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31

How is the global talent pool changing (2013, 2030)?

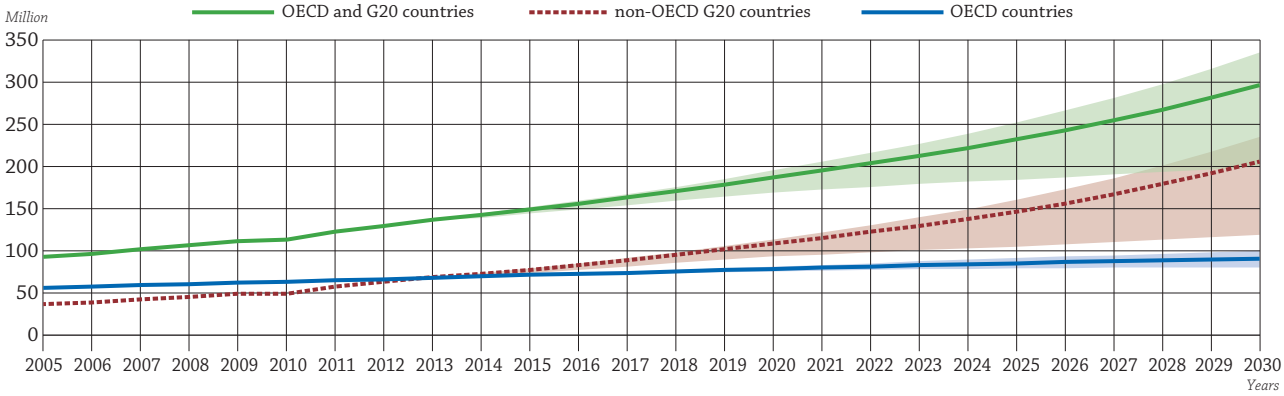
- **The number of tertiary educated young people (25-34 years old) in OECD and G20 countries has grown by nearly 45% in the past decade and is expected to keep growing until 2030.**
- **If current trends continue, the contribution of OECD countries to the global talent pool will keep shrinking through 2030.**
- **China and India are expected to supply more than 60% of the G20 workforce with a qualification in science, technology, engineering and mathematics by 2030.**

The global talent pool has grown over the past decade and is expected to continue growing through to 2030…

The number of young people aged 25-34 with a tertiary qualification increased by nearly 45% between 2005 and 2013 in OECD and G20 countries and is expected to keep increasing in the coming decade. While, on average, only 14% of the young people in OECD and G20 countries had a tertiary qualification in 2005, more than 45% are expected to have a tertiary qualification in 2030 if the growth of the past decade is sustained.

Non-OECD G20 countries (Argentina, Brazil, China, India, Indonesia, the Russian Federation, Saudi Arabia and South Africa) have been the main drivers of the global growth in the past decade (Figure 1). While in 2005 OECD countries represented 60% of the 94 million young people with tertiary education, by 2013 non-OECD G20 countries had closed the attainment gap and by 2030 the picture is expected to reverse completely: 70% of young people with tertiary education will come from non-OECD G20 countries.

Figure 1. **Projections of the number of 25-34 year-olds with tertiary education, 2005-2030**



Note: Figures in this graph are estimates based on available data. The population estimations are based on the OECD annual population projections (http://stats.oecd.org/).

Sources: OECD database, UNESCO and National Statistics websites for Argentina, China, India, Indonesia, Saudi Arabia and South Africa.

How to read this chart

This chart shows upper mid-range and lower estimates of the number of 25-34 year-olds with higher education in the coming years for OECD countries, non-OECD G20 countries, and both sets of countries together. The upper estimates assume that the average annual growth rate in the coming 15 years will be similar to the annual average growth rate in the past decade for each country. For this scenario to be realised, countries will have to sustain the same level of growth as the previous decade. The lower range assumes that attainment of 25-34 in the following 15 years will have a linear growth. The growth rate in this scenario is the expected global growth rate adjusted for countries' specific fixed effects. The mid-range estimate assumes that the growth rate in the coming 15 years is a weighted sum of past realisations of national annual growth rate and the expected global growth rate. This scenario corrects the projection for each given country by the general trends. This latest method is used throughout this EDIF to predict 2030 data as it is considered to better reflect future trends, based on the current data availability.

