

The evolution of downstream global value chains in Eastern Europe

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Received: November 1, 2022 • Revised manuscript received: March 3, 2023 • Accepted: March 27, 2023

Published online: May 4, 2023

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ABSTRACT

While international value chains have been present in planned economies for several decades, their integration into global value chains (GVCs) began in the 1990s. In this study, we investigated the evolution of downstream value chains in Eastern Europe (including the Balkan countries, Moldova, and Ukraine) from 1995, by applying Wang's UIBE methodology and the Eora database. The results of this study suggest that European Union (EU) membership indisputably has a positive impact on GVC embeddedness, whereas non-EU economies are still integrated in their own local downstream value chains. We further investigated the automotive sector in the Central and Eastern European countries and demonstrate how deeper integration into GVCs prompted the emergence of assembly activities.

KEYWORDS

global value chains, Eastern Europe, history, evolution, planned economies, FDI, local value chain, complex value chain

JEL-CODES

B27, F14, F43, O11, P31

1. INTRODUCTION

In the past three decades, all former planned economies in Europe were transformed into market economies, and most economic activities were liberalised. During this time, trade embargoes

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were almost fully abolished, and capital could freely flow into and out of these countries. Although at the time of regime changes the development of socialist nations was uneven, all countries were given a chance to boost their economies in a capitalist environment. Openness is still one of the highest economic policy priorities in Eastern Europe. Integration into world trade and value chains is one of the most preferred ways to gain economic growth in emerging economies. Doubtlessly, most former planned economies have been doing well in this since they are economically among the most open countries in the world and widely embedded into global value chains (GVCs). The latter play a crucial role in the region, because, in the 1990s, this region barely had marketable products that could be traded on the markets of developed countries. Thus, integration into global trade could only be feasible via participation in the international division of labour. In the frame of that, large volumes of foreign capital were invested in the region (in the form of direct investments), while trans- and multinational companies founded businesses in the region, thereby substantially contributing to GDP.

Herein, we elucidate the history and evolution of the integration of the Eastern European countries into the world market. Several additional questions emerged during our investigation, such as: why are the Eastern European countries not on the same growth path? Do the past three decades reflect an economic success story in the region? What is the role of GVCs in regional economic development? We found that the initial development, the forms of specialisation, and industrial structure had a noticeable impact on future growth paths, and so did global and regional politics. The most critical factors included the integration into the European Free Trade Area and later the accession to the European Union (EU). Being part of the customs union can partly explain the difference between growth paths in the region. At the same time, the importance of GVCs in the region might be slightly overestimated.

We also investigated the role of domestic and foreign markets in economic development and found that local markets have a larger impact on growth than export markets. We applied an existing methodology to assess the development of value-added channels. We used a much wider database that has not been used before for such analysis. This allowed us to research countries that have been barely analysed in the literature. However, to get a full image of the region, it is advised to review the history of foreign economic relations in the past century.

2. HISTORICAL PERSPECTIVE

Though transnational corporations have existed since the 17th century – mostly originating from Britain (British East India Company, Hudson's Bay Company, Royal African Company etc.) – the true flourishing was observed in the 19th century when European empires established trading companies in their colonies (McLean 2004). Meanwhile, these corporations reluctant to invest in Eastern and South-Eastern Europe (ESEE),¹ primarily because industrialisation was in incipient stages at the beginning of the 1900s.² Agriculture was the prime source of growth, and

¹Albania, Belarus, Bosnia, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Kosovo, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, and Ukraine.

²The ninth edition of Encyclopaedia Britannica (published in 1881) generally describes the manufacturing industries in these countries (already existing at that time) as functioning ones (i.e., able to fulfil domestic demand), but with low export potential and mainly specialised in food products.



the unemployment rate was around 25%. Productivity was incomparably low in contrast to Western Europe. For “agrarian” countries, the economic system was still dominated by late-feudalism instead of capitalism (Rosenstein-Rodan 1943). Right after the Second World War, the region began Soviet-style industrialisation, focusing primarily on heavy industry. Between the 1960s and 1989, trade was concentrated mainly within the Council for Mutual Economic Assistance area, and the presence of Western transnational companies was fairly limited. However, numerous large industrial companies from the Central and Eastern European (CEE)³ region (the so-called “red multinationals”) invested in market economies (Hamilton 1986). At the same time, these enterprises chiefly performed marketing and sales activities, and consequently, they were rather commercial representations⁴ than companies performing production (Marinov – Marinova 2014). After the changes in the regimes between 1989 and 1992, the economies in the ESEE region followed different paths concerning market reforms (liberalisation), in particular privatisation (Jaklič et al. 2020). Western multinational corporations performed a large amount of foreign direct investment (FDI) in the region in the form of acquisitions and joint ventures or green (and sometimes brown) field investments. While foreign ownership became common in the ESEE economies, these countries also began to increase their share in the international division of labour (Kalotay – Hunya 2000).

In the wake of trade liberalisation, most CEE economies began to specialise in some key industries. For instance, Poland, the Czech Republic, Slovakia, and Hungary specialised in textile, metal, and car manufacturing, while the Baltic states specialised in wood and wood product manufacturing. Romania and Bulgaria had a growing share of technology-driven industries. Other ESEE countries, however were lagging behind the CEE region owing to the Yugoslav Wars (Havlik et al. 2001). Trade liberalisation put export and FDI inflows to the centre of economic development, and export-led growth (ELG) became the prime focus of economic policies in several CEE countries. However, only a limited number of countries could enjoy the positive impacts of ELG. The causal relation⁵ was found only in Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Slovakia and Slovenia, while growth-led export was validated in Hungary and Romania (Silaghi – Ioana 2009).⁶ Trade agreements between CEE countries and the EU favourably affected the growth of the region via foreign trade, and actual EU membership further strengthened this association (Rapacki – Prochniak 2019). Non-member ESEE countries also enjoyed the positive impact of trade agreements (Fetahi-Vehapi et al. 2015). As a result, international trade of goods and services gradually became the dominating factor in all economies in the ESEE region from the 1990s (see Fig. 1).

