

Demographic decline does not necessarily condemn CESEE EU countries to a low growth future

Richard Grieveson¹

Labor markets in many EU countries in Central, Eastern and Southeastern Europe (CESEE EU) are increasingly tight, reflecting strong growth, emigration and demographic decline. This situation will only get worse in the coming years, and represents an increasingly significant challenge to economic growth.

Immigration from Ukraine is a partial short-term fix, but not a long-term solution. Significant returns of workers to the region after Brexit seem to be unlikely. For political reasons, large-scale immigration from outside Europe is impossible to imagine. As a result, there is a risk that – faced by persistent labor shortages and higher wage demands – firms will move production away from the region, and that the CESEE EU countries will be condemned to a low growth future.

However, this is not inevitable. First, there are big incentives for capital owners to keep production in CESEE EU countries despite strong wage increases, including proximity to Western markets and the quality of governance, institutions and infrastructure relative to other European or nearby emerging economies. Second, recent rises in productivity, and moves toward automation, indicate a possible long-term solution to demographic challenges.

JEL classification: E24, J11, J21, J23, J24, J31, J61, O30, O40

Keywords: demographics, productivity, automation, labor markets, migration

Labor market tightness has been evident in CESEE EU countries for some time, but has grown increasingly acute in certain countries and sectors in the last few years. Firms are struggling to fill open positions, and with demographic trends only likely to deteriorate from here, there are fears that the region is condemned to a low or zero growth future.

This article addresses this topic in six parts. Section 1 will look at the increases of labor market tightness in the region in the past decade and at the underlying reasons. Section 2 will look at three factors that could help to relieve labor shortages in CESEE EU countries in the near term. Section 3 will examine whether these solutions are likely to prove durable. Section 4 will address the problems that labor shortages imply for medium and long-term growth. Section 5 will look at more lasting solutions to demographic challenges. Section 6 concludes.

1 Labor markets have become tighter in CESEE EU countries

Reports of labor shortages in CESEE EU countries are not new, but labor markets in most CESEE EU countries have become much tighter recently. One very visible indicator of this is the vacancy rate compiled by Eurostat (chart 1). Seven of the ten CESEE EU countries recorded increases between Q4 2008 and Q4 2017.

There are three reasons why labor markets in CESEE EU countries have tightened. First, the strength of economic growth in the region, which is increasing demand for labor. Aggregate real GDP growth for CESEE EU countries reached 4.7% in 2017 according to wiiw data, easily the highest level since 2007. This has

¹ *The Vienna Institute for International Economic Studies (wiiw), grieveson@wiiw.ac.at. Opinions expressed by the authors of studies do not necessarily reflect the official viewpoint of the Oesterreichische Nationalbank (OeNB), the Eurosystem or wiiw. The author would like to thank Mario Holzner and Robert Stehrer (both wiiw) as well as Anna Raggl and Julia Wörz (both OeNB) for helpful comments and valuable suggestions.*

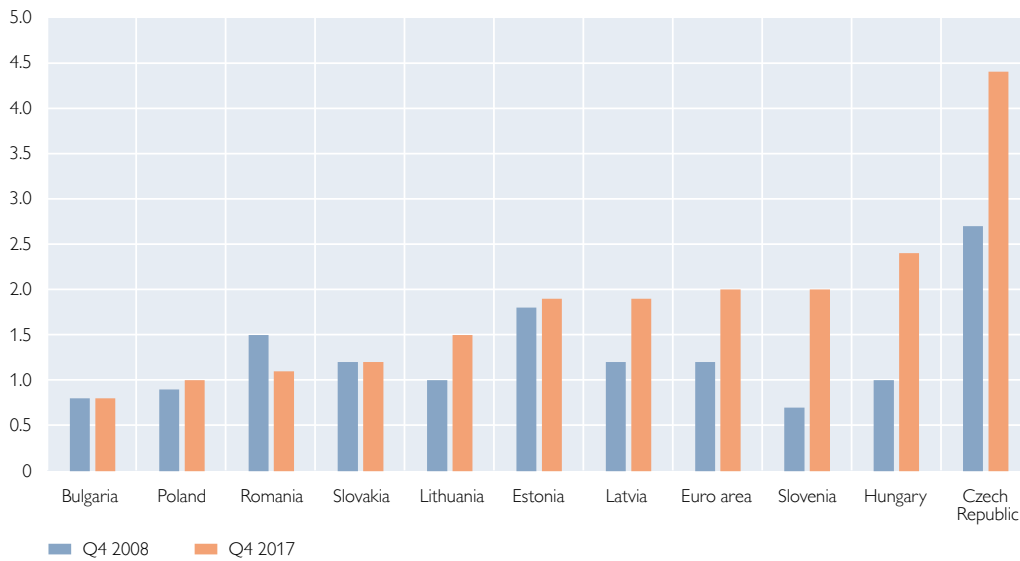
had a clear impact on labor demand. Unemployment rates have fallen considerably everywhere (chart 2).