… and the G20 nations with the fastest-growing economies have made the biggest gains.

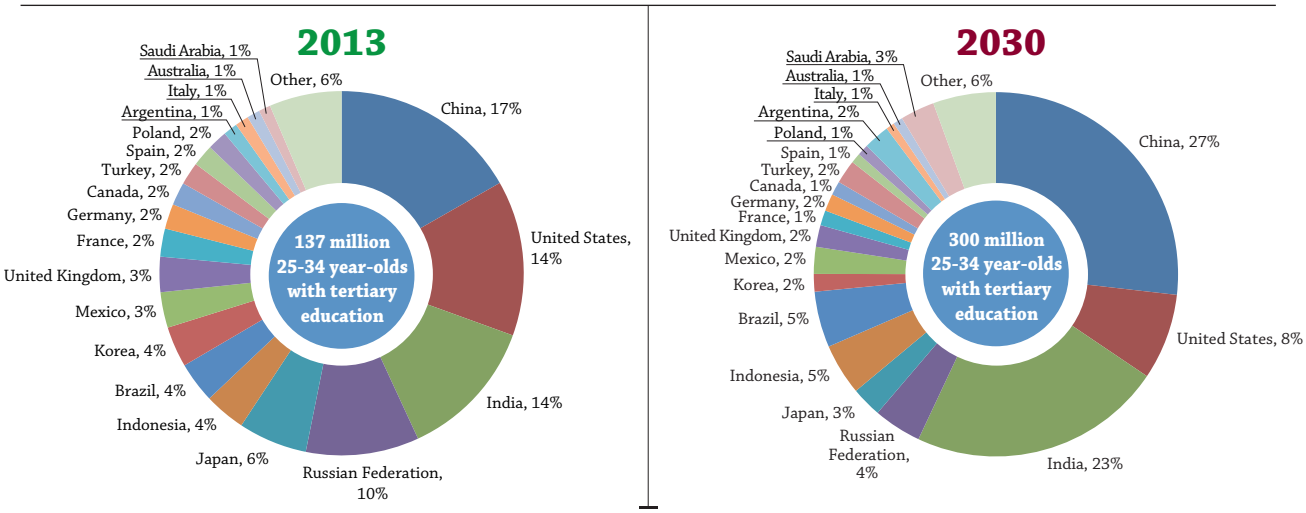
The rapid expansion of tertiary education in fast-growing G20 economies has also caused a significant shift in the distribution of the global talent pool among countries. In 2005, almost one in six 25-34 year-olds who attained tertiary education was from the United States, followed by China, the Russian Federation, Japan and India with about 10% each. By 2013, the same countries are still leading the way in higher education but the order has changed. China is at the head of the pack with 17% followed by the United States (14%) and India (14%).

Young people from China and India, both fast-growing economies, today make up 30% of the G20 and OECD countries' talent pool and their share is expected to keep growing. If the global trend persists in the next 15 years, China and India will account for almost half of the expected 300 million 25-34 year-olds with tertiary education in 2030 while the European Union countries and the United States put together will account for less than a quarter (Figure 2).

These projections might underestimate the growth of the talent pool, however, as countries are pursuing initiatives to increase tertiary attainment rates even further. The United States has set a goal to be the nation with the highest proportion of college graduates by 2020. The United States Department of Education expects to need to increase the number of graduates by 50% to reach this goal.[1] The European Union aims to have at least 40% of 30-34 year-olds in each EU country complete a tertiary education by 2020 as part of its larger Europe 2020 strategy, and many European countries have set even more ambitious targets for 2020.[2] In 2012, Belgium, Denmark, Finland, France, Ireland, the Netherlands, Spain and the United Kingdom had already met this target.

