



# **Legal Migration Fitness Check**

## **Contextual analysis : Drivers for legal migration: past developments and future outlook**

*Annex 1Biii*



**EUROPEAN COMMISSION**

Directorate General for Migration and Home Affairs

Unit B.1 – Legal Migration and Integration

European Commission

B-1049 Brussels

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*Annex 1Biii*

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Annex to " Legal Migration Fitness Check Final evaluation report – Supporting study", ICF Consulting Services Limited (2018) , finalised June 2018.

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Luxembourg: Publications Office of the European Union, **2019**

ISBN 978-92-76-01085-2

doi: 10.2837/223830

Catalogue number : DR-02-19-188-EN-N

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## **1 Drivers in the area of legal migration: past developments and future outlook**

This section is developed to support the Fitness Check in relation to several evaluation questions:

- Effectiveness: to determine to what extent some other external factors influenced the achievements of the objectives in the reference period, the developments in the period 1999-2016 are investigated.
- Relevance – current needs: to support the identification of drivers that influence current needs in relation to the management of legal migration, and to determine how these needs have changed since the adoption of the respective Directive?
- Relevance – future needs: these and other potential drivers are further studied to support the identification of possible future needs.

The first chapter addresses drivers and trends related to the main reasons for migration to in the EU in the reference period that is for the purpose of remunerated activity. Other main reasons that are also covered by the Legal Migration Directives subject to the Fitness Check are study and family reasons, Whilst there are many different types of drivers of legal migration there is a focus rather on the economic aspects and therefore labour migrants while there is much less on family migrants or students for instance.

The second section thereafter investigates other factors influencing legal migration in the reference period, and the third section analyse the drivers potentially influencing legal migration in the medium term 2015-2030, including drivers related to labour migration.

### **1.1 How has the demand for migrant labour evolved in EU Member States over the reference period?**

This section gives an overview of how the EU demand for migrant labour evolved between 1999 and 2015. Section 1.1.1 provides an outline of the overall trends in the EU labour market during the reference period. The subsequent Section 1.1.2 examines how the (gradual) impact of free movement between EU MS from 2004 onwards affected demand for non-EU workers and finally, Section 1.1.3 presents a summary of how the 2008/2009 economic crisis affected the EU labour market and the demand for non-EU workers.

#### **1.1.1 Trends in the Labour Market**

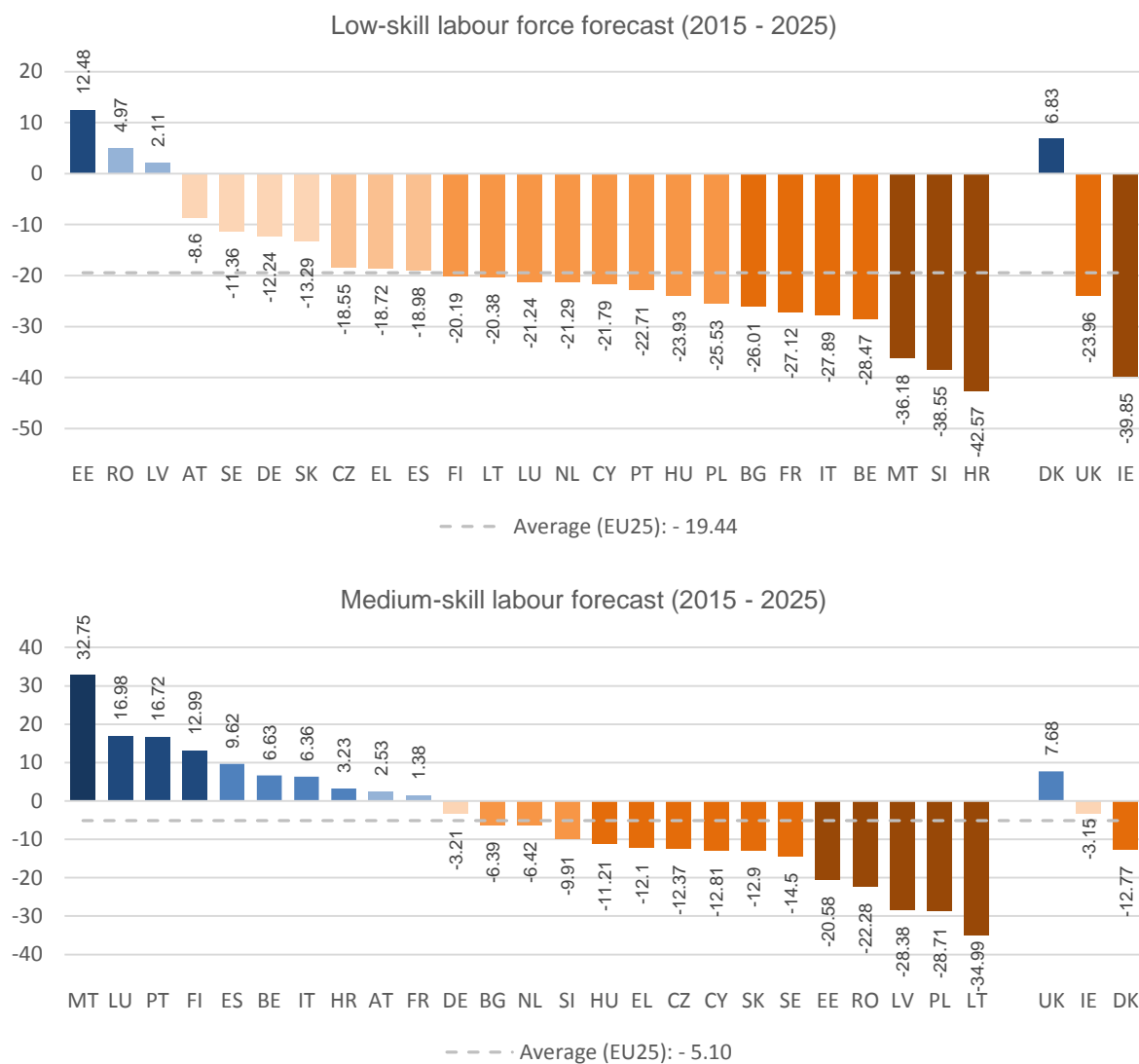
The increasing globalisation of the EU (and world) economy and technological developments have contributed to a gradual de-industrialisation and transition of the EU economy to an economic model mostly oriented towards the service sector. These trends have been imposing changes on the labour market structure of the EU. As regards structural changes, experts<sup>1</sup> believe that the labour market has started to show some signs of polarisation at the end of the reference period, as the employment in low-skilled and higher-skilled occupations increased and in medium-skilled occupations continuing the downward trend started in 2008/2009. Figure 1 below shows the main long-term projected trends in terms of labour demand by skill level (low, medium and high). It indicates that demand for high skill labour is projected to increase substantially between 2015-2025 (except for Germany and Finland), whereas demand for medium and in particular low skill labour is projected to fall in the majority of Member States. Concerning regulatory changes, some countries introduced

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<sup>1</sup> Cedefop (2016). Future skill needs in Europe: critical labour force trends. Luxembourg: Publications Office. Cedefop research paper; No 59. <http://dx.doi.org/10.2801/56396>; Employment and Social Developments in Europe 2015, European Commission, Directorate-General for Employment, Social Affairs and Inclusion.

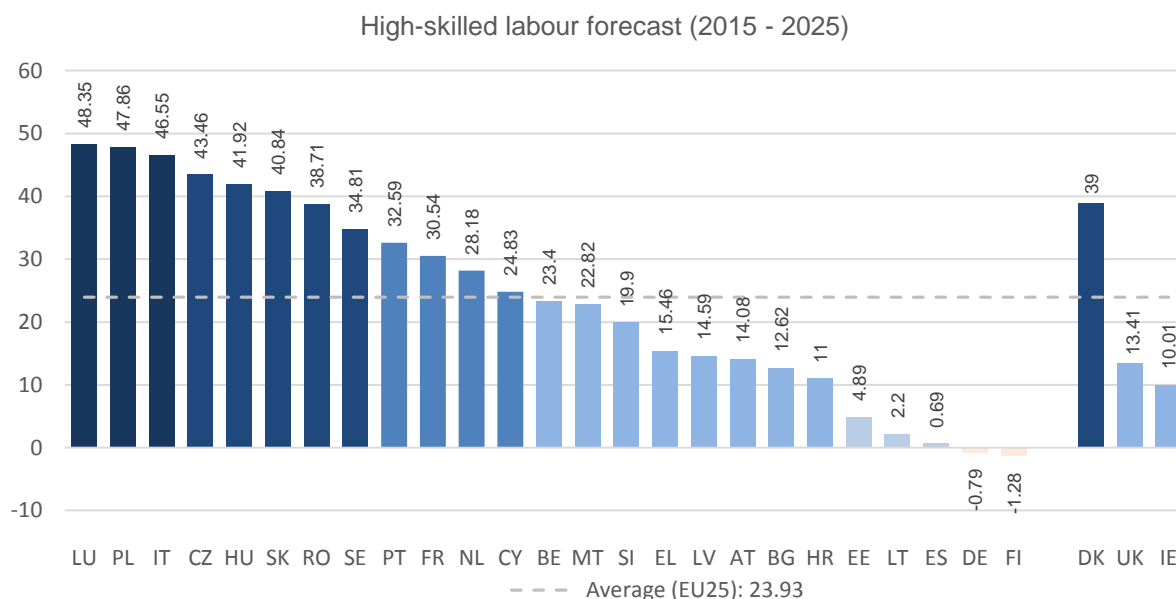
significant changes to their wage setting systems<sup>2</sup> and most of the countries have taken steps towards the decentralization of collective bargaining, which according to Visser (2013)<sup>3</sup> is a direct consequence of the increased international competition and the need to respond rapidly to changes in the market conditions.

Figure 1. Labour force growth rate (%) forecast by skill level (low, medium, high) (EU 25+3)



<sup>2</sup> European Semester Thematic Fiche Wage Developments and Wage Setting Systems [http://ec.europa.eu/europe2020/pdf/themes/2016/wage\\_setting\\_systems\\_wage\\_developments\\_201605.pdf](http://ec.europa.eu/europe2020/pdf/themes/2016/wage_setting_systems_wage_developments_201605.pdf)

<sup>3</sup> Visser, Jelle. Wage Bargaining Institutions—from crisis to crisis. No. 488. Directorate General Economic and Financial Affairs (DG ECFIN), European Commission, 2013.



Source: European Centre for the Development of Vocational Training (Cedefop). 2016 Skills forecast.

The ageing of the EU population<sup>4</sup> is predicted to lead to aggregated labour shortages, but so far, according to<sup>5</sup> (Reymen, D. et al., 2015), this has not come into effect and there is no evidence of (quantitative) shortages<sup>6</sup> at the EU level during the reference period. However, the picture varies significantly over time and across the EU with some countries (e.g. DE, BE, UK, AT) present relatively tight labour markets (i.e. with high ratio of job vacancies to job seekers), while others (e.g. EL, ES) present loose labour markets (i.e. combining high unemployment with low job vacancies).

Furthermore, important skills mismatches<sup>7</sup> between labour demand and supply have been observed, with two in five companies indicating difficulties to recruit people with the necessary skills<sup>8</sup>. Although the scale of these shortages and the specific sectors affected vary from Member State to Member State<sup>9</sup>, there is some consistency across the Member States regarding the sectors where shortages are more evident (e.g. manufacturing, construction and health and social work sectors), in particular with regard to certain occupational groups (e.g., metal, machinery and related trade workers, science and engineering professionals, as well as IT professionals).

### 1.1.2 Impact of free movement within the EU on the demand for migrant labour

The three-stage enlargement of the EU between 2004 and 2013 expanded the free movement rights to ten new member states in 2004 (eight Central and Eastern European countries, Cyprus, and Malta), then to two more in 2007 (Bulgaria and

<sup>4</sup> European Commission The 2015 Ageing Report: Underlying Assumptions and Projection Methodologies.

