible, which is a common feature of composite indices. The 2018 ESI draws on annual data between 2014 and 2016; the individual scores are calculated at the indicator level. The index is based on the establishment of a 'best case' for every indicator (=100), and the relative position of a country is represented by the distance to the frontier.

Figure 6: European Skills Index 2018 (distance of pillar from defined ideal of 100)



In the pillar focusing on the development of skills we can see in Figure 6 that Finland scores highest with 89 points, followed by Sweden (76), Slovenia/Estonia/Denmark (72), Luxembourg (68) and Austria (67). At the lower end of the spectrum are the Southern European countries, together with some CEECs (Romania, Bulgaria and Hungary), but also France (49) and Ireland (48). The second pillar with its focus on the activation of persons who are out of the workforce puts Sweden in the front row (87), closely followed by the Netherlands and Austria (83). At the lower end of the scale of the second pillar are basically the same countries as in the skills development pillar. The EU-MS aiming at speedy technological and structural change are in the forefront of skills development, as change affords a continuous adaptation of worker skills to the new needs. In addition, rapid change implies frequent phases of unemployment over the lifetime; to avoid long-term unemployment and social exclusion it is important to have activation measures in place to reduce the probability of deskilling and frustration.

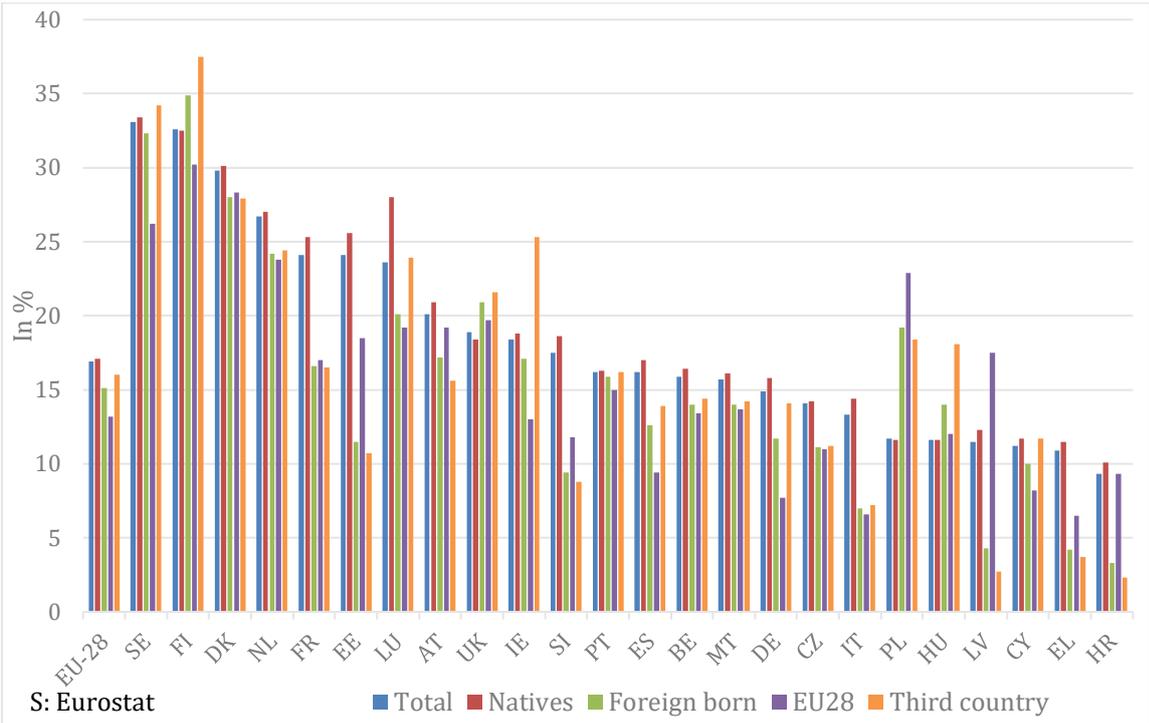
As far as the third pillar is concerned, with its focus on matching skills (labour supply) with employer needs ((labour demand) a totally different set of countries take the lead, namely the Czech Republic (91), Malta (86), Luxembourg (78), Hungary (75) and Poland (71). At the lower end are Southern European countries, but also Ireland (22) and the UK (39).

The dispersion of ranks at the level of pillars indicates that not one EU-MS is outperforming other countries in all dimensions of skills adaptation to the needs of the labour market on the one hand and personal aspirations on the other. This implies that there is room to learn from best practice examples of institutional performance in the one or other country and policy area.