The second factor causing a tightening of labor markets is outward migration. Summing up the five years to 2016 (latest available data), six countries in the

Chart 1

Job vacancy data for industry, construction and services

Vacancies in % of all occupied and vacant jobs

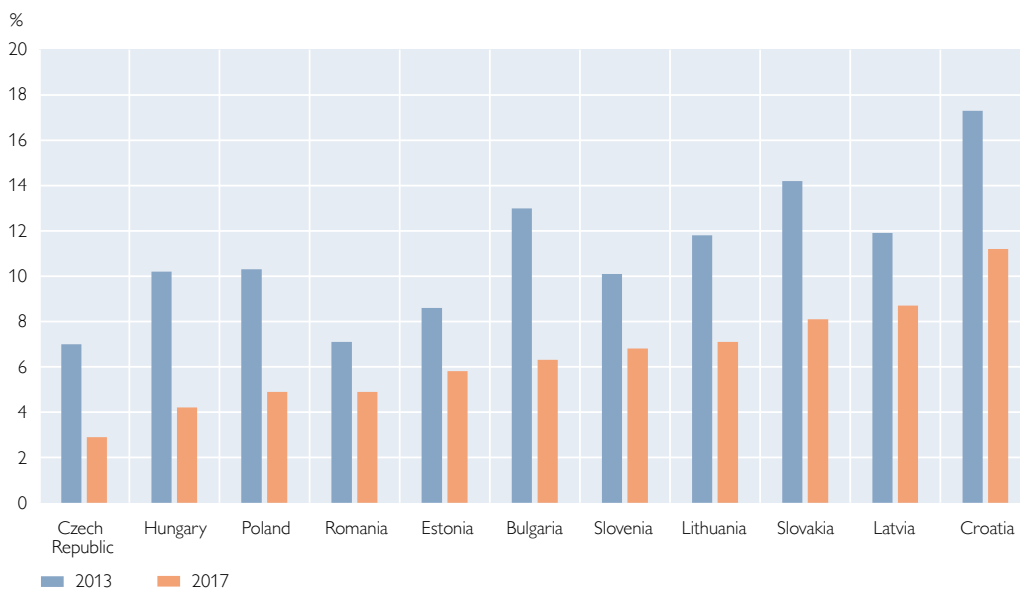


Source: Eurostat, wiw.

Note: The data for services exclude services of households as employers and extra-territorial organizations and bodies. Croatia is excluded as no data were available for 2008.

Chart 2

Unemployment rate

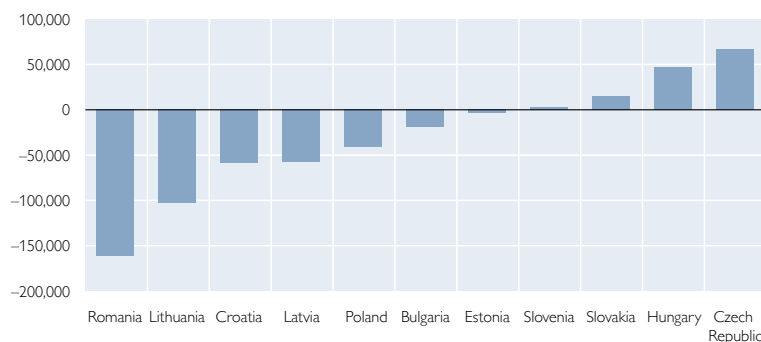


Source: wiw, national statistics offices.

Chart 3

Net migration

Sum of flows 2012–2016



Source: Eurostat, wiiw.