<sup>5</sup> Reymen, Dafne, et al. "Labour market shortages in the European Union." Study for the EMPL Committee (2015).

<sup>6</sup> There are two types of shortages – 'quantitative' and 'qualitative' (i.e. skills mismatches). The first one refers to insufficient size of the labour force, while the second one to lack of workers with skills matching the labour market needs.

<sup>7</sup> "(...) skills mismatches describe the imbalance between the skill requirements of (vacant) jobs and the skills held by the labour force" in (Reymen, D. et al, 2015).; Beblavý, Miroslav, Ilaria Maselli, and Marcela Veselkova. "Let's Get to Work! The Future of Labour in Europe." (2014).; EMN study on Determining labour shortages, [https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/networks/european\\_migration\\_network/reports/docs/emn-studies/emn\\_labour\\_shortages\\_synthesis\\_final.pdf](https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/networks/european_migration_network/reports/docs/emn-studies/emn_labour_shortages_synthesis_final.pdf)

<sup>8</sup> Reymen, Dafne, et al. "Labour market shortages in the European Union." Study for the EMPL Committee (2015).

<sup>9</sup> EMN study on Determining labour shortages, [https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/networks/european\\_migration\\_network/reports/docs/emn-studies/emn\\_labour\\_shortages\\_synthesis\\_final.pdf](https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/networks/european_migration_network/reports/docs/emn-studies/emn_labour_shortages_synthesis_final.pdf)



Romania) and finally to Croatia in 2013. This was a gradual enlargement in the sense that many EU15 Member States decided to implement transitional arrangements that postponed the application of free movement of workers from the new Member States<sup>10</sup>.

Although the enlargement is not likely to have had a primary effect on the TCN migrants arriving for non-economic purposes, it is not unreasonable to imagine that the increase in competition might have had some impact on the flows of TCN migrants coming for the purpose of remunerated activities.

Fatcher, E., (2016), seems to have published the first attempt to study the impact of EU enlargement on TCN arriving for the purposes of remunerated activities. The author proposes an econometric model to study the impact of the 2004 EU enlargement to 10 new Member States on the supply of TCN migration for purposes of remuneration, or more precisely, to study the impact of the increase of migrants from the new Member States in the EU15/EFTA on:

- (1) the “displacement” of potential TCN for remuneration purposes, i.e., potential third country migrants who chose not to migrate, migrated elsewhere, or were not offered the employment necessary to migrate as a labour migrant due to the increased number of mobile EU citizens from new Member States; and
- (2) the employment prospects of TCN that decided to migrate for the purposes of remunerated activities.

Fatcher, E. (2016) identified a negative correlation between the share of migrants from the new Member States and the share of TCN migrants<sup>11</sup>, namely the author estimates that a 10% increase in the share of migrants from the new Member States leads to a reduction of about 5% in the share of the TCN migrants, *ceteris paribus*<sup>12</sup>. Although this impact appears to be substantial, it is important to mention that due to increases in the demand for labour this estimated effect was not visible, as it was compensated by an increase in TCN migration due to an increase in the demand for migrant labour<sup>13</sup>.

However, Fatcher, E. (2016) did not find any significant impact of the enlargement on the employment prospects of TCN migrants already living in the EU15/EFTA which, in author's view, is due to the fact that potential migrants anticipate those negative effects and decide not to migrate to EU15. Therefore, based on Fatcher's findings, the enlargement increased competition and discouraged some potential TCNs from moving to the EU15 for the purpose of remunerated activities but the migrants already living in the EU15 seem not to have experienced any negative impact on their employment outcome. In a recent study suggest that the freedom of movement within the EU increases cross-border non-migratory mobility for work, business and tourism as well as temporary and circular migration, but that the effects on net migration are ambiguous. The lifting of restrictions for poorer countries might lead to initial hikes in emigration, but after a few years' migration levels consolidate at lower levels and migration becomes rather circular.<sup>14</sup>

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<sup>10</sup> Farchy, E. (2016), “The Impact of Intra-EU Mobility on Immigration by Third-Country Foreign Workers”, OECD Social, Employment and Migration Working Papers, No. 179, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5jlwxbzbr5-en>

<sup>11</sup> The model correlated migrants with similar education levels, in a given EU15/EFTA country and for a given year.

<sup>12</sup> Fatcher isolated the supply-push component and removed possible effects on the TCN migration flows resulting from changes on the migrant labour demand side

<sup>13</sup> Actually, Fatcher, E. identifies a positive correlation between the share of new Member States migrants and the share of TCN nationals when the demand effects are not removed.

<sup>14</sup> De Haas, H., in collaboration with Vezolli, S. (2017), European Migrations: Dynamics, drivers, and the role of policies (draft, unpublished) To be checked against the final version, due to be published September 2017. To be published as part of JRC Foresight project.

### 1.1.3 The 2008/2009 Economic and Financial Crisis

#### Impacts on labour markets

The 2008/2009 economic and financial crises had a major impact on the EU and world economy, and on the labour markets.

Employment rates were generally high and increasing since 1999 until the beginning of 2008, when the world economy was hit by the financial crisis, which consequently impacted the EU labour markets. After years of steady economic growth<sup>15</sup> and employment growth, the annual GDP growth fell from 2.7 percent in 2007 to 0.2 percent in 2008 and, by the end of 2009, the majority of the EU Member States were in recession (2009 GDP growth in the EU was around -1.4%).

The double-dip severe recession of 2008 brought a significant decline in employment rates<sup>16</sup>. Agriculture, construction and industry were the sectors initially most affected by the crisis, and consequently male low-skilled workers were the group that suffered most from the impact of the crisis as they tend to be employed in these sectors. Between mid-2008 and mid-2013, unemployment increased by about half, from below 7% to 10.8 %, and reached historical highs in a significant number of Member States.

Following the decline observed throughout much of 2009-2013, employment in the EU has been growing again since mid-2013 and unemployment falling (for all age groups), but they remain far from their levels at the beginning of 2008. The youth unemployment rate remains particularly high (especially in Spain, Greece, Italy and Croatia – all with more than 40% of youth unemployment), but shows some signs of slight recovery.

After a strong cumulative increase in nominal compensation per employee between 2000 and 2007 in several Member States (notably in the Euro area) the economic crises led to a downward adjustment in nominal wages (e.g., in Ireland, Greece, Spain and Portugal) and to a shift from jobs in non-tradable to tradable sectors<sup>17</sup>.

#### Impact on the demand for migrant labour

During economic downturns, migrants are usually amongst the first to lose their jobs, and their working conditions tend to deteriorate disproportionately when compared to other groups of the population.<sup>18</sup> After a period in the first half of the 2000s of converging (un)employment rate trends (for EU-nationals) with high employment growth and decreasing unemployment rates for TCN migrant workers, the situation of the latter changed sharply and deteriorated severely between 2008 and 2009<sup>19</sup>.

With the financial crisis, the gap between TCN migrants and EU-nationals started widening significantly as the unemployment rates of TCN migrants increased considerably more than for the nationals (in 2008 alone, the unemployment rate of TCN migrants increased 5%, while for EU migrants it increased 2.8% and for nationals 1.8%<sup>20</sup>). In particular, migrants with low education levels were strongly affected by the crisis as (1) they are overrepresented in the sectors which were hit harder by the crisis, such as the construction sector or in highly seasonal activities such as retail and hospitality, because (2) they tend to have less secure contractual arrangements in

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<sup>15</sup> The average annual growth of GDP per capita in the EU28 between 1999 and 2007 was more than 2.3%.

<sup>16</sup> Except for the employment rate of workers aged 45 and over - that stabilised - and of those aged 55-64, that increased.

<sup>17</sup> Employment and Social Developments in Europe 2015, European Commission, Directorate-General for Employment, Social Affairs and Inclusion.

<sup>18</sup> Beets, G., & Willekens, F. (2009). The global economic crisis and international migration: An uncertain outlook. *Vienna Yearbook of Population Research*, 19-37.

<sup>19</sup> Koehler, J., Laczko, F., Aghazarm, C., & Schad, J. (2010). Migration and the economic crisis in the European Union: Implications for Policy. IOM Thematic Studies, IOM, Brüssel.

<sup>20</sup> Arslan, C., et al. (2015), "A New Profile of Migrants in the Aftermath of the Recent Economic Crisis", OECD Social, Employment and Migration Working Papers, No. 160, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/5jxt2t3nnjr5-en>

their jobs<sup>21</sup>. Also (3) the considerable increasing unemployment has made many EU governments introduce measures to protect domestic labour markets<sup>22</sup>. Although all TCN have generally fewer chances to move into work after being unemployed or inactive, recent migrants were considerably more affected by the crisis than previous waves of immigrants<sup>23</sup>.

Since 2013 the employment rates<sup>24</sup> of third-country nationals in the EU have been slightly increasing but at a slower speed than the total employment rates and by the end of the reference period they were still significantly lower than the pre-crisis levels<sup>25</sup>. In 2015, the big majority of the Member States<sup>26</sup> presented employment rates of TCN lower than the total employment rate (in countries, like Germany and France, the gap was more than 20% points). Notably, the gap was bigger for medium and higher-educated TCN than for lower-educated TCN when compared to the respective groups in the native population.

In 2015 the unemployment rate of TCN (19.1%) in the EU was still twice as high as the overall rate of unemployment (8.6%), for both men and women. In that year, the biggest unemployment gaps between TCN and overall population were observed in Sweden, Belgium, Austria, Germany and the Netherlands. Between 2013 and 2015, Greece, Spain, Sweden, Belgium and France presented the highest rates of unemployment for TCN in the EU, with rates above 25.4% (France) and as high as 33.5% in Spain, in 2015. However, in all cases except for Sweden, the unemployment rate of TCN presents a downwards trend.

### **Impact on migration flows**

The economic crisis also saw a fall in the flow of third-country nationals to the EU. Eurostat data shows a drop of 17% in the number of first residence permits issued between 2008 and 2012, followed by a gradual rise in numbers after that. However, the trend is more complicated when considering the trend in the number of permits issued for different reasons. The number of permits issued for family reasons did not decline at all between these years, but rather increased steadily. The number of permits issued for the purpose of remunerated activities did decline but show a peak in 2010, after which they continued to dip.

Declining levels of immigration were accompanied by rising emigration in some EU countries. This was particularly observed in countries that experienced large inflows of labour migrants in the pre-crisis period, such as Ireland and Spain. The gender composition of migrant inflows also changed, with female migrants increasing their share, as a result of rising unemployment in male-dominated sectors such as construction and continuing demand in more female-dominated sectors such as care work.<sup>27</sup>

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<sup>21</sup> Beets, G., & Willekens, F. (2009). The global economic crisis and international migration: An uncertain outlook. *Vienna Yearbook of Population Research*, 19-37.

<sup>22</sup> Herm, A., & Poulain, M. (2012). Economic Crisis and International Migration. What the EU Data Reveal?. *Revue européenne des migrations internationales*, 28(4), 145-169.

<sup>23</sup> Employment and Social Developments in Europe 2015, European Commission, Directorate-General for Employment, Social Affairs and Inclusion.

<sup>24</sup> The employment rate is calculated as the ratio between the employed population and the total population of the same age group. In contrast to the activity rate, this rate contrasts the ratio between the labour force in work and the population of working age.

<sup>25</sup> In spite of the overall positive trend in the employment situation of TCN at EU level, there are significant variations among the various Member States. In some MS (including France and Austria), after an initial period of recovery, the employment rate of TCN has declined again between 2013 and 2015.

<sup>26</sup> Cyprus, Hungary, Lithuania, Czech Republic, Slovenia and Italy being the exceptions.

<sup>27</sup> IOM, Migration and the economic crisis in the EU: implications for policy, 2010.