The export/import of final goods was the common form of trade until the late 1980s when international division of labour and FDI restrictions were opened up partially owing to GATT/WTO trade liberalization and bilateral investment protection agreements (Liu 2009). Transaction costs were then significantly reduced due to the rapid development of technological factors that also supported the emergence of GVCs (Lund et al. 2019). Nowadays, most

³EU member states of the ESEE region.

⁴A few examples (King et al. 1995): Skoda (Czech Republic), Skorimpex and FLT Metals (Poland). These companies are still operating and have a significant share in the European market.

⁵Silagi and Iona (2009) applied cointegration analysis to reveal causality.

⁶As Poland is the largest economy in the region, growth is mostly dominated by household consumption.



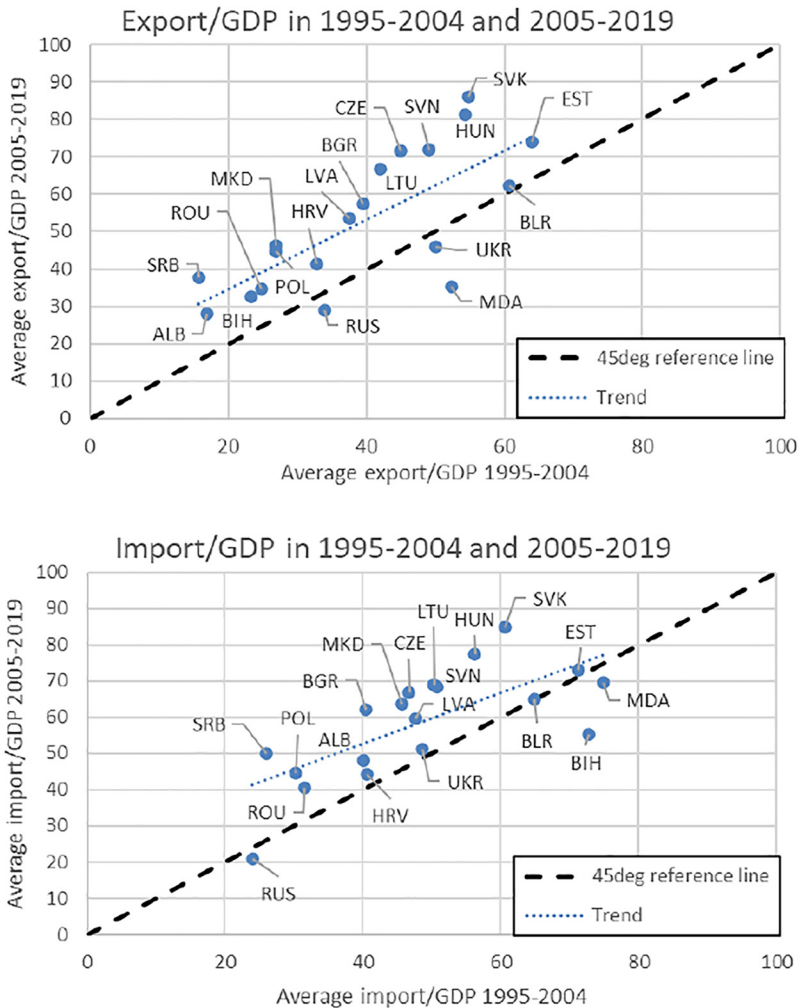


Fig. 1. The export and import content of GDP in the ESEE countries from 1995 to 2019
Source: World Bank.

economies (with the exception of the ones under trade embargoes) are participating in GVCs to a certain degree. However, the 2007–2008 financial crisis has been reported to have slowed down globalisation (Timmer et al. 2016).

Despite the strong growth of export and FDI inflows, only a few countries have merchandise trade surpluses in their balance of payments. In 2019, out of 21 economies in the ESEE region, 17 had a merchandise trade deficit and only four countries, namely, the Czech Republic, Poland, Slovenia, and Russia, had a surplus. Most countries always had trade deficits, whereas Russia and Czech Republic had a surplus for over a decade. Consequently, the trade balance of the ESEE region is positive primarily owing to them (Fig. 2.). It is worth noting that Russia’s export



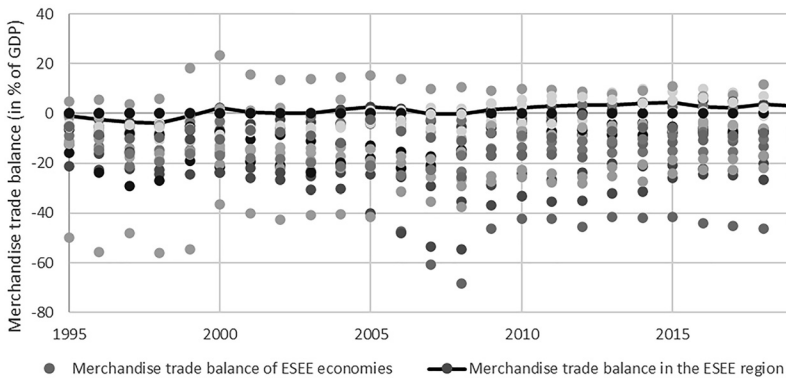


Fig. 2. The merchandise trade balance (in % of GDP) in the ESEE region between 1995 and 2019
 Source: World Bank.

primarily includes raw materials, rare-earths, and other commodities that are sold in a completely different market in contrast to other ESEE countries that typically export manufactured goods. However, the Russian economy strongly relies on the import of capital and consumer goods.