CESEE area saw net outward migration according to Eurostat: Romania, Lithuania, Croatia, Latvia, Poland and Bulgaria. Estonia and Slovenia recorded negligible net inflows (chart 3). Only Slovakia, Hungary and the Czech Republic saw net inflows of more than 4,000 people. In 2016, net outward migration from the ten CESEE EU countries reached almost 97,000, the highest figure since 2010.

Third, and linked to the second point, is the decline in the share of the working-age population in CESEE EU countries. Between 2008 and 2017, the

dependency ratio (people aged under 15 and over 65 as a share of the population aged 15–65, Eurostat data) rose by 11.8 percentage points in the Czech Republic, 8.7 percentage points in Latvia, 8.6 percentage points in Bulgaria, 7.8 percentage points in Slovenia, and 7.5 percentage points in Estonia – which is likely to have contributed to a reduction in available labor in the domestic economy.

2 Three possible solutions

There are three factors that could help relieve labor shortages in CESEE EU countries in the near term.

First, immigration from other parts of Central, Eastern and Southeastern Europe, and especially Ukraine. Ukrainian immigration into CESEE EU countries has risen notably in the last few years. For 2017, the UN estimates that there were

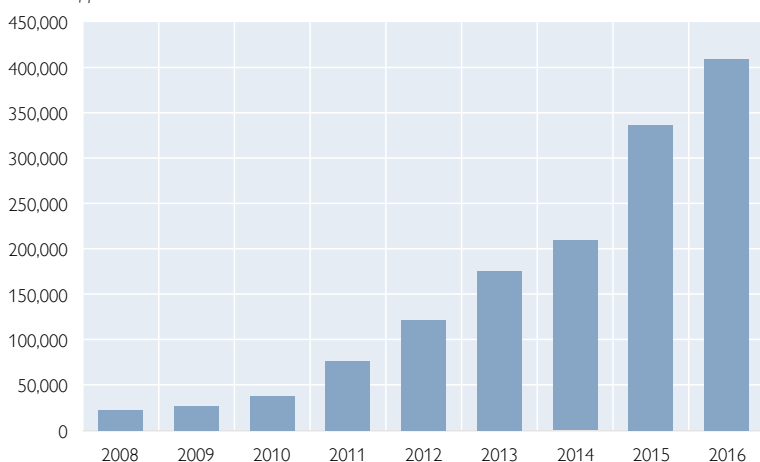
over 200,000 Ukrainian migrants in Poland, 130,000 in the Czech Republic, and 50,000 in Hungary. However, these data likely significantly underestimate the true figure. Unofficial estimates and expert assessments indicate that the real number of Ukrainians just in Poland could be 1.5 million (Mara, 2018).

The second possible source of relief for tighter labor markets in CESEE EU countries is the return of workers from Western Europe, for example owing to Brexit. There are some signs that people are leaving the U.K. as a result of Brexit. In the year to September 2017 (which essentially covers the first full year after the Brexit vote), outward migration of CESEE-10 nationals² from the U.K. was 59,000 (in the year to

Chart 4

Residence permits granted to Ukrainians in Poland

Number of permits



Source: Eurostat, wiiw.

² CESEE-10 = CESEE EU countries excluding Croatia.

June 2016, essentially the year leading up to the Brexit vote, the equivalent figure was 40,000).³

A third option for CESEE EU countries to address labor shortages is to attract migrants from other parts of the world. Given the divergence in demographic patterns between CESEE EU countries and regions such as Africa and the Middle East, on one level this makes sense (Mara, 2016). High migration flows toward Europe in recent years suggest that there is a large supply of willing workers.