Meanwhile, China and India are also setting targets to increase the number of tertiary graduates which could, if met, bring their share of the world talent pool to even higher levels by 2030.[3] China aims for 20% of its citizens to have a tertiary degree qualification by 2020. India, on the other hand, has set a goal to have a higher education enrolment rate of 50% by 2030.[4]

Figure 2. **Share of 25-34 year-olds with a tertiary degree across OECD and G20 countries (2013, 2030)**



Note: Figures in these graphs are estimates based on available data. The population estimations are based on the OECD annual population projections (http://stats.oecd.org/).
Sources: OECD database, UNESCO and national statistics websites for Argentina, China, India, Indonesia, Saudi Arabia and South Africa.

1. US Department of Education (2011), "Meeting the nation's 2020 goal: State targets for increasing the number and percentage of college graduates with degrees", US Department of Education, www.whitehouse.gov/sites/default/files/completion_state_by_state.pdf.
2. European Union, "Europe 2020 target: Tertiary education attainment", European Union website, http://ec.europa.eu/europe2020/pdf/themes/28_tertiary_education.pdf.
3. Han Min (2011), "The reform and development of higher education in China", Presentation, 17 May 2011, Beijing University, www.emeuropeasia.org/upload/EMECW11/Conf_HAN_MIN_MoE.pdf.
4. FICCI (2013), "India to be largest provider of global talent; one in four graduates in the world will be product of Indian system", Press release 13 November 2013, www.ficci.com/pressrelease/1405/FICCI-press-nov13-education2.pdf.

But will this increase in the tertiary educated workforce meet the skills needs of the labour market?

In many ways, the rapid expansion of the global talent pool – and its expected growth in the future – is no surprise. Since higher levels of education are strongly linked to higher employment rates and larger earnings premiums, individuals have strong incentives to pursue more education. Similarly, as national economies continue to shift from mass production to "knowledge economy" occupations, countries have strong incentives to build the skills of their populations through higher education. There is however some level of uncertainty on the capacity of the labour market to keep rewarding higher levels of education with higher earnings and chances of employment by the horizon 2030, especially in countries like China which have seen such a rapid expansion in the numbers of tertiary graduates.

Furthermore, education does not always equal skills: the Survey of Adult Skills showed that, in some countries, actual skills levels differ markedly from what the data on formal qualifications suggest. For example, Italy, Spain and the United States ranked much higher internationally in the proportion of 25-34 year-olds with tertiary attainment than they did in literacy or numeracy proficiency among the same age group. Even more striking was that, on average, Japanese and Dutch 25-34 year-olds who have only completed high school easily outperformed Italian or Spanish university graduates of the same age.

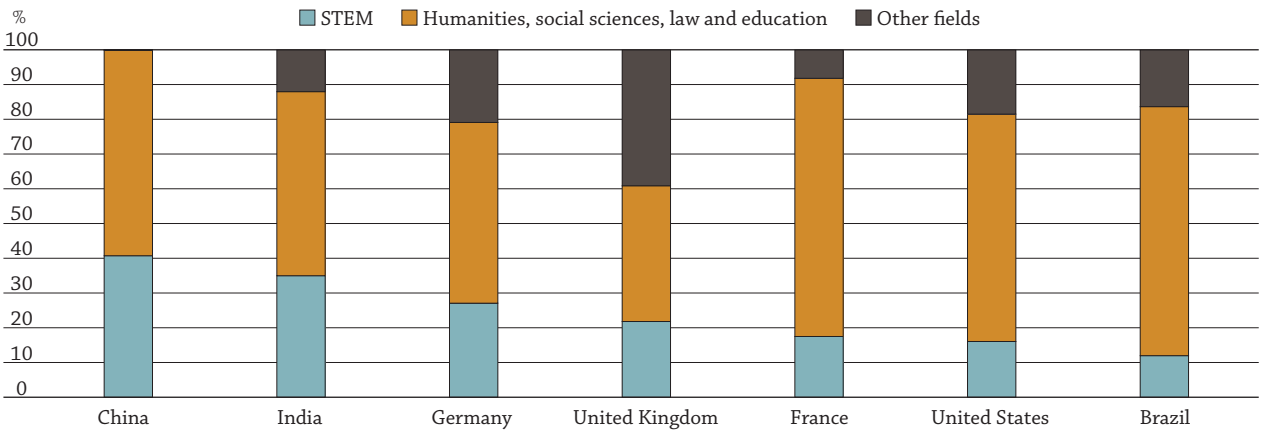
It is difficult to predict which skills will be needed in 2030 but the demand for advanced skills is on the rise. Over the last decades, the demand for various types of skills has changed: jobs involving routine manual work – the jobs of the typical factory worker – and cognitive work that can easily be reproduced by algorithms and scripts decreased significantly. The demand for skills requiring advanced high-quality education such as expert thinking and complex communications is expected to keep increasing in the future.[5]