## 1.2 How have the main drivers influencing migration to the EU evolved in the reference period?

The main push factors<sup>28</sup> (i.e., adverse conditions in the origin of country) influencing emigration to the EU between 1999 and 2015 were primarily related to the socio-economic situation and political instability in the country of origin. Environmental factors did play a role in world migration flows but with no recognisable direct impact on the flows towards the EU, as those movements tend to be within countries or to neighbouring countries<sup>29</sup>.

This section presents the evolution of the socio-economic situation in the traditional regions of origin of TCN migrants (see Section 1.2.1) and provides a general overview of the main conflicts that may have had a potential (direct or indirect) impact in the emigration towards the EU (see Section 1.2.2).

### 1.2.1 Evolution of the Socio-Economic situation

The pursuit of a job, a higher income, or better career prospects is considered to be the primary emigration driver for a significant share of migrants. Additionally, the lack of (good) education and healthcare facilities in the country of origin are often mentioned as a push factor to emigration towards countries/regions with good social infrastructure, such as the EU. These push effects are amplified by two demographic characteristics – age and education level of the potential migrants.

#### Age and Education of Migrants and Total Working-Age Population

A number of empirical studies find a positive relation between emigration flows and two demographic characteristics of the migrant<sup>30</sup>: age and level of education. Young people tend to emigrate more than older people, as they expect to reap the expected benefits of emigrating over a longer period. Similarly, a higher level of education is usually associated with a higher capacity to bear the cost of migration and to greater aspirations regarding the benefits of emigration, namely better career prospects and higher wage differentials when compared to their situation in their home country<sup>31</sup>. Unsurprisingly, an increase of the total working-age population (which constitutes the pool of potential migrants) is usually followed by an increase in emigration flows<sup>32</sup>.

Between 1999 and 2015<sup>33</sup> the total working-age population and youth population increased in South and East Asia, the Middle East and Africa but dropped about 30% in the European non-EEA countries. The share of youth population remained relatively stable in most of the regions (except for the European CIS countries), and the percentage of working-age population increased in all regions, but most significantly in the Middle East.

The ageing of the population has become evident in most of the regions (except for Sub-Saharan Africa). Sub-Saharan Africa has the youngest population (with a median age of 18) and the European CIS the oldest (median age of 38).

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<sup>28</sup> The decision to emigrate is the result of a variety of interlinked factors including unfavourable situations in the host country and favourable conditions in the destination country.

<sup>29</sup> Warner, K., Hamza, M., Oliver-Smith, A., Renaud, F., & Julca, A. (2010). Climate change, environmental degradation and migration. *Natural Hazards*, 55(3), 689-715.

<sup>30</sup> Tranos, E., Gheasi, M., & Nijkamp, P. (2015). International migration: a global complex network. *Environment and Planning B: Planning and Design*, 42(1), 4-22.; Mayda, A. M. (2010). International migration: A panel data analysis of the determinants of bilateral flows. *Journal of Population Economics*, 23(4), 1249-1274.

<sup>31</sup> Please note that the described relation between these variables and changes in migration flows is depended on the existence of expected benefits. If no benefit is expected than these effects will not materialize.

<sup>32</sup> Haas, Hein de. 2010. "Migration Transitions: A Theoretical and Empirical Inquiry into the developmental drivers of international migration." [http://demografi.bps.go.id/phpFileTree/bahan/kumpulan\\_tugas\\_mobilitas\\_pak\\_chotib/Kelompok\\_10/Referensi\\_paper/de\\_Haas\\_2010b\\_Migration\\_Transitions\\_A\\_Theoretical\\_and\\_Empirical\\_Inquiry\\_into\\_The\\_Developmental\\_Drivers\\_of\\_International\\_Mig.pdf](http://demografi.bps.go.id/phpFileTree/bahan/kumpulan_tugas_mobilitas_pak_chotib/Kelompok_10/Referensi_paper/de_Haas_2010b_Migration_Transitions_A_Theoretical_and_Empirical_Inquiry_into_The_Developmental_Drivers_of_International_Mig.pdf).

<sup>33</sup> United Nations, Department of Economic and Social Affairs, Population Division (2015). *World Population Prospects: The 2015 Revision, Key Findings and Advance Tables*. Working Paper No. ESA/P/WP.241.

In all regions, literacy levels<sup>34</sup> of the youth population have increased and were generally higher than adult literacy (which also grew). East Asia and Latin America were near global youth literacy level by 2014, and the Arab States reached levels of 90%. In the South and West Asia the youth literacy rate grew by 7% points, from 74% in 2000 to 81% in 2014. Sub-Saharan Africa presented very modest increases to the youth literacy rate, ending the period with a 70% rate.

### **Economic Growth, Development and Inequalities**

Empirical and theoretical research on migration has extensively studied the relation between emigration and economic opportunities in the country of origin, and a significant body of empirical evidence seems to contradict the (general) idea that the poorer the country, the higher its emigration flows. In fact, evidence suggests that the relation between development and emigration levels is bell-shaped<sup>35</sup>. A possible explanation<sup>36</sup> is that potential migrants need to have the means to migrate (capacity) and aspirations for a better life elsewhere; and often the poorest people do not meet either requirement. This can be referred to as the 'migration paradox' whereby the poorest people are not able to migrate, because they don't have the means to be mobile and stay 'trapped' in their homeland. According to a recent article by Haas (2017), development in the poorest countries in e.g. sub-Saharan Africa will potentially contribute to higher emigration from these regions to Europe.<sup>37</sup>

Furthermore, it is generally the case for less developed and developing countries that higher educated people have better prospects when they emigrate than less educated people do, which contributes to a positive relation between emigration flows and level of development of the country of origin.

In conclusion, looking at the evolution of per capita income is not enough to understand the evolution of migration flows; one has also to consider the level of development and inequality within their home countries. Furthermore, the socio-economic situation in the country of origin – including the age and level of education of the youth population – only tells half of the story, as potential migrants usually take into account the perceived difference between their economic opportunities at home and in the destination country.

### **Evolution between 1999 and 2015<sup>38</sup>**

The evolution of the GDP per capita (used as a proxy of economic opportunities) from 1999 and 2015 shows that the economic opportunities in the potential regions of origin have significantly improved in all regions between 1999 and 2015, notwithstanding the negative effects of the 2009 global crisis that were felt by almost all regions (except for Sub-Saharan Africa) and the impact of the Crimea Crisis and subsequent sanctions imposed on Russia which significantly affected the CIS region (that still presented an 86% net increase of GDP per capita over the 16 year-period anyway). The South and East Asia regions presented a remarkable growth of GDP per capita and they were the regions where the GDP per capita grew most. The Middle East, North Africa and Sub-Saharan Africa presented a less spectacular but still

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<sup>34</sup> UNESCO Institute for Statistics (UIS). "Adult and youth literacy: national, regional and global trends, 1985-2015." (2013).

<sup>35</sup> Stevens, B., di Mattia, A., & Schieb, P. A. (2009). The future of international migration. *The Future of International Migration to OECD Countries*, 17-50.

<sup>36</sup> Haas, Hein de. 2010. "Migration Transitions: A Theoretical and Empirical Inquiry into the." [http://demografi.bps.go.id/phpFileTree/bahan/kumpulan\\_tugas\\_mobilitas\\_pak\\_chotib/Kelompok\\_10/Referensi\\_paper/de\\_Haas\\_2010b\\_Migration\\_Transitions\\_A\\_Theoretical\\_and\\_Empirical\\_Inquiry\\_into\\_The\\_Developmental\\_Drivers\\_of\\_International\\_Mig.pdf](http://demografi.bps.go.id/phpFileTree/bahan/kumpulan_tugas_mobilitas_pak_chotib/Kelompok_10/Referensi_paper/de_Haas_2010b_Migration_Transitions_A_Theoretical_and_Empirical_Inquiry_into_The_Developmental_Drivers_of_International_Mig.pdf).

<sup>37</sup> De Haas, H. (2017), Myths of Migration: Much of what we think we know is wrong. Published in *Der Spiegel* (newspaper), available online via: <http://www.spiegel.de/international/world/eight-myths-about-migration-and-refugees-explained-a-1138053.html>

<sup>38</sup> Own calculations based on World Bank, world development indicators: GDP per capita (constant 2010 US\$), Unemployment, total (% of total labour force) (modelled ILO estimate) and Unemployment, youth total (% of total labour force ages 15-24) (modelled ILO estimate).

considerable 42% rise of income per capita, followed by Latin America that experienced a growth of 30%.

The 2009 world crisis caused a sudden increase in the total and youth unemployment rate, interrupting a 10-year long decreasing trend. After the crisis, total unemployment rates stabilised or even slightly decreased in all regions and youth, and in 2015, total unemployment rates were generally very low in South and East Asia (about 4%) and around 7% in non-EEA Europe, Central Asia and Latin America. The post-crisis evolution of youth unemployment rates was slightly less homogeneous, declining in non-EEA Europe and Central Asia, while increasing by 23% in the Middle East and North Africa and remaining stable in the other regions. In 2015, the Middle East and North Africa had a worrisome youth unemployment rate of more than 30% (5 % higher than the rate in the EU) and non-EEA Europe and Central Asia about 17%. All other regions have rates below 15%.

Income inequalities have been declining in all regions but significantly faster in European non-EEA countries and Central, South and East Asia and all regions are witnessing overall improvements to their development levels (as measured by the Human Development Index – HDI), but large disparities between the regions remain<sup>39</sup>.

Investment in education in general and in tertiary education in particular, measured as a percentage of the GDP remained relatively constant<sup>40</sup> and similar among the various regions. There are significant differences in absolute terms as developing regions present investments per capita of more than 4 times those of less developed regions (i.e., South Asia and Sub-Saharan Africa) and about 3.5 times less than the EU.

### **Potential impact on the TCN migrant flows to the EU**

In spite of the overall improvement of the GDP per capita in less developed and developing regions and the modest performance of the EU economy and labour market in this period (see section 1.3), the income gaps between these regions and the EU have increased in absolute terms between 1999 and 2015 (although the gaps decreased during the peak of the crisis, and since then East Asia started to converge with those of the EU).<sup>41</sup>

On the other hand, the EU GDP per capita was still about 30% lower than that of other developed economies such as the US, Canada and Japan and 85% of the average of high income countries throughout the period. Therefore, the relative attractiveness of the EU compared to other potential destinations has not changed significantly in the period. These factors may contribute to explaining the size and patterns of the migrant flows.

#### **1.2.2 Political Instability**

Since 1999, the number and deadliness of conflicts across the world has declined, and those conflicts that did occur also lasted about a year less on average, and three times more conflicts than before have been settled peacefully through negotiations<sup>42</sup>.

The main conflicts that have taken place since 1999 that have affected Europe most, have been civil wars<sup>43</sup> (some with direct foreign military involvement). Besides the direct conflict itself, also the subsequent instability, weak governmental arrangements and economic downturn can create considerable migration flows.

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<sup>39</sup> Malik, K. (2013). Human development report 2013. The rise of the South: Human progress in a diverse world.

<sup>40</sup> South Asia is the only exception, which doubled their investment rates as a percentage of GDP in the last couple of years.

<sup>41</sup> While analysts have noted that the poorest countries exhibit a lower level of emigration than more developed nations (de Haas, op cit), research on the relationship between **changes** in income distribution and migration outcomes has not been identified.

<sup>42</sup> Burrows, M. (2012). *Global Trends 2030: Alternative Worlds*. US National Intelligence Council.

<sup>43</sup> Sievers, W., Fassman, H., & Bommers, M. (2014). *Migration from the Middle East and North Africa to Europe: Past Developments, Current Status and Future Potentials*. Amsterdam University Press.

The war between Ethiopia and Eritrea in 1998-2000 and the subsequent political situation in Eritrea have led to a high flows of asylum seekers (just in 2015 more than 50,000 Eritreans arrived to the EU).

Several civil wars that started in the early 2000s (Afghanistan since 2001 and the Sudanese region of Darfur since 2003) are still ongoing and show no signs of being resolved any time soon.

