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Post-pandemic production relocation: an opportunity for CEE countries

EXECUTIVE SUMMARY

The COVID-19 crisis has triggered a discussion on increasing supply chain resilience to foreign supply shocks. Before the pandemic's arrival in Europe, a lockdown of factories that temporarily suspended manufacturing in China put the supply of intermediary goods at risk. In order to limit such risks, supply chain managers are likely to diversify their sources of supply. While China is not expected to lose its position of global supplier, the aftermath of the pandemic could bring opportunities for Central and Eastern European (CEE) countries in this diversification process, with a higher share in global supply chains.

Foreign trade and inclusion in supply chains already increased over the previous years. The process was supported by the access to European Union membership by most CEE countries in 2004. Furthermore, the educated workforce, geographical proximity to Western Europe, low labour costs, relatively good infrastructure and stable business climate attracted various investments. In recent years, the CEE region has switched to an "assembly line" for Western European companies, with the intention to avoid remaining in the lower value chain of production. The region could be well positioned in the after-crisis review of global value chains and their potential relocation. However, competing with lower labour costs compared to Western Europe is not sufficient. The CEE region has already made progress in enhancing its productivity by a wider usage of automation and "robotization". Nevertheless this process is only beginning and further investments are needed to be in a favourable spot.

Further automation and digitalization are key issues to remain competitive amid increased productivity. CEE countries could not only benefit from the pillar of manufacturing - i.e. the automotive industry - once they pass through the coronavirus shock and cyclical weaknesses, but they would also be able to attract the relocation of other industries. These could include electric and electronics equipment production, but relocation would not be limited to them only. There is also potential in machinery, chemicals, as well as transports and storage. The region could rapidly adapt to demand, when supply chains of specific industries would be willing to increase their share or enter the region. Many years ago, the core CEE countries attracted investments in low value added sectors. A similar opportunity could arise for the Western Balkans this time around. Those countries have already attracted investments in automotive, electrical equipment, machinery, chemicals and metals, and they are well positioned to gather further relocations across the manufacturing industries. Moreover, there is a significant opportunity to outsource services to CEE thanks to digitalization and a large ICT talent pool. The recent pandemic confirmed that many jobs could be done from home, which means that they can be located elsewhere than the original domestic location of the workplace. If CEE countries further invest in digitalization, the inflow of services could be boosted, particularly in the Baltics and the most developed CEE countries, including the Czech Republic (Czechia), Hungary, Poland, Slovakia, and Slovenia.