Despite the fact that most countries in the region are deeply integrated in GVCs (Pellényi 2020), the existence of permanent trade deficits suggests that GVCs had only a moderately positive impact on the economies. Furthermore, new studies confirmed mixed effects of GVCs on employment, productivity, and wages (Chiacchio et al. 2018; Nikulin – Szymczak 2020). Most countries are still short of production bases that could create high value-added export.

The general perception of the ESEE region is that it is mostly specialised in assembly of manufactured products (Szalavetz 2017; Cieřlik et al. 2021; Győrffy 2021; Csath 2022), on account of overly relying on the FDI-led growth model. As a result, production is specialised in low value-added goods and services, and thus, most corporations are embedded at the end of GVCs (Sass 2017). We aimed to investigate whether this path was predestined for the ESEE countries, or the economies turned aside from the road in the past three decades? Since it is generally accepted that the ESEE producers are very close to the final consumer in the GVCs, we investigated only forward linkages, assuming that backward linkages have a limited role in value chain upgrading.⁷ The UIBE-GVC methodology, developed by a team of the University of International Business and Economics in Beijing, China, was applied. This technique disaggregates domestic production according to the users of domestic value added. Using this technique, one can distinguish types of export flows, and by investigating the process on a wide time horizon, the evolution of GVC participation in the economy can also be revealed.

⁷Technically, backward and forward linkages have more or less the same impact on economic development. Since imports in final demand negatively affect GDP, having a large domestic production base is desirable, which generally shortens the length of backward linkages. As our prime focus was on export-based growth, the evolution of forward linkages was examined.



This paper is structured as follows. After the introduction and short summary of the literature, methodological insight is given. In the consecutive section, the data utilised is presented, followed by the analysis and the discussion of the results. Finally, a summary of the work and the conclusions are presented.

3. MEASURING THE EVOLUTION OF GVCS – A METHODOLOGICAL OVERVIEW

The methodology proposed by Wang et al. (2017), also known as the UIBE-GVC-Indicators, was applied in this study. This section provides a conceptual summary of the methodology. Owing to limited space, the mathematical derivation shall not be discussed here. However, interested readers can refer to Wang et al. (2017).

The output of any industry can be disaggregated, as depicted in Fig. 3.⁸

Using multiregional input–output (MRIO) tables, one can assign the export of any economy to the use of any other economy. Export can be classified in terms of its use, that is, it can be a final good consumed by residents of a foreign country or intermediate good used by a foreign producer (see Fig. 3). In the former case, the good is consumed without any further processing by an intermediate producer and without any other border crossing. When an intermediate good is exported to a foreign intermediate producer, it is further processed by at least one industry to create a final good (to be exported again or consumed locally) or an intermediate good to be exported to a third country.⁹ Evidently, the latter entails more than one border crossing in the value chain and consequently involves a more complex production process.

GVC forward linkages can be divided into four categories (see Fig. 4):

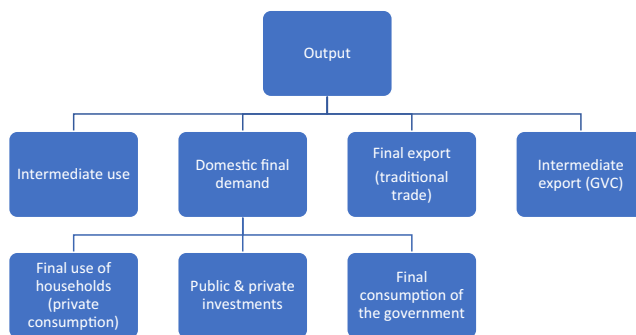


Fig. 3. The schematic representation of industrial output disaggregation
Source: author, based on Miller and Blair (2009) and Wang et al. (2017).

⁸The structure and notation framework of input–output tables is discussed by Miller and Blair (2009).

⁹It can also return to its original country.



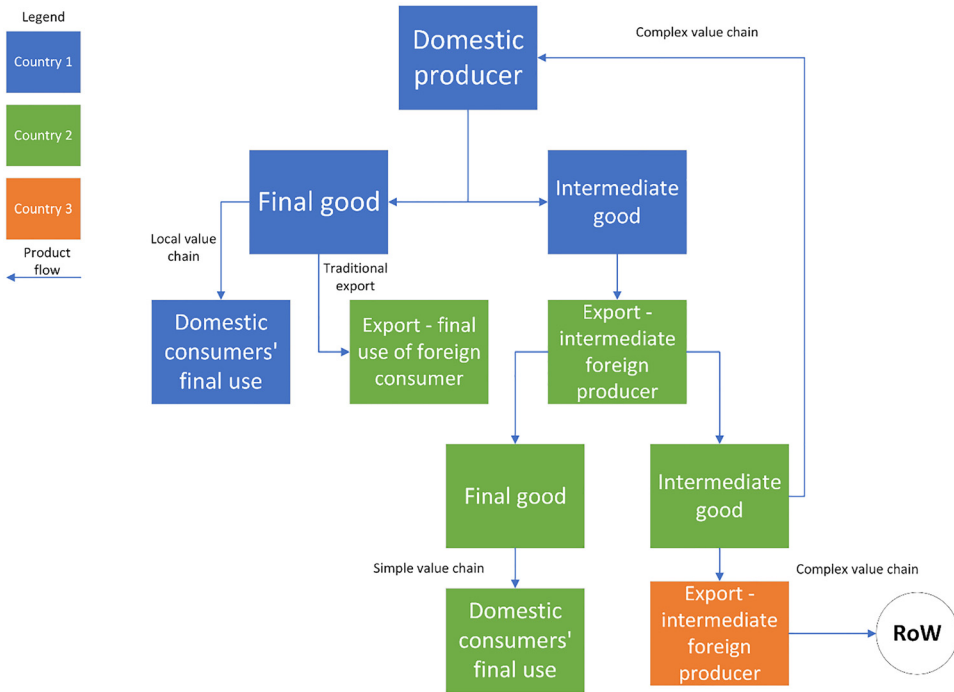


Fig. 4. The schematic structure of GVC forward linkages according to the UIBE methodology
 Note: RoW denotes rest of the world
 Source: author, based on Wang et al. (2017).