Iraq saw a US-led war to oust Saddam Hussein 2003 that lasted almost one year, and in 2014 a civil war started that was connected to the events in Syria when Islamic State took control over a continuous territory stretching across both Syria and Iraq. The country has effectively broken up in three parts: a government-controlled part, the IS-led territory and the Kurdistan Region.

The 2006 Israel-Lebanon war lasted only 34 days but resulted in about 1 million displaced people - most of which were displaced internally or were hosted by neighbouring Syria.

The civil war in Somalia started in 2009 and has so far resulted in 1.4 million displaced people, many of which attempt to migrate to Europe. The civil war has also resulted in the de-facto disintegration of Somalia with the breakaway of the Somaliland region and the regions under control of Al-Shabaab/Al-Qaeda.

Several conflicts were initiated at the time of the Arab spring in 2010-2011. One such instance was the 2011 Libyan civil war that led to the end of the Gaddafi regime and resulted in 0.6-1.0 million displaced people. The economic and political instability that characterised the aftermath of 2011 civil war then triggered a new civil war that began in 2014 and has not abated; this latter civil war has caused the country to fall apart into 6 regions ruled by different groups.

The biggest flow of refugees has been caused by the civil war of Syria that began in 2011 and where a peace agreement is not to be expected anytime soon, with the country split between the Assad government, Islamic State, Kurdish groups and several smaller factions. This war has so far resulted in almost half a million fatalities, 7.6 million internally displaced people and 4-5 million refugees that are being hosted mostly in Turkey, Lebanon and to a lesser extent the EU. Syrian nationals accounted for the greatest number of asylum applications in the EU, representing 19% of the total, or 559,260. More than half (362,775 or 29% of all first time applications lodged in 2015) of these Syrian first time applications were registered in 2015 alone.<sup>44</sup>

The South Sudanese civil war started in December 2013 and has seen the young country split between two main factions. The conflict has so far resulted in 50,000-300,000 fatalities and 1.9 million displaced people.

In February 2014, the Crimean Peninsula was annexed by the Russian Federation, , I over the course of several weeks. This event did not cause many displacements, but it did trigger the Donbass war in the Donetsk and Luhansk regions of East Ukraine. This conflict has so far resulted in approx. 10,000 fatalities, about 1.4 million internally displaced people and over 900,000 people fleeing to other countries. A ceasefire is formally in place but skirmishes continue to take place.

March 2015 saw the start of the civil war in Yemen between three groups which has so far resulted in 8,000-16,000 fatalities and 3.1 million displaced people of which 2.4 million internal, with the remainder being hosted mostly in other countries in the region.

The effect of these conflicts on migration flows is complex and may manifest itself at different stages of the conflict: before the conflict, as the internal situation (economic,

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<sup>44</sup> EMN Study, Integration of beneficiaries of international/humanitarian protection into the labour market: policies and good practices [https://www.udi.no/globalassets/global/european-migration-network\\_i/studies-reports/final-report-emn-study-on-the-integration-of-beneficiaries-into-the-labour-market.pdf](https://www.udi.no/globalassets/global/european-migration-network_i/studies-reports/final-report-emn-study-on-the-integration-of-beneficiaries-into-the-labour-market.pdf)

social and political) deteriorates, during the conflict and in the aftermath of the conflict, as displaced people return home to find the devastating effects of the conflict for example on infrastructure and on the internal economy. Nevertheless, it is reasonable to assume<sup>45</sup> that the evolution of the number of permits for family reasons in the reference period has been influenced by the aforementioned conflicts (in particular the Arab Spring and the conflict in Syria, which is the reason for the massive increase of permits for family reasons to Syrians after 2014).

Eurostat data indicates that the number of asylum applications lodged in the EU has significantly increased in the last few years. The number first-time applicants especially peaked in 2015 when it amounted to over 1.2 million applications; more than double the number of first-time applications lodged in 2014 (562,680).<sup>46</sup> However, it is important to acknowledge that refugees (and another beneficiaries of protection) present only a fraction of the stock of all international migrants (around 7-8%). The annual number of those ordered to leave either because they have been found to reside illegally or their asylum applications have been denied is on average around 500 000 per year (493 785 in 2016). Therefore the stock of EU residents holding refugee or subsidiary protection status is much lower than the applications, and reached its highest level in 2016, when 874 151 held this status in EU-28. Refugees, therefore, account only for 0.4 % of the total EU population.<sup>47</sup>

Furthermore, the general statement of a 'refugee crisis' in the EU following the Syrian war and other conflicts described in this section has to be analysed with caution, as the majority of international refugees reside in countries nearer to the conflict zones (as many as 86%). Turkey, Pakistan, Lebanon, Iran, Ethiopia, and Jordan host the largest refugee populations, whereas the EU receives only a fraction of refugees.

A 2015 EMN study found that statistics on the labour market participation of beneficiaries of international protection are scarce and little research had been done.<sup>48</sup> A special module in the 2014 European Union Labour Force Survey indicated that participation of beneficiaries of international protection is generally lower and lags behind that of other migrant groups. After four years or less of residence, the employment rate of beneficiaries of international protection (27%) as well as of family migrants (31%) is low. However, their employment rate gradually increases over time and after 20+ years of residence, the employment rate becomes almost the same for all categories of migrants. The findings illustrate that it takes beneficiaries of international protection a long period of time to integrate into the labour market compared to migrants who have come for reasons of employment or study.<sup>49</sup> This suggests that an influx of refugees into the EU does not have a significant impact on demand for other third-country workers.

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<sup>45</sup> Again, a more detailed and accurate analysis of the impact of each push and pull factor would require an econometric approach.

<sup>46</sup> These figures refer to the EU-28. Eurostat (migr\_asyappctza, first time applicant).

<sup>47</sup> De Haas, H. (2017), Myths of Migration: Much of what we think we know is wrong. Published in Der Spiegel (newspaper), available online via: <http://www.spiegel.de/international/world/eight-myths-about-migration-and-refugees-explained-a-1138053.html>

<sup>48</sup> EMN Study, Integration of beneficiaries of international/humanitarian protection into the labour market, Op cit.

<sup>49</sup> Labour market integration of refugees: strategies and good practices, March 2016.



### **1.3 How are the main drivers (pull and push factors) influencing the flow of migration to the EU likely to change in the short to medium term (2015-2030)?**

Migration is a complex process and so far, no theory can completely explain and predict all migration flows<sup>50</sup>. As mentioned before, migrants to the European Union usually obtain residency on a permit that covers the following grounds: family reunion; remunerated activities/employment; education, and asylum/protection. Behind those reasons is a combination of socio-economic (primarily), demographic, environmental and political (security) factors in the origin and destination country or region.

As these factors are heavily interlinked, it is not always possible to understand the behaviour of one factor in isolation or identify a direct causal link with migration flows. Nevertheless, empirical and theoretical research provide important insights into how these factors are related or cause changes in migration flows.

Building on these insights, the analysis of expected trends for each category of factors can help anticipate changes in the migration flows to the EU up to 2030. However, it should be borne in mind that there are other factors identified as important for the decision of where to migrate to that were not considered as they are either permanent (as geographical proximity) or expected to remain relatively stable (migration networks).

#### **1.3.1 Demographic Factors**

The main world trends regarding demographics<sup>51</sup> are the slowdown of the population growth (or even decline in some regions), the ageing of the world population, and the continuation of the urbanisation process<sup>52</sup> (mainly in Asia and Africa) which will pose significant logistical and socio-economic challenges. One push factor affecting urbanisation is environmental degradation, in particular related to water scarcity.<sup>53</sup>

This section focuses on demographic factors in destination and sending countries, including factors such as age, education in migrant sending countries, and the size of the total working age population in migrant receiving, destination EU Member States.

#### **Age and education level in countries of origin<sup>54</sup> in migrant sending regions**

Although population ageing is a worldwide trend, world regions are at very different stages of demographic transition and in most regions the total youth and working-age population is likely according to projections still increase in absolute terms until 2030, but at slower pace. At the same time, the world average education level is expected to rise considerably. Migrant sending regions are projected to also undergo significant demographic changes which could affect migration flows from them to the EU.

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<sup>50</sup> Haas, Hein de. 2010. "Migration Transitions: A Theoretical and Empirical Inquiry into the." [http://demografi.bps.go.id/phpFileTree/bahan/kumpulan\\_tugas\\_mobilias\\_pak\\_chotib/Kelompok\\_10/Referensi\\_paper/de\\_Haas\\_2010b\\_Migration\\_Transitions\\_A\\_Theoretical\\_and\\_Empirical\\_Inquiry\\_into\\_The\\_Developmental\\_Drivers\\_of\\_International\\_Mig.pdf](http://demografi.bps.go.id/phpFileTree/bahan/kumpulan_tugas_mobilias_pak_chotib/Kelompok_10/Referensi_paper/de_Haas_2010b_Migration_Transitions_A_Theoretical_and_Empirical_Inquiry_into_The_Developmental_Drivers_of_International_Mig.pdf).

<sup>51</sup> European Strategy and Policy Analysis System (2015). *Global Trends to 2030: Can the EU Meet the Challenges Ahead?* Luxembourg, Publications Office of the European Union.

<sup>52</sup> By 2030, more than 60% of the world population is expected to live in cities

<sup>53</sup> Commission Staff Working Document, *Climate change, environmental degradation, and migration, accompanying the document An EU strategy on adaptation to climate change*. Brussels, 16.4.2013

SWD(2013) 138 final [https://ec.europa.eu/clima/sites/clima/files/adaptation/what/docs/swd\\_2013\\_138\\_en.pdf](https://ec.europa.eu/clima/sites/clima/files/adaptation/what/docs/swd_2013_138_en.pdf)

<sup>54</sup> Section based on:

United Nations, Department of Economic and Social Affairs, Population Division (2015). *World Population Prospects: The 2015 Revision*, custom data acquired via website.;

United Nations, Department of Economic and Social Affairs, Population Division (2015). *Population 2030: Demographic challenges and opportunities for sustainable development planning (ST/ESA/SER.A/389)*.

ECD (2009), *The Future of International Migration to OECD Countries*, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264064126-en>

## Africa

Africa currently has the youngest age distribution of all major regions; nonetheless, this is forecasted to age and by 2050 it is expected that in Africa, the population aged 60 years or over will increase from 5% in 2015 to 9%<sup>55</sup>. Estimations with regard to African demographic change and growth do vary; the Wittgenstein Centre projects a decline in fertility rates across Africa in ways not dissimilar to those forecasted for other parts of the world<sup>56</sup>. There is considerable diversity with regard to higher education attainment across the region significantly. Southern and Western African countries account have populations with higher levels of educational attainment than is the case in Eastern and Middle Africa<sup>57</sup>. As the estimated average age in Sub-Saharan Africa in 2015 is 21.3 years, there is huge scope for increasing educational attainment.

## Asia

By 2030, Asia will be the most populous region but will not be the oldest (with the average age predicted to be 34.5). Between 2015 and 2030, the relative population increase anticipated for Asia is 12%; however, the fact that it will account for 60% of the world's population contributes to considerable 'global population projection uncertainty'<sup>58</sup>. As a whole, the region is expected to decline in terms of its share of those aged 15-24; in 2015 this figure was 60 %, while it is expected to be 55.5% in 2030<sup>59</sup>. However, there is considerable variation between Asian countries with regard to demographic change: Singapore, Japan and the Republic of Korea have aging populations, low fertility rates and stable or shrinking native labour force populations<sup>60</sup>, while wage differences can make nearby Asia-Pacific countries can make migration within Asia a viable and attractive option for Potential Asian migrants that might otherwise migrate to Europe and North America<sup>61</sup>.

In terms of literacy, the region presents enormous variations. South Asia is expected to be the sub-region with the highest increase of enrolments in tertiary education in the world (about 150%), while in Central Asia and the Middle East the enrolments in tertiary education will grow about 45% by 2030.