3 None of these are lasting solutions

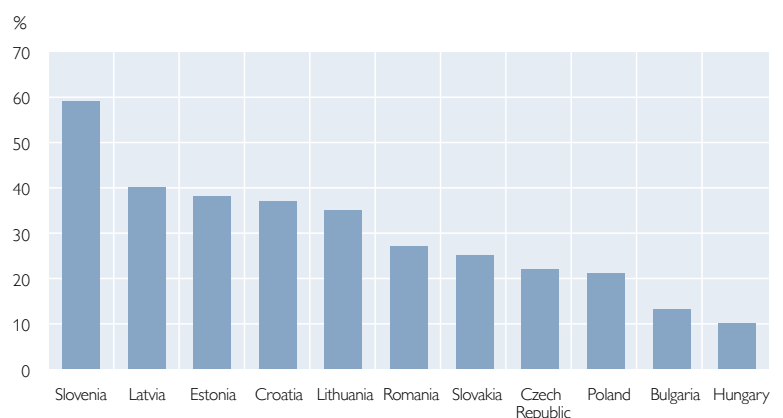
On their own, Ukrainian immigrants will not be decisive in addressing labor shortages in CESEE EU countries in the medium and long term. Even at the moment, it is not clear whether Ukrainian workers are able to fill the gaps in sectors requiring higher skills in particular. According to Podkaminer (2018), Polish demand for foreign workers, and specifically for Ukrainians, far outstrips supply. Ukrainian demographics are probably even worse than those for CESEE EU countries, reflecting even lower life expectancy. As a result, the pool of available Ukrainian labor will fall (and so a decline in Ukrainian immigration in CESEE is likely over the long run). Between 2015 and 2030, the UN expects a decline in the Ukrainian working age population of 14%, higher than all but four EU countries in the region.

Brexit, or a more general return of migrants from the EU-15 to CESEE EU countries is also unlikely to help significantly to alleviate labor shortages in CESEE EU countries. Net immigration to the U.K. from the CESEE-10 in the year to September 2017 was still clearly positive at 46,000 (albeit down from 104,000 in the year to June 2016). Moreover, it may well be the case that workers who otherwise might have gone to the U.K. will just go to other wealthier countries such as Germany, where labor shortages are also visible. Despite growth in earnings, the gap between the big Western European labor markets and the labor markets of most CESEE EU countries remains vast. Adjusted for local costs, only Slovenia has a wage level above 60% of that of Austria.

Finally, the idea that large-scale immigration from the Middle East and Africa can offset labor shortages in CESEE is politically not very realistic. Opposition to non-European immigration in many parts of CESEE is very high. One example is a recent Eurobarometer survey (chart 5), which showed that citizens in CESEE EU countries are not very comfortable with immigration. In a separate survey by Chatham House in 2017, 71% of Poles

Chart 5

Share of population “totally comfortable” having an immigrant as a friend



Source: Eurobarometer, wiiw.

Note: Information as provided in the most recent Eurobarometer at the time of writing, published April 2018.

³ Data from the U.K. Office for National Statistics.

and 64% of Hungarians agreed that “all further migration from mainly Muslim countries should be stopped.”⁴

4 Why is this such a problem for growth?

Vacancy rates for some countries point to substantial unmet labor demand, but it is not clear whether on a net basis labor shortages are currently harming growth. wiiw hypothesized in late 2016, for example, that at least in the short run labor shortages were driving growth (Astrov, 2016), by helping (along with increases in the minimum wage) to push up real earnings and by forcing firms to improve productivity (see section 5 below).

However, it is undeniable that labor shortages, combined with negative long-term demographic trends, represent a clear and significant risk to these countries’ medium and long-term growth prospects (Fotakis and Peschner, 2015). There are two basic reasons why this is the case.

First, the labor contribution to growth will fall in the future, particularly as the working age population (i.e. the active and the inactive population) is set to decline faster than the population as a whole. The decline in the working age population implies a decline in the active population (i.e. those employed or unemployed but seeking work) (Stehrer, 2018). While this could be offset by a higher participation rate, this is not a lasting solution. Assuming employment growth at 0.5% annually from 2016 (a very cautious assumption in the recent context), and using European Commission baseline demographic projections (according to which the EU countries will reach a participation rate of 75% by 2020), labor demand will exceed the active population by 2023 in CESEE EU countries.

Second, faced with a shortage of workers and higher wage demands from those they can find, there is a clear risk that firms will move production away from the region. This would be very negative for the region’s economies. Many CESEE EU countries have benefited a lot from FDI into the tradeable sector. Building of export capacity, moving up the value chain, and raising productivity has translated into higher living standards. Judging from data for 2016 (or latest), countries in the EU, and especially the Visegrád countries, have tended to both receive a larger amount of FDI into the manufacturing sector (relative to GDP), and for merchandise exports to then represent a higher share of GDP than in the rest of CESEE. As chart 6 shows, unsurprisingly, the relationship between inward FDI stock in the manufacturing sector and merchandise exports as a share of GDP holds across most of the region.