- Local value chain (LVC): the final good is consumed by domestic users, and no further processing or border crossing is involved. Thus, it is the domestic value added quantified by final goods that are entirely consumed within the economy by domestic final users. For example,¹⁰ a baker uses domestic ingredients to bake bread that will be sold to domestic households.
- Traditional GVC: a final good is exported and consumed by foreign users; there is only one border crossing. Thus, it is the domestic value added quantified in terms of exported final goods that are consumed by foreign final users. For instance, a winery exports wine to foreign households.
- Simple GVC: an intermediate good is exported and processed by foreign intermediate producers to create a final good that will be consumed by local users. There is only one border crossing. Thus, it is the value added quantified by exported intermediate goods that are used by foreign producers to create final goods that are consumed by domestic final users. For example, a company exports wood to a foreign manufacturer that will produce furniture and sell the same to domestic households.

¹⁰While retail trade is an integral part of value chains, it generally does not involve making and modifying the products, and thus, its role is neglected in the technical process of production.



- **Complex GVC:** an intermediate good is exported to a foreign intermediate producer that will use it to produce another intermediate good that will be exported to a third country (or back to its original source country). At least two border crossings take place. Thus, it is the value added embodied quantified by intermediate goods used by foreign producers to create final or intermediate goods for export to be consumed by foreign final users or used by foreign producers. An exemplar scenario would be when a company exports semiconductors to a foreign producer that produces microchips and exports these to a foreign carmaker in a third country that assembles a car and exports it to a household resident in a fourth country.

The GVC classification depicted in Fig. 4 Provides an alternative view of forward linkages. Since it covers the entire value added produced in the economy, the following identity always holds true:

$$\sum VA = VA_l + VA_{te} + VA_{sGVC} + VA_{cGVC}$$

where

VA = Domestic value added

VA_l = Domestic value added in an LVC

VA_{te} = Domestic value added in a traditional GVC

VA_{sGVC} = Domestic value added in a simple GVC

VA_{cGVC} = Domestic value added in a complex GVC

Since the total value added produced in the economy is known, one is simply able to express the share of GVC type in that:

$$x_i = VA_i / \sum VA$$

$$\sum x_i = 1$$

where

x_i = The share value added produced in the i th class of GVC in total value added

VA_i = Domestic value added in the i th class of GVC

The literature does not provide clear evidence of which type of GVC (i.e., traditional trade, simple or complex) is associated with higher value added and consequently which one fosters GDP growth more. The UIBE methodology, however, can enable the bridging of this gap by supplying data on value added by all categories.

4. DATA

In this study, we used the Eora database (Lenzen et al. 2013), maintained by the University of Sydney. This is the only MRIO source that provides IO data in a global perspective and contains data on all ESEE economies. As other databases such as World Input-Output Database (WIOD; Timmer et al. 2015) or the Inter-Country Input-Output Database (ICIO; OECD 2021) include data regarding OECD and some large non-OECD economies only, one cannot analyse the ESEE region through them. It must be noted that MRIO datasets are fundamentally different because of the various underlying estimation techniques. Thus, any calculations made with them can



yield a different result. Recently, several research groups (Owen 2015; Lenzen et al. 2017; Lenzen 2019) studied the differences between the available MRIO data and found discrepancies for economies with low GDP levels.

The Eora database contains data from 189 economies¹¹ and 26 industries. The data are available from 1990 until 2015. We set the first year of the analysis to 1995 in accordance with standards of the ESEE economic literature. It must be noted that the data in Eora do not necessarily constitute a time series, as estimations in different years are independent of each other. Depending on data availability and quality, there could be minor or major adjustments in the estimation methodology adopted by a researcher. Therefore, one may experience some fluctuations during comparison of estimations of different years. At the same time, each annual estimation is individually regarded as statistically correct (World MRIO 2022) and the creators of the dataset advise the users to analyse the tendencies over the time horizon rather than annual values.

During the analysis, a few adjustments had to be made owing to major inconsistencies in the data. Belarus had to be left out from the research due to high variance, and for the same reason, the year 2011 was also ignored. Results show relative robustness in all ESEE economies at aggregate levels. However, one may experience high volatility while analysing the industry-level data. In the case of the latter, tendencies are still clearly visible. The presence of high variance at the industry level is not surprising, though. Since ESEE economies have low weights in global GDP, it is harder to provide robust estimations. Furthermore, industries in these countries are very sensitive to small and even particular changes in local production.¹²

5. ANALYSIS

5.1. The evolution of GVC profiles in the ESEE region

The development of value chains in the ESEE region does not share similar paths across the economies (see Fig. 5). Domestic value added is reflected in local value chains to a large extent, as generally more than half of domestic output is consumed by households. It is remarkable, however, that the share of LVCs has been declining since the 1990s, with the notable exception of some non-EU members such as Moldova, Serbia, and Russia. While the share of value added in LVCs is decreasing, simple GVC partition is growing in the region, although it still has the smallest ratio in the total value added. The export of intermediate goods and services into GVCs contributes to around 20%–40% of the value-added production in the ESEE region. The supply into simple GVCs is more stable, while export to complex GVCs seems to be more hectic than others.

The decreasing share of value added in LVCs reflects the gradually increasing openness of the region, which was enhanced by accession to the EU. Non-EU members also gained from the integration of the CEE countries. However, the impact is only moderate. The growing proportion of value added in traditional trade can be ascribed to either of the two factors:

¹¹Only a few of these countries have actual national IO table compiled by the national statistical office. Missing values are estimations with a specific level of uncertainty.

¹²For example, automotive industrial production declined in 2018 in Hungary, owing to a model change at the largest manufacturer (Vácz 2019).