Participation in education and training

The high score of Nordic countries in skills development shows up in significant proportions of the workforce in education and training. It can be taken from Figure 7 that the EU-MS in the North have the largest proportions of their adult populations engaged in learning and training in the EU, while Southern European countries, some CEECs as well as Germany are at the lower end of participation rates.

Figure 7: Participation rate in education and training (18-64-year olds) by country/region of birth: 2018



In the EU28 in 2018, 17% of the workforce aged 18-64 were engaged in education and training measures in the last four weeks before the survey week of LFS. The participation rate had a spread of 24 percentage points, with a high of 33% in Sweden and a low of 9% in Croatia.

The participation rates differed only slightly between native and foreign born (17% vs 15%) in the EU28 on average; a further differentiation of foreign-born shows that third country citizens participated to a larger extent in education and training than mobile EU citizens (16% vs 13%). There are, however, large differences between EU-MS. Workers in the Nordic countries, some Western EU-MS (Netherlands and Luxembourg) as well as the UK and Ireland are amongst the top third of EU-MS in terms of participation in education and training with small differences by country/region of birth. Austria also belongs to the top group in terms of participation in education and training, but with significant differences between natives and EU-migrants on the one hand and third country migrants on the other.

It may not come as a surprise that a fairly small proportion of adults is participating in further education and training in Germany (15%) with small differences between native and foreign born. This is due to the policy preference of Germany for workfare as mentioned above, i.e. employment measures (often subsidised) rather than education and training, resulting in one of the highest proportions of workers in low-wage jobs in Western Europe (2017: 25% or 9 million workers), many of them migrants. (Lukas 2011; Grabka and Schröder, 2019)

The discrepancy in the participation rate in education and training between EU-MS is largely a consequence of differing welfare models, with the Nordic countries focusing on the adaptation of skills of workers in contrast to Germany with its priority given to workfare, Southern European countries with large secondary labour markets and residual welfare models and CEECs with an already highly skilled workforce, as documented above.

Digitalisation and the low-skilled – the way ahead

In our era of digitalization, revolutionary changes in production with ruptures in production processes and workflows take place. The technological developments are marked by rapidly increasing efficiency and performance of hardware, new communication technology – with 5G, the fifth-generation cellular network technology - and breakthroughs in artificial intelligence (AI) with deep learning enabling machines to ‘learn from experience’. Above all, AI developments will give rise to a wave of automation which will trigger economic and social changes only comparable to earlier industrial revolutions. Certain jobs are going to become obsolete, ‘bad’ ones as well as ‘good’ ones, while new ones are being created. Overall there will be no decline in work, if Austria manages to stay connected to a digitalized global world and if the education and training system is able to provide the skills needed. (Biffi 2018b)

The dystopian view of a world without work will not become reality as workers will interact with robots, algorithms and AI in their work and everyday life; in addition, children will continue to attend schools, people will need health and care services and professionals as well as low-skilled workers will provide those services. But there will be challenges not only in the area of up- respectively re-skilling of workers made redundant but also in terms of funding education, health and care services out of tax revenues; the latter may run low as governments are grappling for new ways of securing taxes from cross-border online providers of goods and services and from work organized via various types of platforms (platform economy)

The recent OECD-Report (2019a) provides an overview of the tax challenges of the digitalisation of the economy with traditional tax bases eroding as profits are shifting to online goods and service providers abroad. The effective collection of VAT/GST (value added tax/goods and services tax) on cross-border supplies in a digitalised economy is not resolved, as it pertains to taxing rights negotiated and captured in international taxation regimes. The challenge will be even greater as digitalised business with specific characteristics, in particular heavy reliance on intangible assets and user participation, will become more important.

All that said, mechanisms will have to be devised, which ensure sufficient tax revenues to provide adequate supplies of services, and thus jobs, for a decent living. Accordingly, new mechanisms of social protection will evolve, whereby traditional interest groups are defending established rights and new groups of workers are demanding different arrangements commensurate with their situation. We see therefore in Europe the beginnings of a new political discourse over a welfare reform, with ‘basic income’ models as the punch line. Switzerland has asked the population in a referendum if they were in favour of a ‘basic income’ model in June 2016⁴, and Finland has piloted a basic income experiment in January 2017 for two years, but discontinued funding the scheme in 2019. Instead, it made the receipt of benefits contingent on taking up training.