CEE has already become attractive

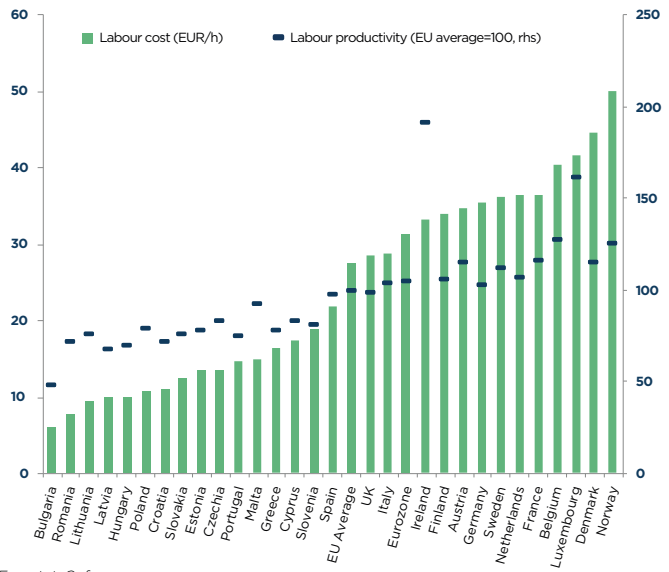
Over 30 years ago, CEE countries transformed their economies from centrally planned to open. The process was initiated by Poland, where communism collapsed in June 1989. In the early 90s, CEE countries faced high economic transformation costs and soaring inflation. Switching to market-oriented and competitive emerging economies became the overall strategy in the region. Consistent with the stabilization of business climate, it was able to stimulate an inflow of foreign investments, including both greenfield[1] and brownfield[2] investments. The process was undoubtedly supported by the EU membership of CEE countries, with most of them joining the Community in 2004: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia. Later, Bulgaria and Romania (2007), as well as Croatia (2013) also joined the EU. Nowadays, only some Balkan countries have not joined the EU yet, but are strongly linked to it through trade agreements. The inflow of foreign investments and soaring exports in the CEE region was supported by its competitiveness. However, the latter is a wide concept, crucial for global production and trade. Companies play the leading role in the quest for improved economic performance. Supply chains as cross-border flows of goods, investments, services, know-how and people associated with international production networks have transformed the world[3]. These are defined as global value chains (GVCs), i.e. the full range of activities undertaken to bring a product or service from its conception to its end use, and the distribution of those activities over geographic space and across international borders[4]. Chains include both multinational entities and domestic companies. Regarding the CEE region, a number of factors triggered decisions to include specific countries and companies in GVCs. Attractive labour costs, an educated workforce, geographical proximity to Western Europe (the bulk of supply chains in CEE are Western European ones), the EU legal framework and various incentives have been crucial reasons, which enabled the gathering of such investments. Increasing demand for labour in CEE enabled the decrease of unemployment rates (below the EU average level in most countries), pressured wage growth and alleviated labour shortages in the region. The process started in 2013 and accelerated in recent years, and, despite this, the CEE region remains cost attractive. Average labour costs are around one-third of the level recorded in Western Europe **(Chart 1)**. While the chart confirms that labour costs in CEE are lower than in Western Europe, the efficiency is also weaker due to lower labour productivity in the CEE region. Nevertheless, low labour costs combined with relatively good infrastructure - which improved over the last years with the support of EU funds and is still being upgraded - result in low transport costs and time for goods manufactured in CEE. However, the recent COVID-19 pandemic has reversed the situation on the labour market. Although massive fiscal and monetary stimuli have been introduced in a number of CEE countries, unemployment rates have started to increase while wage growth and labour shortages have become muted. A similar trend can be observed worldwide. At least temporarily, employers are experiencing a softer pressure on the labour market. Nevertheless, fulfilling vacancies in specific areas, like qualified manufacturing positions, could still be hard.

The latest Global Competitiveness Report of the World Economic Forum (WEF), which ranks countries according to non-price competitiveness, does not place CEE countries in the top global leaders. However, most of them are ranked in the first 50s (out of 141 countries total). CEE positions have improved in recent years, but the latest Report brought various changes, with Croatia improving by 5 ranks, while the Czech Republic and Albania went down by 3 and 5 ranks, respectively. According to the WEF's Report, which measures national competitiveness (defined as the set of institutions, policies and factors that determine the latest level of productivity), Estonia, the Czech Republic, Slovenia and Poland are the most competitive CEE countries **(Chart 2)**. Furthermore, scores received in the pillar of innovation capability confirm that the region has moved from having only "assembly lines" to a wider inclusion in GVCs, with more research and development activities.

Robotization and automation – key factors to attract relocation

Manufacturing accounts for a sizeable part of CEE economies thanks to the region's wide integration in supply chains and investments made over the previous years. It has reached nearly 25% of total value added in Poland and Slovakia, a similar level to Germany, and it is close

CHART 1
Labour costs in Europe (EUR per hour) and labour productivity per person employed (EU average = 100)



Source: Eurostat, Coface

CHART 2
CEE countries in the Global Competitiveness Index 4.0 2019 Ranking

Rank in the global ranking	Country	Score
31	Estonia	70.9
32	Czechia	70.9
35	Slovenia	70.2
37	Poland	68.9
39	Lithuania	68.4
41	Latvia	67.0
42	Slovakia	66.8
47	Hungary	65.1
49	Bulgaria	64.9
51	Romania	64.4
63	Croatia	61.9
72	Serbia	60.9
73	Montenegro	60.8
81	Albania	57.6
82	North Macedonia	57.3
92	Bosnia & Herzegovina	54.7

Source: World Economic Forum, Coface

1 - Greenfield investment – a type of foreign direct investment (FDI) in which a company creates a subsidiary in a different country, building its operations from the ground up.
2 - Brownfield investment – a type of FDI in which a company invests in an existing facility to start its operations in the foreign country.
3 - João Amador and Filippo di Mauro (2015), "The age of global value chains", Centre for Economic Policy Research
4 - DFAIT (2011), "The evolution of global value chains", Department of Foreign Affairs and International Trade Canada