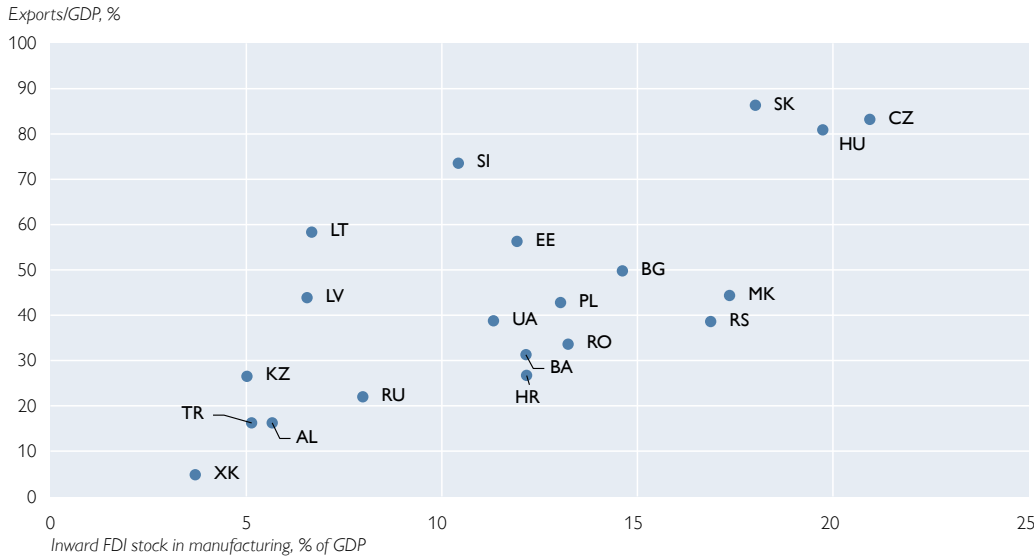
Now, with labor shortages and rising wages, the Visegrád countries could be vulnerable to foreign firms moving production further east. However, we are not convinced about how significant this danger to CESEE EU countries is, for three main reasons.

First, the quality of institutions in CESEE EU countries is markedly different from institutional quality in other parts of CESEE. We looked at the four relevant World Bank governance indicators for institutional quality: government effectiveness, regulatory quality, rule of law and control of corruption. We averaged for the following country groups: the Baltics, Visegrád plus Slovenia, the more recent EU joiners (Bulgaria, Croatia, Romania), and the 10 non-EU CESEE countries

⁴ <https://www.chathamhouse.org/expert/comment/what-do-europeans-think-about-muslim-immigration>.

Chart 6

Relationship between trade openness and inward FDI stock in manufacturing



Source: Eurostat, national central banks, national statistics offices, wiiw.
 Note: Based on data for 2017 or latest available year.

covered by wiiw. As can be seen in chart 7, there is a clear hierarchy for each indicator: the Baltics perform best, followed by the Visegrád states and Slovenia. There is then a large gap to the more recent EU joiners, and a further significant gap to the non-EU CESEE countries.

A second advantage of the CESEE EU members is that their infrastructure is generally much better than in other nearby emerging economies. This matters a lot to foreign investors in manufacturing, who need to move goods quickly and reliably, and particularly in the age of complex cross-border supply chains and “just in time” manufacturing. Using the World Bank’s Logistics Performance Index (LPI), we ranked the countries in CESEE. The LPI is measured on a range of 1–5, and includes six categories: efficiency of customs and border clearance, quality of trade and transport infrastructure, ease of arranging competitively priced shipments, competence and quality of logistics services, ability to track and trace consignments, and the frequency with which shipments reach consignees within scheduled or expected delivery times. The EU countries clearly perform better

Chart 7

World Bank governance indicators for institutional quality



Source: World Bank, wiiw.
 Note: Indicators range from approximately -2.5 (weak) to 2.5 (strong) governance performance; the data are for 2016.

than their non-EU counterparts in the region (with Turkey being an interesting exception), among which the Visegrád countries, Slovenia and the Baltics generally performed best.

A third advantage is simply proximity to big Western markets. As a proxy for this, we looked at distances in kilometers between the capital cities of countries in CESEE and Berlin. Here the relationship is also fairly clear: countries closer to Germany tend to have a higher share of inward FDI into manufacturing as a share of GDP.