How is the talent pool distributed by field of education?

The distribution of tertiary education graduates by field has not changed much from 2005 to 2012. Humanities, social sciences, law and education still represent a greater share than science, technology, engineering and mathematics (STEM) in OECD and G20 countries.

Some countries are more successful than others in having a balanced distribution of fields of education in their talent pool (Figure 3). China had 40% STEM graduates and 45% humanities, social sciences, law and education graduates in 2012, while for India the figures were 35% and 53% respectively.

Figure 3. **The distribution of graduates in tertiary education, by field of education (2012)**



Note: Other fields include health and medicine, and agriculture.
Countries are ranked in descending order of the 2012 share of STEM graduates.
Sources: OECD database, National Statistics websites for China and India.

5. OECD (2013), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills,* OECD Publishing, http://dx.doi.org/10.1787/9789264204256-en.

OECD countries on the other hand, have three times more humanities, social sciences, law and education graduates than STEM graduates. In France, Germany, the United Kingdom and the United States for instance, graduates with STEM qualifications represent less than one-third of the talent pool. This share would probably go down even further if we exclude the international students seeking tertiary education in Europe and North America.

In 2030, if the proportions of STEM graduates continue at these levels, China and India will account for more than 60% of the OECD and G20 STEM graduates. Considering the BRIICS countries[6] as a whole, it is estimated that they will produce three-quarters of the global STEM graduates. Europe and the United States will be lagging well behind with 8% and 4% of STEM graduates by 2030 respectively.

The low share of STEM graduates in the talent pool of OECD countries has attracted a lot of attention in recent years at national levels and continues to make regular headlines in OECD countries' newspapers. As recent research has shown that the way forward is to develop higher education programmes with smart combinations of STEM subjects, humanities and social sciences, many countries are pushing for a better balance in the distribution of graduates across fields of education. For instance, the United States[7] recently took measures to increase the population with tertiary STEM qualifications by 1 million by 2022. Similarly, the European Union[8] launched recently the "Science with and for Society" programme to build effective co-operation between science and society, to recruit new talent for science and to pair scientific excellence with social awareness and responsibility. The programme wants to make science more attractive and notably to young people as well as open up further research and innovation activities in Europe.

6. "BRIICS countries" refers to Brazil, the Russian Federation, India, Indonesia, China and South Africa.
7. www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-engage-to-excel-final_2-25-12.pdf.
8. http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/main/h2020-wp1415-swfs_en.pdf.

The bottom line: The global talent pool has never been larger – and will continue to expand, with rapidly growing G20 nations likely to lead the way. Higher levels of education are still strongly linked to higher employment rates and larger earnings premiums, giving individuals strong incentives to pursue more education. In OECD countries, humanities, social science and education graduates dominate the global talent pool, although other G20 countries have a more balanced distribution of fields of study with a greater share of STEM graduates. Making higher education more responsive to the labour market demand in terms of skills, qualifications and fields of study would allow the growing number of tertiary educated people to be adequately absorbed by the labour market.

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