## Middle East and North Africa (MENA)

The majority of MENA countries are experiencing - or have already experienced - the third state of demographic transition. This means that while mortality rates in the region have declined, fertility rates are only now starting to reflect a similar trend<sup>62</sup>. By 2030, it is projected that the population share of the 0-19 age group in the MENA region will be 31.9%, compared with an EU average of 20.6%<sup>63</sup>. This is a considerable decrease from the percentage share for 2010, which stood at 39.5%.

## Europe Non-EEA

The Russian, Ukrainian, Moldovan and Belarussian working populations will continue to decrease until 2030 while the youth population will slightly increase (it is expected to

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<sup>55</sup> 'The World Population Prospects: 2015 Revision', United Nations, 2015.

<sup>56</sup> KC Samir, 'Population: How Many People Will Live in Africa in 2100?' The Globalist <https://www.theglobalist.com/africa-population-fertility-rate/>

<sup>57</sup> Goujon, A., 'What you probably don't know about higher education in sub-Saharan Africa' IIASA, 2017.

<http://blog.iiasa.ac.at/2017/01/27/what-you-probably-dont-know-about-higher-education-in-sub-saharan-africa/>.

<sup>58</sup> 'Population 2030: Demographic challenges and opportunities for sustainable development planning'. United Nations, 2015.

<sup>59</sup> '2030: Global Trends to 2030: Can the EU meet the challenges ahead?' 2015.

<sup>60</sup> 'Asia-Pacific Migration Report 2015. Migrants Contributions to Development', UNESCAP, 2015. P.50.

<sup>61</sup> 'Asia-Pacific Migration Report 2015. Migrants Contributions to Development', UNESCAP, 2015. P.50.

<sup>62</sup> Bommes, Fassmann, Sievers, 'Migration from the Middle East and North Africa to Europe: Past Developments, Current Status and Future Potentials' 2014.

<sup>63</sup> Ibid.

initially decrease until around 2020 and then start recovering). The Balkans<sup>64</sup> region is projected to lose a quarter of its youth population by 2030, and consequently its working-age population will experience a sharp decline of about 11% in that period.

### Latin America

The share of working-age population in Latin America is forecasted to reach its peak around 2020 and then remain relatively stable up to 2030. On the other hand, the total youth population is expected to be 4% lower by 2030 while the enrolments on tertiary education are expected to increase about 45%.

### Summary

Based on these explored projections, it is reasonable to expect that demographic factors might contribute to migratory flows to the EU up to 2030 in the following ways:

- a potential increase in migration flows from Africa to the EU because of a general decrease in levels of poverty. However, this increase in migration is expected to be only slight, as the high share of the Sub-Saharan population in poverty will mean that much of that population are unable to participate in inter-continental migration flow.
- increased pull factors with regard to Asian migration flows, due to the significant socio-economic growth in China and India. This means that future Asian migration to the EU is unlikely to prove significant.
- it is unlikely that there will be radical changes to current migration flows from European non-EEA countries and Latin America.

### **Ageing population in migrant receiving, destination EU Member States countries<sup>65</sup>**

The EU population has entered a distinct period of ageing, with its median age expected to increase about 3.5 years by 2030 due to longer life expectancy and lower fertility rates. However, the total population of the EU should still grow at a very slow pace<sup>66</sup> until 2030, as a result of an expansion of the population over 55. Not surprisingly, the share of the working-age population (persons aged between 16 and 65) is expected to keep declining throughout the period. By 2030, most of the EU Member States will witness a decline in their working-age population, with Northern Europe being an exception by presenting a slight increase of about 1.3%.

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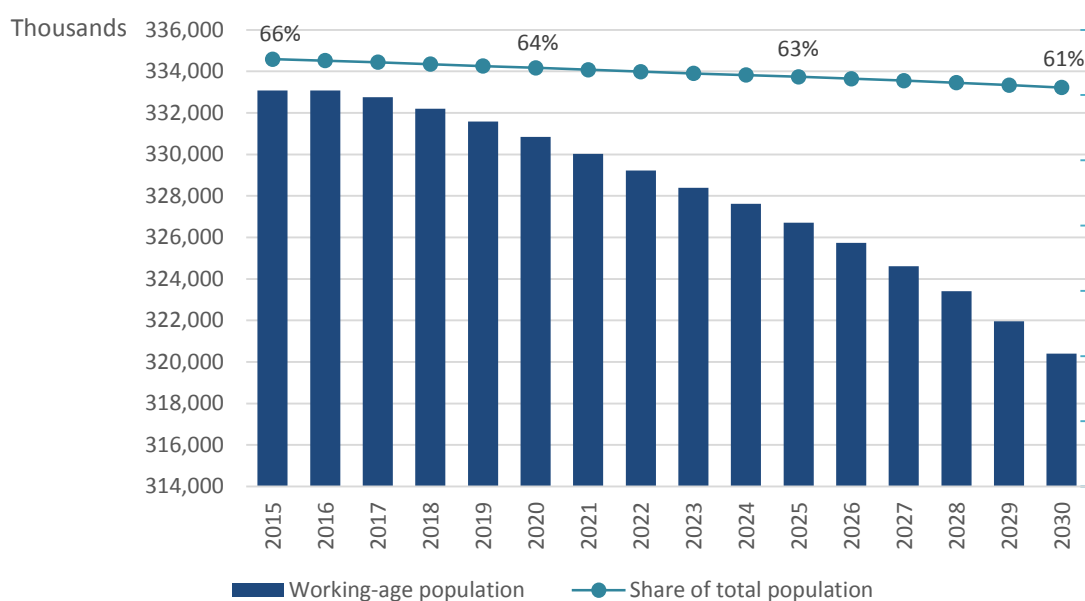
<sup>64</sup> United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision, custom data acquired via website.

<sup>65</sup> Main sources: United Nations, Department of Economic and Social Affairs, Population Division (2015); World Population Prospects: The 2015 Revision, custom data acquired via website.; ECD (2009), *The Future of International Migration to OECD Countries*, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264064126-en>; United Nations, Department of Economic and Social Affairs, Population Division (2015). Population 2030: Demographic challenges and opportunities for sustainable development planning (ST/ESA/SER.A/389).

European Commission The 2015 Ageing Report: Underlying Assumptions and Projection Methodologies.

<sup>66</sup> In Hungary, Poland, Czech Republic, Germany, Slovakia and Italy the overall population is expected to decline; in Western Europe, it will grow 4.3%, in Southern Europe 4.5% and in Northern Europe 11.3%.

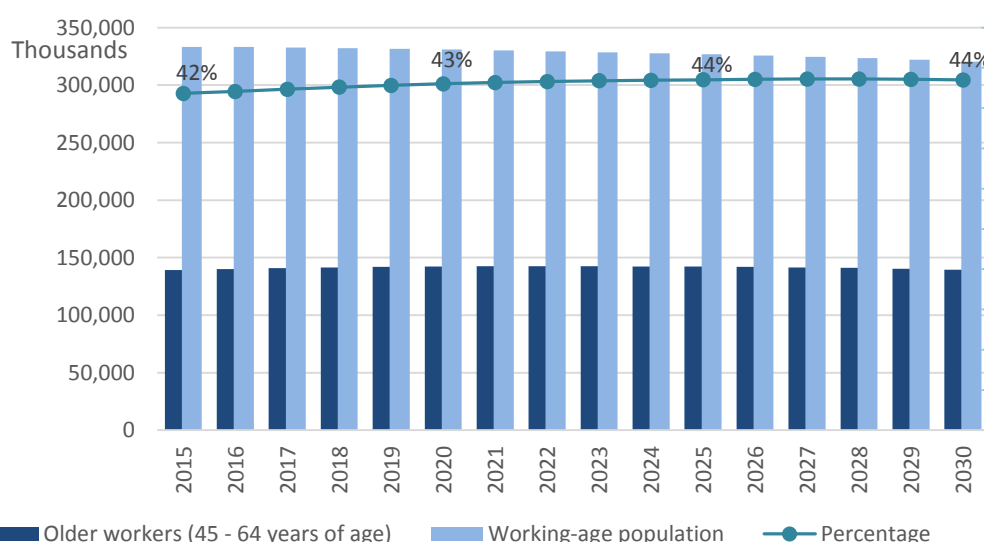
Figure 2. Projected size of working-age population (16-65), 2015 – 2030 (EU 28)



Source: Eurostat, Population projections 2015 [proj\_15npms].

This slight decrease in the size of the working-age population will also mean that the share of older workers (persons aged between 45 and 64) is likely to slightly increase, as the number of older workers is expected to remain at similar levels. In 2016, young people made up 15.6% of the EU's population, with older persons (aged 65 or over) accounting for 19.2% of the population (this reflects an increase of 2.4% compared to 2006)<sup>67</sup>. Italy (22%), Greece (21.3%) and Germany (21.1%) had the highest share of persons aged 65 or older, with Germany also recording some of the lowest shares of young people (13.2%)<sup>68</sup>.

Figure 3. Projected share of older workers (45-64 year olds) in working-age population, 2015 – 2030 (EU 28)



Source: Eurostat, Population projections 2015 [proj\_15npms].

<sup>67</sup> See: [http://ec.europa.eu/eurostat/statistics-explained/index.php/Population\\_structure\\_and\\_ageing](http://ec.europa.eu/eurostat/statistics-explained/index.php/Population_structure_and_ageing)

<sup>68</sup> Ibid.

The ageing of the overall population will mean that the EU will see a significant increase of its old-age dependency ratio in this period<sup>69</sup>. The old-age dependency ratio reached 29.3%<sup>70</sup> in 2016 compared to 23.2%<sup>71</sup> in 2000 across all EU Member States.

Figure 4. Old-dependency ratio 2015 – 2030 (EU 28)

	2015	2020	2030
Old dependency ratio	28.8	31.7	39.1

Source: Eurostat, *Population projections 2015 [tsdde511]*.

In its technical note on the methodology used for the population projections, Eurostat explains that it used net migration projections based on net migration data from 2015, national now casting for the year 2016 (available for most Member States), and a mix of trends extrapolation and long-term convergence data between 2017 and 2050. The long-term convergence assumptions included:

- Equal rates of immigration and emigration for all countries in the very long term;
- A long-term tendency towards zero net migration, which is never reached in the timeframe of the projections.<sup>72</sup>

ICF subtracted the resulting net migration projections from Eurostat's baseline projections for three years (2015, 2020 and 2030) in order to obtain the variant scenario for the ageing population indicators i.e. EU population projections without net migration. The results, presented below, suggest that, at the aggregate level, net migration does not have a perceptible effect on population ageing. However, the picture is likely to vary for particular Member States, with higher rates of (working age) net migration as a share of their total population.

<sup>69</sup> Old-age dependency ratio is defined as the ratio of the dependent populations aged over 64 relative to the working-age population 15 to 64.

<sup>70</sup> Ibid.