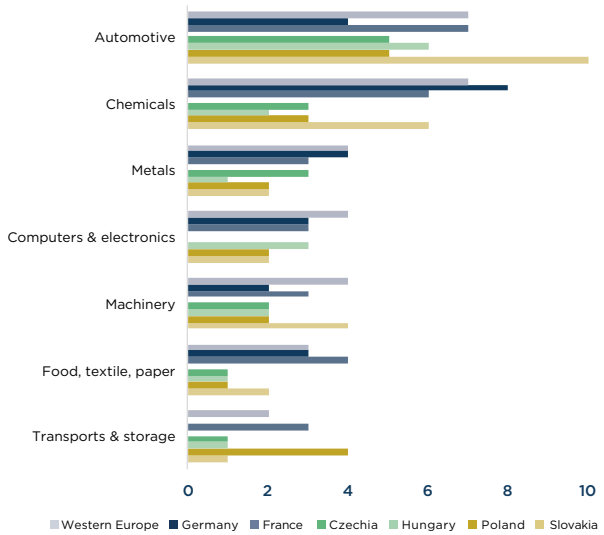
to 28% in the Czech Republic. Within manufacturing, the automotive sector plays an important role. Therefore, CEE countries that are strongly involved in automotive supply chains were impacted relatively fast by the pandemic, on the back of lower demand for vehicles and closed factories because of lockdown measures. The European Automobile Manufacturers' Association (ACEA) expects passenger car registrations to decrease by about -25% in 2020[5]. Companies in CEE are strongly exposed to demand from various countries due to the participation in supply chains. The example of the automotive sector shows that links of intermediate consumption flows are intense and include CEE countries. In February 2020, the peak of the pandemic in China caused temporary factory closures, and increased the risk of supply stoppage of intermediate goods and final products from Chinese manufacturers. The situation prompted supply chain management teams to search for more resilience to foreign supply shocks. This could be done through a full relocation of production on the domestic market or a strong global strategy of supplier diversification[6]. The latter brings further opportunities for CEE businesses in terms of both exports and a wider inclusion in GVCs, especially since companies will be focused on low production costs while expanding chains with more suppliers.

At the same time, manufacturing is likely to come back on track gradually. As mentioned above, the automotive sector was hit hard by COVID-19. That being said, it also faced specific challenges even before the crisis: delay in the adaptation to new emission standards, change in consumer preferences, and the necessity of costly investments. However, in the medium-term, once the sector recovers, CEE automotive companies will benefit from their competitiveness, investments made in previous years and production capacities, especially if they adapt to structural changes in the industry. This would also spread to other sectors linked to the automotive industry, including metals, plastics and electric/electronics. Overall, the CEE region remains competitive. In addition to the abovementioned advantages, stable exchange rates have supported competitiveness. Production plants are relatively modern or have been upgraded recently and co-financing from EU funds has supported infrastructure. Labour shortages, which increased in the region over the last years, encouraged companies to focus on the automation of processes and production, as well as a wider use of robotization. Indeed, examples of automation include industrial robots, distributed ledger technology, 3D printing, the Internet of Things, artificial intelligence and big data analytics. The use of service robots[7] has become more frequent. In the automotive sector in Slovakia, 10% of companies use service robots, a much higher share than the 4% recorded in Germany.

The figure regarding the usage of such robots in the Slovak chemicals and machinery sectors is similar to Western Europe. Czech companies in the computers and electronics sector report the same share of service robot usage than that of German and French ones. The transports and storage sector in Poland uses service robots much more than other European companies of this sector **(Chart 3)**. In the whole CEE region, the largest share of enterprises using robots in food, textiles, wood and paper, and chemicals is in Slovenia. Bulgaria is ahead of other CEE countries in metals manufacturing, Slovakia in machinery production, and Poland in construction. In the European Union, on average, only 8% of all businesses with more than 10 employees (excluding the financial sector) used industrial and service robots in 2018[8].