5 More lasting solutions to demographic challenges

It is an inescapable truth that demographic trends in the region are negative, and that they represent a very significant challenge for economic growth over the medium term (not to mention currently in some places). However, these demographic trends do not automatically condemn the region to a low/zero growth future, and there are even reasons to expect per capita income convergence with Western Europe over the medium and long term.

5.1 Higher productivity

The most important dynamic that can drive further per capita income convergence, even in the context of the challenges described above, is higher productivity. With the “productivity dividend” – the reallocation of human resources from agriculture to higher productivity manufacturing services – largely exhausted in CESEE EU countries, this will require a greater focus on knowledge-intensive, higher value added economic activities, based on capital deepening, innovation, better organization and management techniques, and more investment in education and skills (Fotakis and Peschner, 2015). We have already seen notable increases in the educational level of the workforce in CESEE EU countries in recent years (Holzner, 2017). However, in general these are areas where CESEE EU countries still have considerable scope for improvements versus Western Europe. Moreover, the need to pay higher wages – combined with significant reasons not to move production away, as outlined above – can act as a powerful incentive for firms to invest in improving productivity. This is something that is already happening in the region and offers an interesting insight into how the situation could develop in the future.

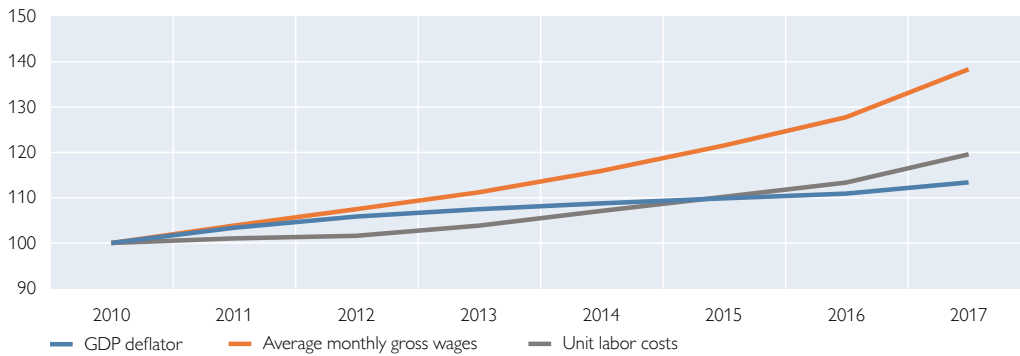
Since 2010, productivity growth in CESEE EU has been fairly subdued. Nevertheless, an improvement in productivity across the region has been evident. One way to measure this is via the relationship between wages, unit labor costs and inflation. Wages themselves have risen very quickly since 2010 (Astrov et al., 2018). For an unweighted average of CESEE EU countries, the increase in 2010–2017 was 38% (chart 8). Yet over the same period, unit labor costs rose by less than 20%, just over half of the wage increase, indicating some improvements in productivity. As a result, the GDP deflator rose by just 13% over the period – barely a third of the rise in wages. In all countries except two, wages rose by at least 10 percentage points more than unit labor costs between 2010 and 2017.

Moreover, there is little sign that this is harming external competitiveness (in fact the opposite appears to be the case). In general, current accounts in the region moved from deficit in 2010–2012 to surpluses in 2017. Along with increases in productivity, we also observe improvements in non-price competitiveness, notably improvements in quality of products (Astrov, 2016), as well as in some cases help

Chart 8

Productivity indicators

Unweighted average of CESEE EU countries (2010 = 100)



Source: Eurostat, wiiw.

from weaker exchange rates. In fact, wiiw research shows that wages in manufacturing – the sector most exposed to international competition – have grown considerably faster than for the economy as a whole since 2011 across CESEE EU countries (Astrov, 2018).

5.2 The central role of automation

These improvements in productivity imply an important role for robotics and automation in CESEE EU countries. There are reasons to think that this will accelerate further in the region in the future. This is particularly the case given that the sectors where CESEE EU countries have tended to specialize – manufacturing, and specifically automotives – are set to move toward automation particularly quickly (although this does of course not apply to all sectors in the region). A recent OECD study found that along with agriculture, manufacturing was the industry most exposed to automation (Nedelkoska and Quintini, 2018). According to IFR World Robotics, across the global economy, industrial robots are used more heavily in the automotive sector than in any other industry. This is a sector where CESEE EU countries, and especially the Visegrád countries and Romania, specialize.