<sup>71</sup> [https://www.mmr.cz/getmedia/ebfd19f5-617f-4615-b6a2-afedf14e1fda/Impact\\_of\\_demographic\\_trends](https://www.mmr.cz/getmedia/ebfd19f5-617f-4615-b6a2-afedf14e1fda/Impact_of_demographic_trends)

<sup>72</sup> Technical note, Summary methodology of the 2015-based population projections, Luxembourg Luxembourg, 3 March 2017, ESTAT/F-2/GL

Figure 5. Projected size of working-age population (16-65), 2015 – 2030 (EU 28) without net migration

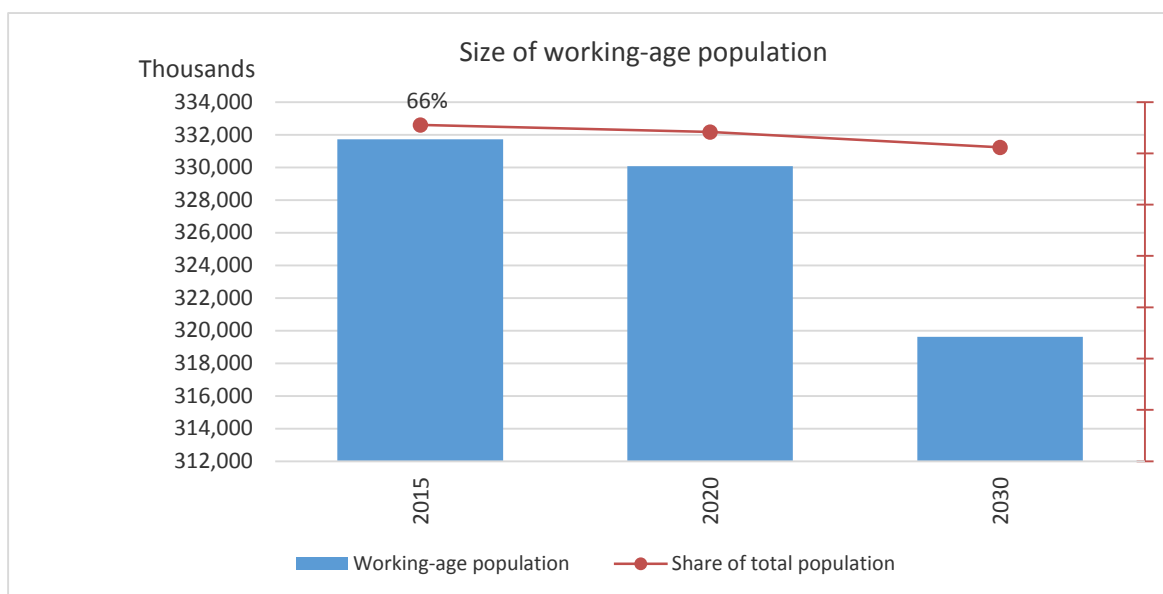


Figure 6. Projected share of older workers (45-64 year olds) in working age population without net migration

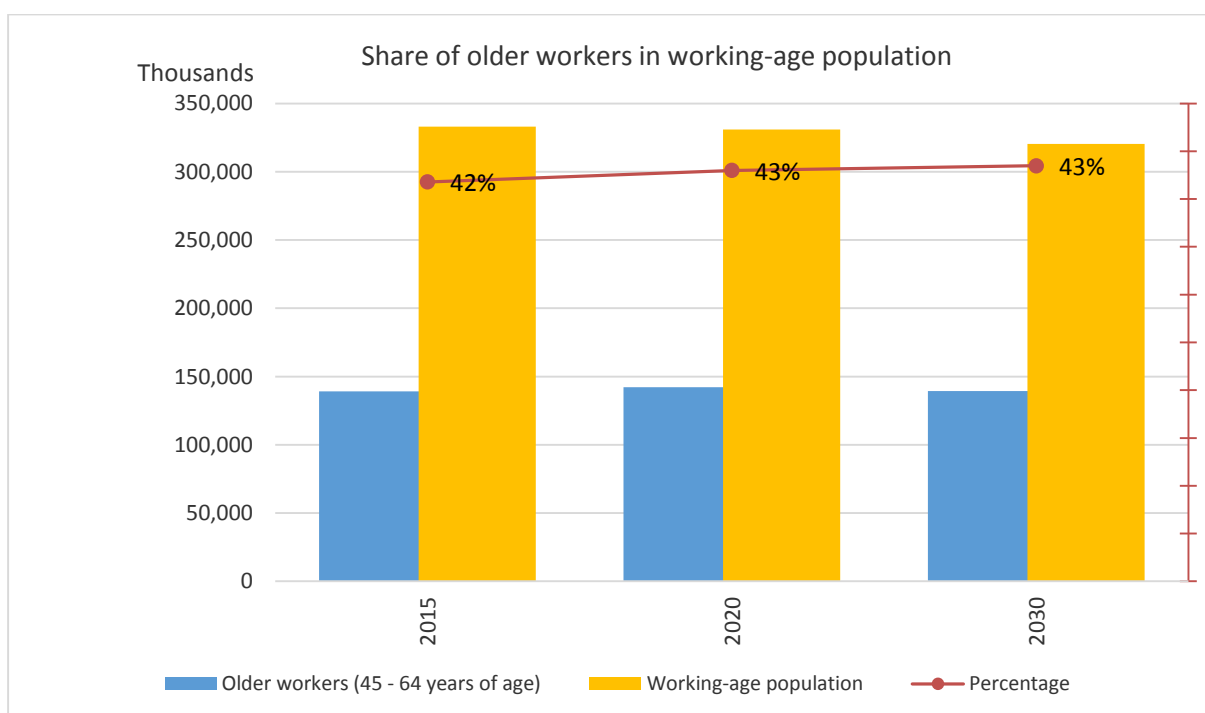


Figure 7. Old age dependency ratio without net migration

	2015	2020	2030
Old dependency ratio	28.9%	31.8%	39.2%

### 1.3.2 Socio-economic factors

#### Forecasting global poverty, development and inequality in migrant origin regions

A recent World Bank estimation predicts that world GDP growth will strengthen to 2.9%<sup>73</sup> for 2018 and 2019; this represents a relatively firm increase from 2.7% in 2017.

The EU and other developed regions' economies will grow less than the world average but will still present significant increases in their GDP per capita. Although the Middle East, North Africa, Sub-Saharan Africa and Latin America will experience higher growth rates of their overall GDP and GDP per capita, this will be far from enough to reduce their income gaps with the developed countries and in particular with the EU by 2030 (e.g., by 2030, GDP per capita in Sub-Saharan Africa is expected to double but it will still be only about 10% of the EU's).<sup>74</sup>

Russia, Turkey, China and India are expected to experience a dramatic increase in their GDP and GDP per capita; this might affect migration flows to the EU that stem from Asia. These emerging economies outperform developed economies when looking at projected average growth of real wages over 2011-2030, including real exchange rates<sup>75</sup>; yet despite this level of growth, income per capita in India and China will still remain at a much lower level than the EU average. A negative relationship between inequality within the country of origin, and emigration rates was found to be particularly applicable in the case of middle-income countries<sup>76</sup>. This suggests that lower levels of inequality in middle-income economies will drive migration. This creates a complex picture of how such growth in China and India will affect migratory flows to Europe. Although a middle-income country, China has a level of inequality higher than both India and at the EU level<sup>77</sup>, therefore migration from China to the EU, coupled with its own considerable growth, is unlikely to present a significant, or growing migratory pressure to the EU. As India is a lower-middle-income country, the negative relationship between in-country inequality and emigration does not apply to it. However, its high level of inequality (representing a large disparity between its highest and lowest earners) and its own growth in GDP and income per capita, suggests that India and China will contribute to a significant pull effect on migratory flows from Asia and thus possibly contribute to a relieving of pressure relating to Asian migratory flows to Europe, other factors remaining constant.

In 2030<sup>78</sup> the world is expected to have 40% fewer people in extreme poverty and witness a massive expansion of its middle class<sup>79</sup>. All regions will show improvement in terms of Human Development, with the low-income regions converging relatively fast with the developed ones.

Sub-Saharan Africa will remain the sub-region with the lowest HDI<sup>80</sup> and far behind the next two lowest sub-regions (South Asia and the Middle East and North Africa). Furthermore, despite some improvements in terms of poverty reduction, the extraordinary decrease of extreme poverty in Asia (in particular, India and China) will see Sub-Saharan Africa become the sub-region with the highest percentage of people

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<sup>73</sup> 'Chapter 1: Global Outlook' in *Global Economic Prospects: A Fragile Recovery*, World Bank Group, 2017 <https://openknowledge.worldbank.org/bitstream/handle/10986/26800/9781464810244.pdf>

<sup>74</sup> Gros, D., & Alcidi, C. (2014). *The global economy in 2030: Trends and strategies for Europe*.

<sup>75</sup> *Global wage projections to 2030*, PWC, 2013. <https://www.pwc.co.uk/assets/pdf/global-wage-projections-sept2013.pdf>

<sup>76</sup> 'The relationship between inequality in the origin country and emigration' *JRC Contribution to Policy documents*, 2017.

<sup>77</sup> The Gini coefficients (where 0 represents total equality and 1 total inequality) for the EU-28, India and China are, respectively: 30.7, 35.2, and 42.7. (Eurostat 2016; World Bank)

<sup>78</sup> Malik, Khalid. "Human development report 2013. The rise of the South: Human progress in a diverse world." (2013).

<sup>79</sup> The middle class includes people earning or spending \$10–\$100 a day (in 2005 purchasing power parity terms).

<sup>80</sup> Sub-Saharan Africa will grow 21% and South Asia 16%.

in extreme poverty (about 62%). Both regions, however, will see their middle class almost double between 2020 and 2030.

The Middle East and North Africa will also experience a significant increase in their middle class (42%) and a reduction of their population in extreme poverty by 23%.

One of the main challenges for the less developed and developing countries<sup>81</sup>, in particular in North Africa and the Middle East, will be the adjustment of their economies and regional labour markets to offer adequate employment opportunities to growing, young and gradually high-educated populations. As mentioned before, the current youth unemployment is high and on an upward trajectory in North Africa and Middle East and in some areas of Sub-Saharan Africa and Asia.

Global socio-economic trends relating to poverty, growth and income are likely to contribute to migratory flows in the following ways:

- a slight pressure on increase emigration from Sub-Saharan Africa because of a decrease of its poverty levels and significant increase in its development level. Nevertheless, the high share of population in extreme poverty by 2030 will probably mean that most of the Sub-Saharan population will be still be unable to participate in inter-continental migration.
- Emigration from the MENA region to the EU due to socio-economic factors is expected to have a considerable impact on the environment in which the Directives are implemented. Push factors driving migration to the EU from the MENA region include a considerable increase in the working age population, corresponding low levels of youth unemployment and the economic deadlocks affecting some countries. The lack of skilled personnel in the EU presents a continuing pull factor for skilled individuals emigrating from the MENA region
- a variety of regional forces pulling Asian emigration flows because of the extraordinary socio-economic improvements of China and India. So, if on the one hand there will be pressure to increase emigrations flows from Asia towards the EU, on the other hand other alternative destinations within Asia will probably attract a share of those flows.

### **1.3.3 EU labour market demand and supply: future trends**

The above-mentioned expected ageing of EU Member State populations may potentially lead to significant shortages of labour work force and to an increasing demand for immigrant workers.

However, other factors will also influence the extent and type of labour shortages in the EU and thus the need for migrant labour (size and skills), such as the increase of labour force participation rates<sup>82</sup> (particularly for women and the elderly) and shifts towards an economy driven by the service sector, less labour intensive due to the increasing use of robots and other advanced technology, and globalisation.

The European economy is envisaged as undergoing a transition in which the service sector will become its main driver<sup>83</sup>. This sectoral change is foregrounded by other globalisation trends, in which increased technological dominance across sectors will lead to a decline in manufacturing and primary sectors. In turn, this will further contribute to the increasing globalisation trends that precipitated the transition to service sector dominance. Implications of this sectoral transition are a move toward knowledge-based and consumer services, meaning the skills demanded to supply a service-based workforce will change.

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<sup>81</sup> Sievers, Wiebke, Heinz Fassman, and Michael Bommers. *Migration from the Middle East and North Africa to Europe: Past Developments, Current Status and Future Potentials*. Amsterdam University Press, 2014.

<sup>82</sup> Cedefop (2016). *Future skill needs in Europe: critical labour force trends*. Luxembourg: Publications Office. Cedefop research paper; No 59. <http://dx.doi.org/10.2801/56396>

<sup>83</sup> 'Future skill needs in Europe: critical labour force trends', Cedefop, 2016.



The EU employment rate for 2016 stood at an average figure of 71.1%, the highest that has ever been recorded annually for the EU. However, this figure encompasses a considerable distribution between Member States with strikingly different respective rates of employment. The Member State with the highest rate of employment in 2016 was Sweden (80%), while countries with employment rates below 60% fall into a Balkan/ Caucasus group (including Greece). According to the European Commission's annual review of European employment and social developments for 2016, from 2013 to 2015 all Member States (except Luxembourg, Austria and Finland) recorded increases in their levels of employment. Unemployment levels in the EU are expected to decline, reaching their 2008 levels by 2030. Nevertheless, considerable disparities will continue to exist across the EU.