Although there is a gap in automation levels between Western Europe and CEE, the pressure on wages and labour shortages - when they return - will encourage companies to invest further in automation. The International Federation of Robotics anticipates that the stock of industrial robots in CEE countries will grow by 22% per year in the next three years, compared to only 5% in Germany[9]. The tightness of the labour market loosened in the wake of pandemic, but will return and again be a challenge for the CEE region, which is facing negative demographic trends. A higher usage of automation and wider robotization would enhance productivity and enable continued manufacturing during lockdown periods, if they occur again in the future. Increased productivity alongside competitiveness is likely to encourage further inflows of foreign investments to CEE, and supports the decisions of potential relocations of production to the region. The countries that could attract the attention of supply chain management teams are the biggest countries in the region, which were already able to gather foreign investments thanks to a large workforce and stable business climate: Czechia, Hungary, Poland, Slovakia, and Romania. Nevertheless, other CEE countries also remain attractive, while the Balkans (Serbia, North Macedonia) offer even lower labour costs than the core-CEE economies. While the core-CEE countries will be willing to attract investments that could move them higher in creating value added, the Balkans could be chosen by lower value added sectors, including agri-food, textiles, or more broadly the assembly of products from imported components. Sectors that could attract relocations to CEE are included in manufacturing overall. The automotive sector in the region moved to modern technologies, with an increasing volume of produced EV/hybrid cars, as well as parts and components (e.g. LG Chem plant in Poland producing EV batteries). The potential to widen CEE's participation to GVCs lies in electrical and electronics products. The CEE region is open to attract further investments, and the possibility for sectors to benefit from relocations is strongly subject to the intentions of supply chain management teams to diversify their chains.

CHART 3
Automation: Use of service robots in selected sectors (%, percentage of enterprises, 2018)



Source: Eurostat, Coface

Relocation of manufacturing, but more services thanks to digitalization

As mentioned above, automation supports the increase of productivity. It is definitely linked to digitalization, which not only increases the efficiency of production processes, but also props up the productivity of services sectors. The width of GVCs includes various services, like ICT or transport. ICT investments in CEE have a stronger effect on

5 - https://www.acea.be/press-releases/article/eu-car-sales-forecast-2020-record-drop-of-25-expected-this-year-says-acea
6 - Julien Marcilly, Mélina London, Matthew Fontes-Baptista "World trade: despite a sudden interruption, global value chains still have a bright future", Coface Focus, May 2020
7 - According to the definition of International Federation of Robots, service robots are used for warehouse management systems, transportation, cleaning or waste disposal tasks, assembly works, surveillance, security or inspection, robotic store clerk tasks, construction works, and damage repair.
8 - According to the definition of International Federation of Robots, service robots are used for warehouse management systems, transportation, cleaning or waste disposal tasks, assembly works, surveillance, security or inspection, robotic store clerk tasks, construction works, and damage repair
9 - Alexandra Bykova "Automation in manufacturing and construction in the EU", wiiw Monthly Report 2019/05 International Federation of Robots, "World Robotics 2018 Industrial Robots"

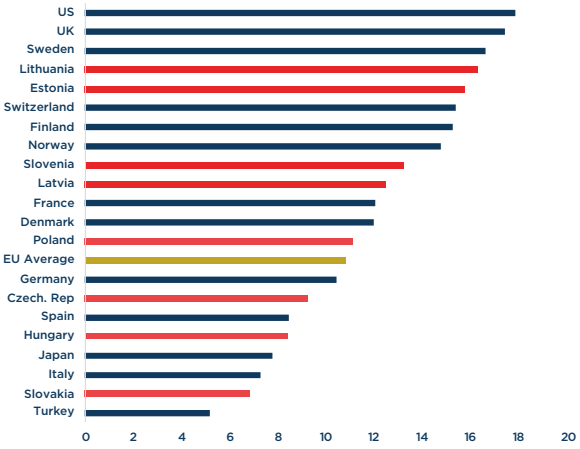
productivity growth than investments in other infrastructure or machinery, and they support the transformation into a new knowledge-driven economy[10]. For instance, in June 2020, Google announced that it would invest as much as USD 2 billion for a data centre in Poland to deal with cloud services, and that the investment would create a new cloud hub to serve Google's rapidly growing number of customers in Europe. Earlier this year, Microsoft communicated that it would invest USD 1 billion in Poland for a hyper-scale data center, as well as support for further development of digital skills and digital transformation. The program will include e-learning programs, workshops and hackathons around topics such as cloud computing, artificial intelligence, machine learning and big data[11].