Austria is among the EU-MS with a particularly high priority given to digitalization in the business and public sector. The manufacturing production union (ProGe) of Austria was among the first to

⁴ <https://www.grundeinkommen.ch/>

establish a platform in 2014: “Industry 4.0”⁵, a term used in Austria and Germany for the fourth industrial revolution, following the third, the digital revolution, with computer and information technology gaining almost universal application. The fourth and current revolution, in contrast, is associated with potentially disruptive technologies, with mobile robotics, the internet of things, virtual reality, artificial intelligence and machine learning. The industry platform brings together business, science and research of various disciplines, political actors and interest groups (workers, employers, other NGOs) to accompany and evaluate the process of technological transformation and man-machine interactions. As it happens, more and more legal questions arise, be it relative to publicly available information versus privately owned one, or relative to international cooperation in the area of consumer protection and e-commerce. The unions have a special eye on working conditions of crowd-workers as employer protection legislation does not yet cover this new group of workers.

For Austria, Peneder et al. (2016) and Dinges et al. (2017) have estimated the potential job destruction flowing from automation using the same methodology as Frey und Osborne (2013) for the USA; they came up with 50% of jobs potentially in danger of getting lost, which is somewhat more than the 47% estimated for USA and Europe (Bowles 2014). This is due to the above-average share of manufacturing industries in Austria’s GDP and workforce. But with digitalization not the whole occupational profile becomes obsolete but only some aspects. Accordingly, if we differentiate occupations by tasks and to what extent they follow routines which are easily automated, the job losses decline to some 25% of jobs involving largely cognitive routine tasks and 12% of all jobs with largely manual routine tasks. And the 35% of employees in occupations performing largely analytic and interactive tasks and the 27% in manual non-routine tasks will most probably be spared from job loss. But it is important to remember that artificial intelligence is not a singular technology but applicable in various tasks. This makes it hard to judge the degree and composition of job losses in an era of digitalization and progressive implementation of AI.

In the medium to long run it is hard to say how many occupations and tasks will be affected and what implications it carries for the various skill levels. It can be that only a small section of highly skilled workers will profit from technological change (superstar-biased technological change) leading to a polarisation of the income and wealth distribution, as the medium skilled will lose out together with the low-skilled. Such a situation may trigger dissatisfaction and conflict in the society. We see already that over the past two decades, real median wage growth has decoupled from labour productivity growth in most EU-MS as well as the USA, suggesting that productivity gains no longer automatically translate into wage gains for all workers. (OECD 2019b) This is why the Obama report sees a need for ‘aggressive policy action’ (EOP 2016:1) to help the losers get back on track, in the main by providing education and training. But this implies that one looks at the occupational profiles regularly and manages the transition process by providing up- and re-skilling such that mass unemployment does not arise.

In Austria the best vehicle to upgrade skills at the lower and medium skill level is the apprenticeship system, as it combines on the job work in the firm with theoretical upskilling in the college of further education. With changing patterns of work the number of apprenticeship occupations are expanding as new occupational profiles are developed in response to employer needs; what we see is a decline in manufacturing skills and a move towards natural science and IT-skills. ICT-skills are being put on a broader base, to offer a wider spectrum of job opportunities, but at the same time a deepening of knowledge in one or the other IT-field is taking place, as job-profiles become more differentiated and specialised, e.g., as App-developers, programmers, system-administrators, IT-application consultants

⁵ https://www.proge.at/cms/P01/P01_5.4.11/ueber-uns/partner-kooperationen/industrie-4-0

and the like. Employers are not only providing apprenticeship posts for youth but increasingly also for adults, particularly for promising low-skilled workers already in their company. This is one way for the firm to raise the skill level of its workforce. The occupational profile of an apprenticeship is divided into modules, whereby the workers can complete one module after the other in the colleges of further education and continue to work in the company. When passing the final exam, the worker is a professional who automatically moves into a higher collective wage carrying also more stable employment. The concept of modularising an apprenticeship, meaning that one may complete one module after another at one's own speed, is highly successful. Continuing apprenticeship education for low-skilled adults was developed in Upper Austria, an industrial province, in 2011. Until today almost all provinces in Austria have adopted this system, named "Du kannst Was"⁶ in most provinces, in Vienna it is called "Meine Chance – Ich kann das!"⁷ Also unemployed low-skilled may access this form of further education, at no cost to the person, as the Labour Market Service or other public institutions cover the costs. The great advantage of this programme of further education is that it builds on skills and competences obtained formally as well as informally. The competences are tested and further education is added on, depending on the individual needs. If a person does not have any prior practical skills in the profession they want to obtain or to which they want to transfer, the LMS offers the required skills in intensive professional courses lasting 6 months. The examples so far are promising, also for older workers and migrants with low-educational attainment levels. All that said we have to have an eye on the transition to a digitalized labour market and identify the winners and losers in order to respond quickly with educational support to compensate for their income and status loss. This will be crucial for avoiding a polarization of income which may jeopardize social cohesion and political stability.

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⁶ <http://www.dukannstwas.at/>

⁷ <https://www.jaw.at/de/dienstleistungen/ausbildung/73/Lehrabschluss-nachholen>

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