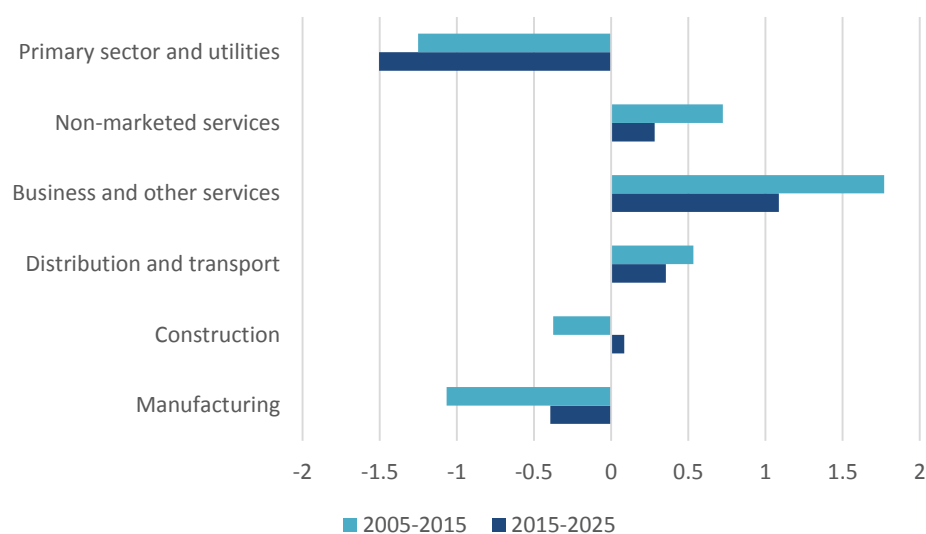
In 2015, both permanent and temporary employment increased across the EU; the share of employees engaged in temporary contracts in 2016 was 14%. Job insecurity (identified through precarious employment, namely: temporary agency work, zero-hour contracts, fixed-contract work, undeclared work, etc), has starkly increased in certain Member States, including Spain, Portugal, Ireland, Latvia and Greece; part-time work has increased in Italy, Lithuania, Spain, Ireland, Latvia and Greece; involuntary work has increased considerably in Ireland and Latvia . Job precariousness is of relevance to the future EU labour market in the context of the transition to the service sector. The service sector tends to be more at risk of precariousness.

.,Across EU Member States, levels of employment in the primary sector and manufacturing sectors are expected to decline by 13% and 4 % respectively, during 2015-2025<sup>84</sup>. Employment levels in non-marketed services are expected to rise by around 2.5% for the same time period, attributed to increased employment in health and education sectors; this slower growth – although still encouraging – is attributed to the austerity measures rolled out across many Member States. Employment in business services and retail (tertiary sectors) is expected to rise by 1.1% and 3%. The differences in industrial structures and the varying stages of economic development which most Member States are undergoing, mean that the aforementioned expected sectoral employment transitions will be experienced by all Member States at different rates to each other. Figure 8 demonstrates how these trends are expected to be reflected in the employment growth rate from 2015 - 2025, when - albeit with a lower average growth rate - the tertiary sector will remain the leader with regard to job creation, followed by the secondary sector (i.e. construction and manufacturing), which will present a slight recovery when compared to 2005-2015. On the other hand, the average employment growth rate in the primary sector will decrease as compared to the already negative growth rate from 2005-2015.

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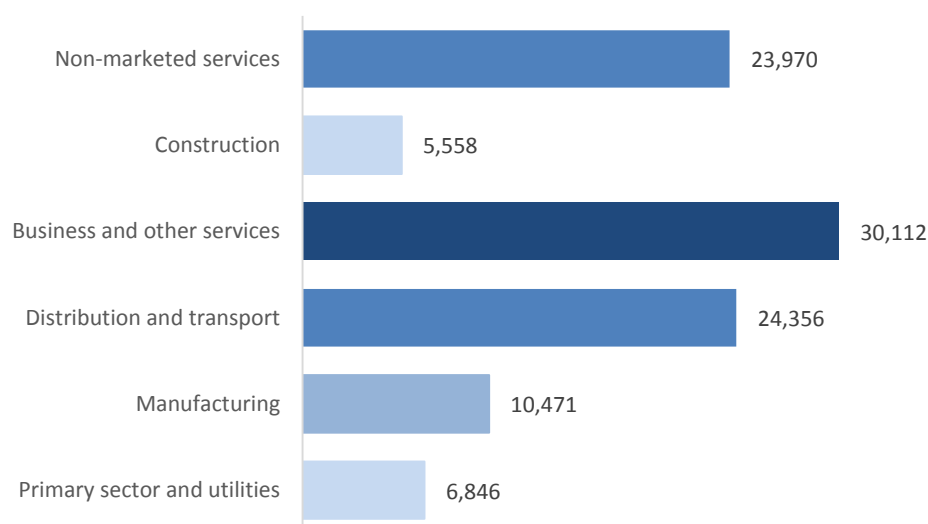
<sup>84</sup> 'Future skill needs in Europe: critical labour force trends.' 2016.

Figure 8. Past and projected employment growth rate by sector (average) in EU



Source: Cedefop, *Employment trends, 2016 Skills Forecast*.

Figure 9. Projected job opportunities by sector (2015-2025)



Source: Cedefop, *Job opportunities, 2016 Skills Forecast*.

As regards labour supply, Cedefop projects that between 2015 and 2025, the total EU labour force will slightly increase due to a higher participation of women and the elderly.<sup>85</sup> However, as shown in Figure 10, this increase will be driven by an important growth rate of the highly qualified labour force (with women representing 46% of this group), as a result of the strong investment of both governments and individuals in skills.<sup>86</sup>

In contrast, the number of both medium and low-skilled jobs is expected to decrease. One key factor, especially for OECD developed economies is the impact of

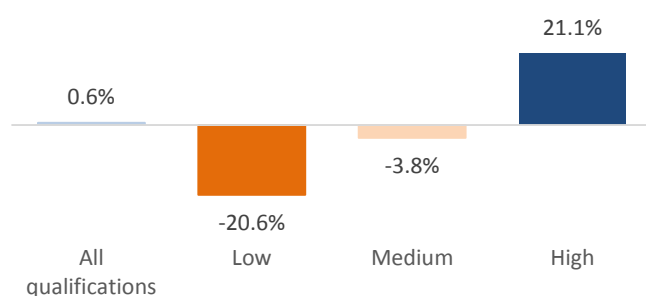
<sup>85</sup> Cedefop (2016). Future skill needs in Europe: critical labour force trends. Luxembourg: Publications Office. Cedefop research paper; No 59. <http://dx.doi.org/10.2801/56396>

<sup>86</sup> Cedefop (2016). Future skill needs in Europe: critical labour force trends. Luxembourg: Publications Office. Cedefop research paper; No 59. <http://dx.doi.org/10.2801/56396>

technological innovation and automation on medium and low-skill work.<sup>87</sup> The forecast is that jobs that involve routine tasks are gradually being substituted by technology. Foreign born workers may be at “higher risk of displacement due to their observed set of skills and concentration in certain types of jobs”. For instance, in southern Europe (Greece, Italy, and Spain) as many as 40% of foreign born workers are in such professions (about 10% more than the native population).<sup>88</sup> The risk of automation of jobs may in the long-term impact to a great extent labour shortages, as the OECD forecasts that over on average about 9% of jobs in OECD countries are automatable. This study critically analyses a number of studies across the OECD that projects very different impacts on employment and jobs, depending on local specificities, likely to affect millions of people<sup>89</sup>.

In several Member States these trends will not suffice to satisfy the increase in labour demand and they will experience labour shortages by 2030. According to BCG projections<sup>90</sup> for eight Member States<sup>91</sup>, even in their most optimistic scenarios, by 2030 very significant labour shortages will be experienced in Germany (27%), Italy (4%) and Poland (24%) and France, Netherlands, Sweden and UK will have labour surpluses of between 0 and 5 percent (which according to BCG are de facto shortages due to frictional unemployment) and Spain will still present a labour surplus of 16%. Interestingly, in 2030 the US is projected to have a significant labour surplus, while China, Turkey and India labour market will be very close to reach effective labour shortages.

Figure 10. Projected labour force<sup>92</sup> growth by level of qualification in EU28 (2015 – 2025)



Source: Cedefop, *Labour force, 2016 Skills Forecast*.

Based on the projections with respect to the level of qualifications that will be likely required by employers in the same period (Figure 11), it is fair to conclude that they are fairly in line. However, this does not mean that the labour market will be in balance, as matching levels of qualifications is not equivalent to matching skills. In this sense, the labour market demand for higher skills will grow faster than the supply, whose capacity to adapt to the new needs may be constrained by other factors. One

<sup>87</sup> OECD, *Migration outlook 2017*, OECD, pp. 74-78

<sup>88</sup> *Ibid.* p.75

<sup>89</sup> Arntz, M., T. Gregory and U. Zierahn, *The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis*, 2016, OECD.

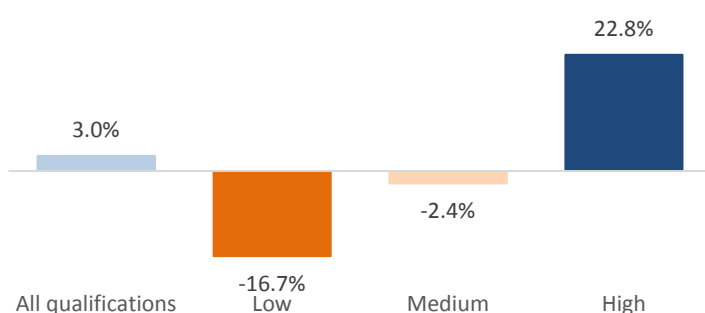
<sup>90</sup> Stack, R., Baier, J., Marchingo, M., & Sharda, S. (2014). *The global workforce crisis: \$10 trillion at risk*. BCG: Boston. [https://www.bcgperspectives.com/content/articles/management\\_two\\_speed\\_economy\\_public\\_sector\\_global\\_workforce\\_crisis/](https://www.bcgperspectives.com/content/articles/management_two_speed_economy_public_sector_global_workforce_crisis/)

<sup>91</sup> France, Germany, Italy, Netherlands, Poland, Spain Sweden and UK.

<sup>92</sup> Labour force refers to the population aged 15+ who are economically active, i.e., the labour force includes employed and disposable unemployed persons (actively seeking for jobs). People from the population 15+ who are not considered as labour force are those voluntary unemployed (not seeking for job and even if offered they are likely to refuse it), disabled, retired or on parental leave etc. (Cedefop).

striking example is the healthcare sector, where the long duration of training in some of these sectors (e.g. medical specialities, doctors) will delay adjustment to the fast increasing demands of an ageing population, the increasingly complex technologies employed in treatment, also contribute to significant shortages of healthcare workers. The skill shortages for healthcare professionals is particularly concerning given Europe's ageing population, which increases the demand for social care and medical services. Despite the emigration of healthcare professionals from countries that joined the EU after 2004, such as Bulgaria, Hungary and Slovakia, intending to find better working conditions, in particular as regards higher wages, many Member States face great difficulties in recruiting and retaining healthcare professionals from abroad, according to Cedefop. This includes Member States such as Austria, Denmark, Croatia, Germany, Latvia and Luxembourg.

Figure 11. Projected employment growth rate by level of qualification (2015-2025)



Source: Cedefop, *Employment trends, 2016 Skills Forecast*.