CEE countries have a strong potential for further digitalization thanks to a relatively high share of ICT task-intensive jobs **(Chart 4)** and a large talent pool of graduates in science, technology, engineering and mathematics. Combined with high quality digital infrastructure and broadband coverage, CEE countries could be favoured locations for the relocation of services outsourcing, and especially the Baltics, which are outperforming in the CEE group in terms of these indicators. Indeed, the Baltics ICT talent pool and their network readiness is highly ranked in the World Economic Forum index[12].

Further outsourcing of services to CEE would have positive spillover effects on the business sectors and the economies, by moving them higher in the value chain position. While the ICT talent pool is expected to grow further in the CEE region, countries should prepare to benefit from such an opportunity. This could be done through additional investments to enhance digitalization and incentives for businesses to invest in new technologies. In terms of the latter, despite some improvements, spending for research and development (R&D) remains relatively weak. According to the WEF's latest Global Competitiveness Report, R&D expenditures have overall reached up to 1% of GDP in CEE countries. Such expenditures amounted to 2% of GDP in Slovenia, 1.7% in Czechia, 1.3% in Estonia, 1.2% in Hungary, but are still much lower than frontrunners: Israel (4.3%), Switzerland (3.4%), Sweden (3.3%) or Japan (3.1%). In addition to the abovementioned issues, the CEE workforce should be prepared to meet the demand for such jobs, i.e. shifting to technology skills through reskilling of workers. Moreover, despite mounting labour shortages in the region over the last years, part of the inactive population on the labour market could be requalified to perform, at the least, simple jobs in these areas. The recent pandemic will encourage companies to outsource their services. Many businesses switched to home-office schemes. Although some businesses were reluctant to use it in the past, the necessity to work from home confirmed the overall efficiency and could create some savings for companies if implemented for longer periods, including lower office rental costs. Global findings[13] show that jobs that could be done from home principally include occupations in IT, education and training, legal, management, as well as business and financial operations. In terms of sectors, educational services, professional, scientific and technical services, management of companies and enterprises, finance and insurance, as well as information could be easily switched to the home-office scheme.

Conversely, occupations in transportation and warehousing, construction, retail trade, agriculture, and accommodation and food services are the most difficult to be done from home. On a country basis, the higher the income levels, the larger share of jobs adapted to home-office. While fewer than 25% of jobs in Mexico and Turkey could be performed from home, this share exceeds 40% in Switzerland, Nordics, the United Kingdom and the United States. The share in most CEE countries exceeds 30%. However, a higher share of these jobs in advanced economies could stimulate an inflow of services outsourcing to the CEE region. In the expected relocation and further cost-cutting processes, CEE could be chosen thanks to its competitiveness. Jobs that are done from home in advanced countries could be switched to the CEE region as long as the workforce provides necessary skills and language proficiency, as it does not matter where this "home" is. The more developed CEE countries, including Czechia, Hungary, Poland, Slovakia, Slovenia as well as Estonia, Latvia and Lithuania are better positioned to attract investments in services thanks to their increasing digitalization. Nevertheless, a higher usage of robotization and automation gives a potential to growth in automotive, electronics, machinery, chemicals, as well as transports and storage. At the same time, the Western Balkans, which offers even lower costs than the rest of CEE, could attract more investments in low value added sectors similar to what the core-CEE countries started with in the past. That being said, while low value added sectors are among the potential targets for investments, the latter are definitely not only limited to them.

CHART 4
ICT task-intensive jobs as a share of total employment (%)



Source: OECD Going Digital Toolkit, Coface

10 - Kotian J., Z. Arokszallasi, K. Rzentarzewska (2018), "Digitalization and higher R&D readiness – a way to foster income convergence in CESEE", Focus on European Economic Integration, Q3/18, Oesterreichische Nationalbank
11 - https://www.reuters.com/article/us-google-poland/google-to-invest-up-to-2-billion-in-polish-data-centre-paper-says-idUSKBN23V0PA
12 - http://www3.weforum.org/docs/GITR2016/WEF_GITR_Full_Report.pdf
13 - Jonathan I. Dingel and Brent Neiman, "How Many Jobs Can be Done at Home?", Becker Friedman Institute, April 2020.

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