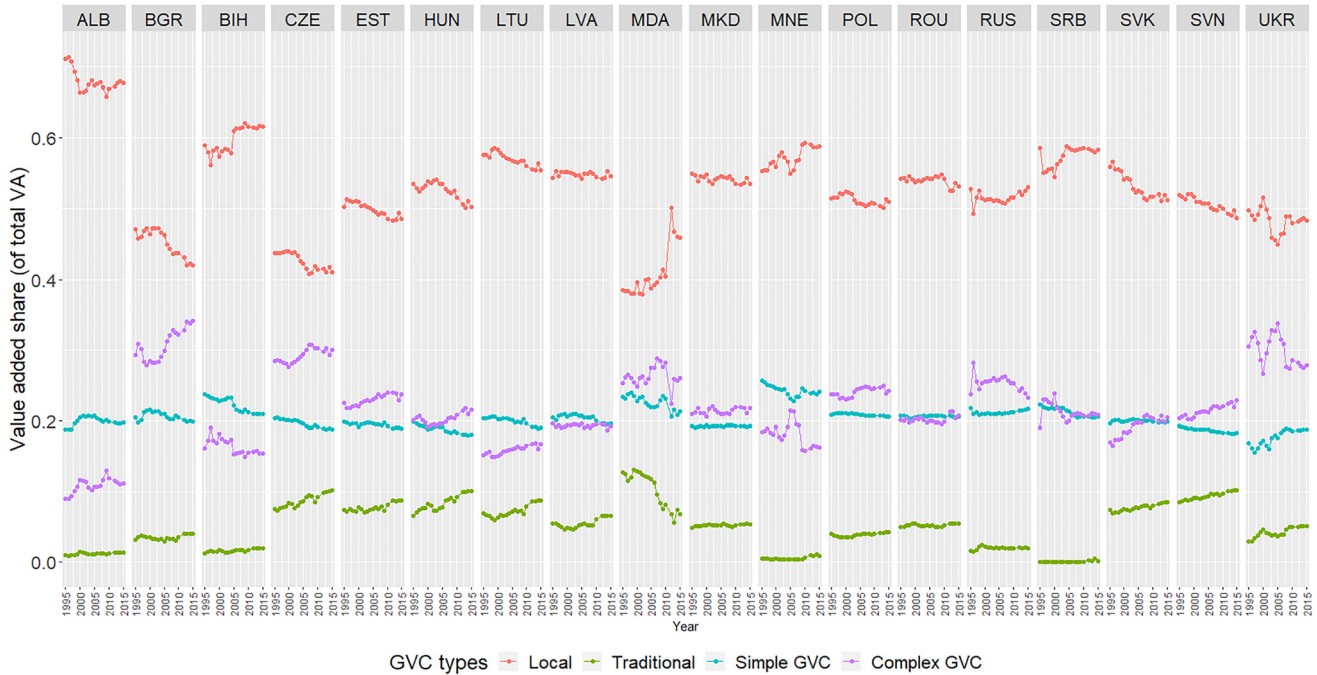


Fig. 5. The evolution of forward GVC linkages in the ESEE region between 1995 and 2015
Note: Belarus and the year 2011 have been left out due to inconsistencies in the data
Source: author, based on Eora data.



- There are local brands and products that could gain and maintain market share in international markets;

or

- Value added produced by the last chain members in GVCs is growing, that is, the local value added in exported final products produced in a GVC framework is increasing.

There are some examples for the first option (Jezard 2017), although the presence of ESEE brands and products on the international market is clearly uncommon. At the same time, the largest companies in the region are multinationals operating in a GVC environment (Deloitte 2016). During the transition period, FDI flowed mostly into the tradeable¹³ sector in the CEE countries and mainly into the non-tradeable¹⁴ sectors in the non-EU member states. The most notable reasons behind this phenomenon are that in less developed countries in the region households generally have lower purchasing power, infrastructure is mediocre, labour force productivity is low, and there are still a number of trade barriers (Kinoshita 2011). From the early 1990s until the introduction of the euro in several CEE economies, real exchange rates depreciated, which supported exports and absorbed FDI into the tradeable sector (Pečarić et al. 2021).

The generally inferior infrastructure and low labour productivity in the non-EU member states of the ESEE region have impeded deeper integration into the GVCs in particular if the country does not produce scarce raw materials such as Ukraine (agricultural products) or Russia (mineral products). In that case, FDI inflow is mostly attracted by the non-tradeable sector that serves households (e.g., telecommunications, utility supply). Furthermore, the majority of the producers in the tradeable sector have access to the local market only, and therefore, the share of value added in the local value chain tends to be very high.

The volatility of simple and complex GVCs is probably attributable to industrial concentration, since the embeddedness of ESEE economies into GVCs has been highly uneven (Vedres – Nordlund 2018). As productions of export goods are often specialised, export is highly concentrated and less robust and at a risk of global fluctuations. Recent events in the international economy, including the pandemic and political tensions, among others, revealed how fragile GVCs were and drew the attention of managers to globally diverse sourcing.

Regardless of its disadvantages, state-supported specialisation in various degrees can be observed in all ESEE economies, because governments tend to believe that economic breakthroughs can be achieved in a relatively short period of time. Though up to a certain point, this strategy could pay off, the selected industry later begins to drain (skilled) labour and capital from other sectors, which would result in the increasing opportunity cost of state aid.

5.2. Non-EU members

The most apparent example of the aforementioned specialisation can be observed in case of the automotive industry in Slovakia (Pavlínek 2016). However, not all economies are specialised in the tradeable sector. Specialisation in non-tradeable industries is common in the Western

¹³Agriculture, hotels and restaurants, manufacturing, mining, and retail trade.

¹⁴Construction, communication, electricity, financial services, real estate, and transport.