The CESEE EU region, along with Southern Europe, has a higher share of jobs at “high risk” of automation than the OECD average (Nedelkoska and Quintini, 2018), but this risk may actually be an advantage in the context of demographic decline and labor shortages. According to the OECD study, the median worker in Slovakia has a 62% chance of being automated, with Lithuania being the runner-up (57%) and the OECD aggregate totaling 48%.

Recent trends in robotics appear to confirm indications from the productivity improvements noted above, in suggesting that automation is proceeding at quite a rapid pace in CESEE EU countries. Shipments of multipurpose industrial robots to Central and Eastern Europe rose by 28% in 2017 according to IFR World Robotics,⁵

⁵ https://ifr.org/downloads/press/Executive_Summary_WR_2017_Industrial_Robots.pdf.

compared with 9% for Europe as a whole and 5% for Germany.⁶ IFR World Robotics expects a compound annual growth rate of multipurpose industrial robot shipments of 21% in 2018–2020 for CESEE EU countries, compared with 11% for Europe as a whole.

6 Conclusions

The scale of demographic decline likely in CESEE EU countries in the coming decades represents an enormous challenge to growth. Yet as this article has argued, the idea that this automatically means an end to per capita income convergence with Western Europe is without foundation. Higher productivity via automation represents the most obvious and viable solution, and recent gains in this regard are highly encouraging. Moreover, particularly for the Visegrád countries and Romania, the region's industrial structure actually makes automation more likely than is the case for most economies. In order to ensure that capital owners make productivity-enhancing investments rather than moving production out of the region, policy-makers should do their utmost to provide high-quality infrastructure, governance and institutions, to ensure that the CESEE EU countries retain their advantage in this regard versus potential competitors.

References

- Astrov, V. 2016.** Labour shortages driving economic growth? In: wiiw Autumn Forecast Report 2016. The Vienna Institute for International Economic Studies. 1–23.
- Astrov, V., M. Holzner, S. Leitner, I. Mara, L. Podkaminer and A. Rezai. 2018.** Die Lohnentwicklung in den Mittel- und Osteuropäischen Mitgliedsländern der EU. The Vienna Institute for International Economic Studies.
- Astrov, V. 2018.** Wages in the EU-CEE countries: Manufacturing sector catching up. wiiw Spring Forecast Report 2018. The Vienna Institute for International Economic Studies. 36–42.
- Boussemart, J.-M. and M. Godet. 2018.** Europe 2050: Demographic suicide. Fondation Robert Schuman Policy Paper, European Issues 462.
- Holzner, M. 2017.** Cautious upturn in CESEE: Haunted by the spectre of uncertainty. wiiw Autumn Forecast Report 2017. The Vienna Institute for International Economic Studies. 1–18.
- Fotakis, C. and J. Peschner. 2015.** Demographic change, human resources constraints and economic growth – the EU challenge compared to other global players. European Commission (DG EMPL) Working Paper 1/2015.
- Mara, I. 2016.** Outmigration and labour shortage in the EU-CEE. wiiw Spring Forecast Report 2016. The Vienna Institute for International Economic Studies. 41–45.
- Mara, I. 2018.** Ukrainian migrants filling the employment gap. wiiw Spring Forecast Report 2018. The Vienna Institute for International Economic Studies. 43–46.
- Nedelkoska, L. and G. Quintini. 2018.** Automation, skills use and training. In: OECD Social, Employment and Migration Working Papers 202. OECD.
- Podkaminer, L. 2018.** Ukraine workers in Poland: demand far exceeds supply. In: wiiw website. The Vienna Institute for International Economic Studies. Forthcoming.
- Stehrer, R. 2018.** EU-CEE's demographic challenge. wiiw Spring Forecast Report 2018. The Vienna Institute for International Economic Studies. 47–53.

⁶ *Base effects play a role here, at least in relation to Germany. IFR World Robotics estimates annual shipments of multipurpose industrial robots to Central and Eastern Europe at around 12,000 in 2018. This is only a bit more than half of the 21,500 estimate for Germany, although well ahead of France (4,500), the U.K. (2,000) and Italy (7,000).*