Simultaneously, Cedefop projects that there will be a shortage of low-skilled labour force by 2030. Using the indicator of future imbalances of demand (IFIOD) - which measures the extent to which recruitment challenges are likely to arise owing to short supply of skills relative to total demand in the economy - Cedefop found that Scandinavian countries, Central and Eastern European, France and Benelux, present lower<sup>93</sup> IFIOD levels for the following occupations: elementary occupations; plant and machine operators and assemblers and craft and related trades workers. This future indicator suggests a trend in the qualification composition of occupations across Member States, and reinforce polarising trends in the EU labour market in which there are shortages of higher and lower skilled labour, and a growing surplus of medium skilled workers.

In the context of this socio-economic projection regarding the growing supply of medium skilled workers, it will be necessary that the EU legal migration acquis is able to accommodate the migration to the EU of both low and high skilled workers, in order to tackle predicted skills shortages in these areas.

The structural changes occurring in the EU labour market have increased the demand for knowledge-intensive, high-manufacturing, and new technological skilled labour with overall unemployment levels remaining high with differences across the EU Member States. With a growing global talent pool, the number of 25-34 year olds with higher education (tertiary) degrees rose from 90 million in 2000 to 130 million in 2010. While the global labour market is absorbing the growing surplus as the demand for highly-skilled workers for the knowledge economy grows, both in high-income and middle-income countries, Europe is increasingly competing on a global scale to attract talent with highly developed economies in the North America and Australia as well as emerging economies such as the Gulf, Singapore and China

<sup>93</sup> Where 0 = an absolute inability to find appropriate skills for job demands, and 1 = no shortage.

EU has become more attractive to international students by more than doubling its international student population between 2000 and 2012. In 2012, there were 855 000 third-country national studying in an EU Member State; almost one in three was studying in the United Kingdom, followed by France (200 000) and Germany (128 000). Most students originated from Asia. In 2012, the largest number of international students in OECD and EU Member States came from China in 2012 (590 000) and India (170 000). Despite these positive trends, global figures show that international students are largely concentrated in two countries: the UK (10%) currently has the second highest share of international students globally, after the United States (13%) (OECD 2013). While the share of highly qualified workers to the EU as a share of total migration has increased from 15 percent in 1991 to more than a quarter in the 2000s, current figures suggest that the EU seems less effective in attracting and retaining talents. According to OECD figures (2016), 68% of high-educated migrants chose a non-European OECD destination. Recognition of qualifications and diplomas, and lengthy administrative recognition procedures have been stated as being one of the major obstacles in attracting and retaining third-country nationals. According to Moreno (2013), highly-skilled workers such as researchers have primarily targeted certain regions in North-West Europe, including Germany, Austria, Switzerland and Denmark. He suggested that those regions, which are characterised by strong knowledge and innovation clusters, have obtained the highest returns on incoming and circulating qualified migrants.

#### **1.3.4 Security Factors**

Most analysts agree<sup>94</sup> that, although internal conflicts will tend to decline in most regions up to 2030, the risk of conflicts in Sub-Saharan Africa and in parts of the North Africa and Middle East and South Asia will remain high.

The Middle East and parts of North Africa and South Asia are expected to continue to be the stage of international and domestic conflicts as an immediate solution for the currently ongoing conflicts is not foreseeable and political, economic and social conditions in this region are likely to remain the source of new conflicts.

The "Islamist threat", the lack of effective mechanisms to prevent conflicts in the Arab Spring states, and poor socio-economic conditions (e.g., high youth unemployment, unfair distribution of wealth and resources) can fuel new domestic conflicts in the region (and in some North African countries as well).

The ongoing instability in the region is expected to contribute to emigration movements towards the EU in anticipation of possible conflicts. As recent events show, once a conflict does break out this will rapidly lead to significant refugee and emigration movements (mostly to neighbouring countries, but some towards the EU as well).

#### **1.3.5 Environmental Factors**

While it is widely accepted that population movements will follow disasters and chronic environmental degradation, it remains unclear which form such migration patterns will take. Current research suggests that the relationship between environmental degradation and migration is far from deterministic. According to Beine and Parsons (2013), a direct relationship between either short-run or long-run climatic change on international migration cannot be drawn. Instead Beine and Parsons argue that environmental change tends to result in shorter, temporary, internal movements. New Economic of Labour Migration theories similarly suggest that ecological disaster often result in internal rather than international displacement, causing temporary displacement. How the affected population responds and adapts to environmental change thus determines migration patterns.

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<sup>94</sup> Sievers, Wiebke, Heinz Fassman, and Michael Bommers. Migration from the Middle East and North Africa to Europe: Past Developments, Current Status and Future Potentials. Amsterdam University Press, 2014. ; Burrows, Mathew. Global Trends 2030: Alternative Worlds. US National Intelligence Council, 2012.

Displacement of people as a consequence of adverse environmental conditions and/ or climate change is anticipated to become a more profound primary and secondary driver of migration flow, as increasingly, environmental phenomena is manifesting itself more prominently and more frequently than before. Environmental disasters can force the immediate major displacement of people, or engender gradual degradation processes which have negative effects on people's living conditions and economic prospects, which consequently can precipitate voluntary migration as domestic socio-economic or health conditions deteriorate<sup>95</sup>.

Climate change can be conceptualised within different thematic priorities that include, amongst others: mitigation (such as measures to reduce greenhouse gas emissions) and adaptation (measures to reduce vulnerability and increase resilience to potential environmental disasters). Within the context of migration policies, both priorities are significant. Of particular importance from the perspective of migrant receiving EU Member States is adaptation, as disaster risk reduction activities, infrastructure improvements, urban planning, climate change adaptation measures, land reform and other development measures to strengthen the resilience of vulnerable persons and groups are all potential ways to enable people to remain within their communities when facing climate change related natural hazards. The obvious consequence of this is a subsequent significant reduction in the number of displaced people due to natural disasters that would contribute to migration flows.

Vulnerability in the context of climate change phenomena can be largely broken down into two broad risk categories: global warming, resulting in rise in sea levels and subsequent coastal flooding; and changes in weather patterns (droughts or increased rainfall or other extreme weather) which can result in desertification, deforestation and land degradation. The earth's surface temperature is expected to rise under all assumed emission scenarios (on a global average by 0.3 to 0.7°C); correspondingly, it is likely that heat waves will occur more frequently and last for longer periods of time.

With regard to precipitation levels, some estimates predict increased fall (by up to 200mm) in tropical areas, and decreased fall (by up to 200mm) in Latin America and South Asia<sup>96</sup>. However, with regard to drought predictions, increases in droughts and temperature contribute to desertification that may put 135 million people at risk of being displaced<sup>97</sup>. Furthermore, these factors may also contribute to deforestation<sup>98</sup> (notably in the Sahel and Central America) and reduced drinking water availability. Increased rainfall on the other hand, is associated with flooding. While the overall amount of rainfall is expected to only increase moderately, the expectation is that this precipitation will fall more irregularly, increasing the potential of flash floods. About 1.2 billion people are at risk from floods today, and this number is expected to rise to 1.6 billion in 2050, i.e. one-fifth of the world's population<sup>99</sup>.

The impact of environmental factors appears to be felt primarily through their impact on economic livelihoods and political tensions, which can in turn induce displacements. Existing evidence from rural areas suggests that environmental degradation can have an impact on existing patterns of internal migration, for example short-distance circulatory migration in order to diversify income and sustain livelihoods.<sup>100</sup> Similarly, environmental change in the MENA region, such as drought and desertification, has

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<sup>95</sup> Warner, K., Hamza, M., Oliver-Smith, A., Renaud, F., & Julca, A. 'Climate change, environmental degradation and migration' in *Natural Hazards*, 55 (3) 2010.

<sup>96</sup> 'OECD Environmental Outlook to 2050', OECD, 2012.

<sup>97</sup> United Nations Convention to Combat Desertification, 2014.

<sup>98</sup> Warner, K., Erhardt, C., de Sherbinin, A., Adamo, S., Chai-Onn, T. 'In Search of Shelter', Centre of International Earth Science Information Network, 2009.

<sup>99</sup> 'OECD Environmental Outlook to 2050', OECD 2012.

<sup>100</sup> 'Commission staff working document on climate change, environmental degradation, and migration, accompanying the document 'communication from the Commission...An EU Strategy on adaptation to climate change', European Commission, 2013.

exacerbated poverty and played a part in population movement<sup>101</sup>. In the case of external migration from areas experiencing environmental degradation to Europe, a direct linkage has at times been difficult to define or determine. One main reason for this is that environmental change directly and indirectly increases poverty, which can in turn limit the possibility for migration due to economic factors<sup>102</sup>. Similarly, environmental change can be expected to combine with other factors, such as economic inequality, to engender migration within regions, especially to urban coastal areas where economic opportunities are greater (which can be counter-intuitive in the context of migration away from environmental risk). This inter-regional migration to urban areas (linked to environmental factors) is especially forecast for Africa and Asia<sup>103</sup>, and could suggest that migration to Europe due to economic drivers is not fully determined.

However, although the relationship between environmental degradation and external migration is not always wholly deterministic, recent research suggests that a non-reduction of carbon emissions and increased temperatures will propel the future flow of asylum seekers to the European Union<sup>104</sup>. One study found that the greater the level of deviation from 28 degrees Celsius in an origin country's agricultural region during the growing season, the more likely it was that people would seek asylum abroad. In the European context, the researchers forecasted that an average global increase in temperature by 1.8 degrees Celsius would increase asylum applications in the European Union by 28% by 2100. This rate represents 98,000 asylum applications each year, and is calculated on the assumption that carbon emissions flatten globally over the next few decades and then decline. A less conservative assumption, in which global temperatures are imagined to rise by 2.6 degrees Celsius to 4.8 degrees Celsius by 2100, and carbon emissions assumed to continue at their present trajectory, would precipitate an increase in asylum applications in the European Union by 188%, translating to 660,000 more applications per year<sup>105</sup>.

The environment (as a driver of migration) can be difficult to forecast but importantly, it cannot be isolated from other factors, such as socio-economic, security and political. Additionally, climate change itself can be both a primary and secondary driver of migration flow. For this reason, while environmentally forced migration is currently fairly rare in Europe<sup>106</sup>, projections regarding increases in the earth's temperature, the destabilisation of societies and the fleeing of people from their homes due to weather shocks<sup>107</sup>, it is expected that environmental change will contribute to human movement and asylum flows to the European Union in the future. It is important to note that climate change-driven migration, or displacement due to natural disasters, are not currently eligible grounds for legal migration under the Acquis. However, the huge increase in the flow of asylum seekers to Europe due to environmental factors will have a direct effect on the implementation of the Acquis, in terms of the need to redefine and recalibrate their scope to accommodate projected population changes and the future needs and conditions of migrant-receiving Member States, which could be affected by increased numbers of climate refugees.

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<sup>101</sup> Ibid.

<sup>102</sup> Geddes, A., Somerville, W. 'Migration and environmental change: Assessing the developing European approach.' Migration Policy Institute, May 2013.

<sup>103</sup> Ibid.

<sup>104</sup> Missiriana, A. and Wofram, S., 'Asylum Applications and Migration Flows', *American Economic Review*, 2017 107 (5): 436-40.

<sup>105</sup> Martineau, K, 'Hotter Temperatures Will Accelerate Migration of Asylum-Seekers to Europe, Says Study', 2017. Available at: <http://blogs.ei.columbia.edu/2017/12/21/hotter-temperatures-will-accelerate-migration-europe-says-study/>

<sup>106</sup> 'Science for Environment Policy: Migration in response to environmental change.' European Commission, 2015. [http://ec.europa.eu/environment/integration/research/newsalert/pdf/migration\\_in\\_response\\_to\\_environmental\\_change\\_51si\\_en.pdf](http://ec.europa.eu/environment/integration/research/newsalert/pdf/migration_in_response_to_environmental_change_51si_en.pdf)

<sup>107</sup> Martineau, K, 'Hotter Temperatures Will Accelerate Migration of Asylum-Seekers to Europe, Says Study', 2017.

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*doi: 10.2837/223830*