Balkan (WB)¹⁵ countries, where retail trade or public services are the largest employers. Tourism, as either a local value chain (in case of resident consumers) or a traditional trade (if foreign consumers are served), is emerging in Montenegro and North Macedonia. However, as these are typically low value-added industries,¹⁶ their share into GVCs compared with other industries is also marginal. Only a few exporting industries are supplying domestic value added in the WB countries, and their comparative advantage is low, that is the presence of WB value-added in the GVCs is generally moderate (Andonova et al. 2018).

GVC participation rates are growing in most WB countries, and both down- and upstream components are parallelly increasing. In Albania and Montenegro, backward linkage is more prominent, while it is fairly balanced in North Macedonia. Upstream linkages have a considerably higher share in Bosnia and Herzegovina because they are rather integrated at the beginning of GVCs (Mandras – Salotti 2020). Nonetheless, the GVC embeddedness of the WB region has a moderate growth rate if it has one at all (Reiter – Stehrer 2021). Further integration is limited by restricted access to the EU markets and unfavourable institutional backgrounds (Weiss 2020). Consequently, the trade linkages within the WB region are very strong, but export demand is narrowed by the development of the importers that are mostly located in the same region, which constrains further economic development and GVC upgrading opportunities.

A similar constellation of export market concentration can be observed in case of Moldova, which supplies domestic value added mainly to low-income Eastern European countries (mostly to Russia, Romania, or Belarus). Moldova, as a former republic of the Soviet Union, used to have strong links with other former Soviet countries. However, after the EU accession of Romania in 2007, it gradually opened to the EU, although current trade relations are still very weak.¹⁷ Re-export in Moldova amounts to 30% of total merchandise export, which is considered a high share at the international level (the average level of re-export in total export is only a few per cent in the region). The accounting of re-export in international trade statistics is very different compared to traditional trade statistics, as only the price of the contract work can be registered as export. This significantly lowers the amount of domestic value added in total export.

During the global financial crisis in 2007–2008, Moldova suffered a considerable loss in merchandise trade (World Bank 2016). The global recession hit the country as it was restructuring its trade and strengthening its relations with the EU and weakening its links with Russia. Prior to the crisis, the share of intermediate goods within the total merchandise export (i.e. simple or complex GVC) was around 30%, which fell to 25% in 2012. The complete recovery of simple and complex value chains took almost five years, and in 2021, the share of intermediate goods was 35%. The volatility of simple and complex GVC ratios reflects that Moldova specialised in intermediate goods and re-exported contract works that were highly exposed to global economic fluctuations.¹⁸

¹⁵Albania, Bosnia and Herzegovina, The Republic of North Macedonia, Kosovo, Montenegro, and Serbia.

¹⁶Although tourism through its satellite industries (e.g. transportation, museums, and rental services) can significantly contribute to the GDP, productivity is generally low according to national statistics.

¹⁷Despite the creation of The Deep and Comprehensive Free Trade Area, which is part of the Association Agreement signed between the EU and Moldova in 2014.

¹⁸The price elasticity of natural gas is low compared with that of oil.



Both Russia and Ukraine are raw material exporters, and that positions them to the beginning of GVCs. Notably, while Russia supplies energy-based commodities, Ukraine primarily exports agricultural raw materials. Both groups of goods are exposed to global business cycles and market uncertainties. Furthermore, weather conditions imperil Ukraine's agricultural production, while Russia's mining activities are generally not impacted by such factors. Climate change and extreme weather conditions can adversely impact agricultural production as was witnessed in 2010 and 2015 in Ukraine (Fellmann et al. 2014). The repercussions of droughts and floods can be observed in the volatile share of the Ukrainian GVC-related value-added production.

Though Russia's role in the global energy material market is still dominant, its market share has been shrinking, which could explain why the shares of simple and complex GVCs have also been decreasing. The reasons for this phenomenon are as follows (Kutcherov et al. 2020):

- Russian gas and oil exports have declined sharply since the Crimean conflict, and the latest sanctions have envisaged a complete import ban in the USA and the EU.
- Europe remains the main purchasing market, but the issue of energy efficiency and the reduction in Russian energy dependence has become increasingly important, and alternative energy sources have also gained ground.
- Competition in the market has become stronger, not only because of imperfect substitutes (e.g. shale gas) but also because of energy commodities exported by some members of the Commonwealth of Independent States (CIS).¹⁹
- Energy demand in China and other East Asian countries has been increasing due to the gradual shutdown of non-environmentally friendly, mainly coal-based power plants. However, the infrastructure for large-scale pipeline transport is not yet in place and may take years to build.

5.3. EU members (CEE countries)

EU member countries are more embedded in GVCs, primarily because of low trade barriers, higher productivity, and more reliable investor protection. The integration into GVCs provided a good chance for convergence to core EU members. Most member states could trade this opportunity for real growth and convergence, like the Baltic states or Romania.

Bulgaria is an odd one out among the CEE countries. Although after the collapse of the socialist regime it experienced rapid export growth, it still has the lowest GDP per capita level (in purchasing power standard) in the EU. After 1995, agriculture, textile, leather and footwear, basic metals, and fabricated goods industries grew at a fast pace, and the annual increase of domestic value added in gross exports was around 10% on average until 2008. Since then, the rate of domestic value added content in gross exports has been growing, but at a relatively slower pace. The peculiarity of Bulgaria is that the surging upstreamness was accompanied by the expansion of backward linkages on the import side. The Bulgarian economy has been unable to create a sound local production base. Thus, while the value-added share in simple or complex GVCs is increasing, the foreign value-added share also thrives. Therefore, there is very little

¹⁹Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, and Uzbekistan.



value added that can contribute to GDP growth, and consequently, the convergence of Bulgaria to the EU average remains slow.

The economic structures of the Baltic countries are the opposite to that of Bulgaria. The three small former Soviet republics are committed to building knowledge economies wherein technological imports boost productivity. Benkovskis et al. (2020) asserted that this strategy has proven to be successful, and Estonian and Latvian firms that are participating in global trade experience long-lasting productivity gains. Lithuania is slightly lagging behind in the creation of a knowledge economy, partly because during privatisation, domestic investors were preferred in contrast to Estonia, where strategic sectors were privatised by professional and strategic investors (Koutsogeorgopoulou – Guzzardi 2018). High productivity sectors are concentrated in services. In 2021, the Baltic states had around 20–30% of services in their gross exports. This is markedly higher compared to traditional exporters of manufactured products in the CEE region, such as the Czech Republic (15%), Hungary (18%), and Slovakia (10%). Since the import share of production in the service sectors are traditionally low, the domestic value-added content of exported services is high, which supports economic growth more than the export of manufacturing goods (Marciniak 2014). The development of shared service centres mostly in the information technology and financial services sectors in the Baltic region was a strategic goal of the governments. The more integrated industries are into the (mainly Scandinavian and Finnish) GVCs, the higher the share of value-added production within the simple and complex GVCs. Although this made the Baltic countries vulnerable to global shocks, it also provided the possibility of fast recovery.

The four Visegrad countries²⁰ (V4) chose a different path to integrate into the international division of labour. Since these countries had a higher level of industrialisation in the 1990s than their counterparts in the ESEE region, large amounts of FDI flowed into the manufacturing sector, mainly into the automotive industries. European, Japanese, and Korean brand owners created large production capacities across the V4, and later Romania. At present, the automotive industry is one of the largest employers within the business sector. Governments have been supporting companies to absorb more investments and create more jobs. Car producers have the highest share in gross merchandise export; thus, it is vital to examine the sector's evolution more closely.

5.4. The evolution of the automotive industry in the ESEE region

Allocating automotive export to one of the GVC groups is a delicate issue. If the main activity is assembling, then the product is a final good. It can still be assigned to simple GVCs if the product is a commercial vehicle, such as lorries, agricultural vehicles, and aeroplanes, among others. If the final product is a passenger car, it is considered a consumer good, and thus, it can only be part of the traditional export group. Automotive parts and other manufactured intermediate goods are the only ones that can be allocated to the simple or complex GVC group.

Numerous studies have investigated the characteristics and future upgrading opportunities of the automotive industries in the V4 countries and Romania (e.g. Pavlínek 2005; Szalavetz 2012; Geröcs – Pinkasz 2019). Most scholars call the attention to low domestic value added in the car industry, which is a distinct peculiarity of assembly manufacturing. The most notable

²⁰Czech Republic, Hungary, Poland, and Slovakia.



problem with mediocre value-added assembly for export is that it only induces a modest multiplier in the domestic economy. Assembly manufacturers in GVCs use very little domestic value added from local producers. Therefore, indirect value added (value-added multiplier) is also low. If the export good is an intermediary product (e.g. car parts), it leaves the country and will not be used directly in the home economy to produce more domestic value added.²¹ The low value-added multiplier levels of the automotive industry in the V4 countries are rarely researched. However, some scholars called the attention to this cardinal region-specific issue (Koppány 2018; Ďurčová 2018; Dębkowska et al. 2019; Klein et al. 2021).

The automotive industry is mainly operating in the local value chain (see Fig. 6) in the countries that do not produce cars as final (or intermediate) goods. In such situations, the local production in the vehicle industry is primarily restricted to manufacturing of car parts and accessories that will be utilised by resident households like in Albania or Montenegro.

Former Yugoslavian republics²² are special in a way that Yugoslavia had its own automotive sector. However, the main assembly plant of Zastava was on the territory of the Socialist Republic of Serbia, and the suppliers were dispersed all over the country (Miljković 2017). Consequently, after the breakup, a fully operational automotive capacity remained in Slovenia, Croatia, Bosnia, Herzegovina, North-Macedonia, and Serbia. In the latter three, these factories are still operating and account for 20–30% of total goods export.²³ Today, local producers in the former Yugoslavian car industry are positioned at the Tier-3 level, while FDI investments established the base for Tier-2 and Tier-1 suppliers. However, the value-added volume supplied into the GVCs is still low, mostly due to low but improving labour productivity (World Bank 2017). As a result, most of the production is directly or indirectly consumed by local households. Thus, the LVC group in this industry is the largest.

While the Russian Federation has an extensive automotive industry, producing 1.7 million cars and employing 1% of the total labour force, the volume of export is insignificant compared to other ESEE countries such as Poland or the Czech Republic. Besides the local VAZ factory, Russia hosts numerous foreign original equipment manufacturers (OEMs) from developed countries. Before Russia's accession to the World Trade Organisation (WTO) in 2012, trade barriers limited the volume of foreign trade. The period prior to the WTO agreement should have been used to develop a competitive local industry. However, Russia could not reach the standard level of international competitiveness among the local manufacturers (Ajupov et al. 2015). Thereupon, export has been mostly constrained to final users in the CIS countries.²⁴ Consequently, the export of Russian automotive sector mainly falls into the group of traditional trade.

The Romanian vehicle industry is a unique one among the CEE countries. Before 1990, Romania had its own car plant, Dacia, supplying products all over the former socialist economies. After 1990, high volumes of FDI flowed into the sector to strengthen existing production

²¹It might return in the future (e.g. a braking system that is exported to a foreign manufacturer and later a domestic producer purchases the truck to provide shipping services). Thus, the domestic value added can be re-imported; however, this is not common.

²²Bosnia and Herzegovina, Croatia, Kosovo, Montenegro, North-Macedonia, Serbia, and Slovenia.

²³Together with goods classified as machinery products.

²⁴In 2019 almost 50% of Russian car exports (HS 87) were purchased by Kazakhstan, Belarus, and Cuba.



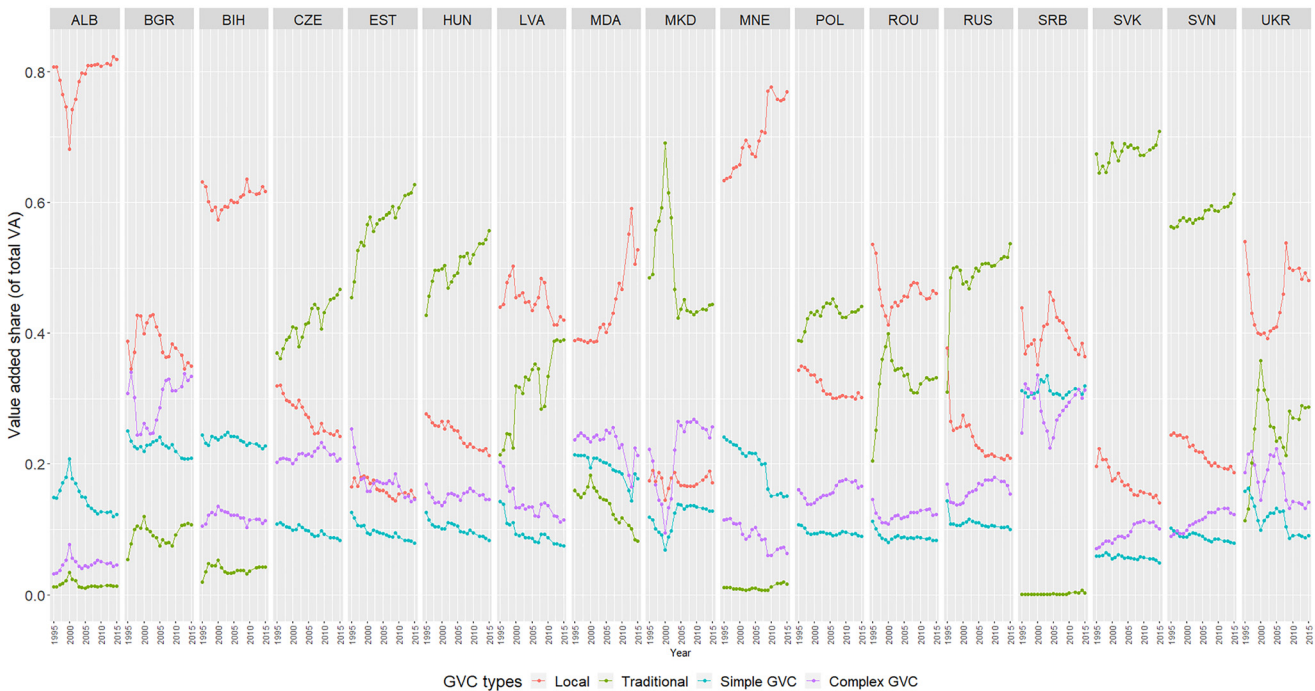


Fig. 6. The evolution of forward GVC linkages in the automotive industry in the ESEE region between 1995 and 2015

Note: Belarus and the year 2011 have been left out due to inconsistencies in the data

Source: Author's own calculation based on Eora data.



and to establish new capacities. However, the Romanian vehicle sector is deeply integrated into GVCs (Negrea – Cojanu 2015). The main customers for the products of the industry are domestic households, as almost half of the value added produced by Romanian car assemblers is consumed by Romanian final users. The fact that a large amount of value added remains within the economy implies that the multiplier effect of the industry is also larger. The parts and accessories supplied for the domestically produced cars made the Romanian automotive industry mainly serve the local market, while traditional trade is also important.

The V4 countries are the major players in the ESEE automotive industry. The sector, together with the suppliers, employs around 10% of the total workforce and creates more than one-fourth of the production value in manufacturing (Pavlínek 2017). These economies used to have extensive car industries²⁵ before 1990 which served as a potential bases for future developments. The V4 countries experienced a large amount of FDI inflows into the car assembly sector. Foreign investments have been lavishly supported by national governments in direct (state aid, tax waive, etc.) and indirect (favourable central wage bargaining, measures to tackle labour shortages etc.) ways (Éltető – Antalóczy 2017). Today, major European automotive multinationals residing in the region have one of their main production bases in the V4 countries, which is so large that according to the OECD, a significant amount of outward FDI stock belongs to these economies. However, Sass (2020) demonstrated that this is not a result of the increased international competitiveness of indigenous firms but rather indirect outward FDI realised by local subsidiaries of large automotive multinationals. The role of the car industry in the region is ambiguous, as despite the existing and ongoing large-scale extension of production capacities, labour productivity is still extremely low in comparison with the EU, in particular at the level of indigenous small and medium enterprises or SMEs (Rechnitzer et al. 2017). Still, the share of automotive products in total gross exports is between 20 and 30% (Túry 2018). The high reliance on the car industry caused severe economic problems during the pandemic when production was halted due to restrictions or the shortage of raw materials. It is beyond dispute that Slovakia is highly exposed to the sector. Sluggish automotive production in the past half-decade is having a deteriorating impact on Slovakian economic development indicators (European Commission 2018; Horbulák 2019).

The low value-added share in gross export of the automotive industry in the V4 countries suggests that it is embedded into GVCs close to the final consumers. This assumption is reinforced by our analysis, which revealed that the value added produced by the transport equipment industry chiefly belongs to the traditional trade GVC group. That is, the products produced in the V4 countries are generally final goods. It suggests that there are no other production stages in the chain, and no value will be added by other producers. The last value chain in a manufacturing GVC is also called an assembly.

In sum, our analysis reveals that regardless of the large-scale investment projects in the V4 countries, the share of traditional export has been continuously increasing. This, of course, does not mean that value added is low, because just as in case of Romania, the production of final goods can also strongly rely on local suppliers. The development of the sector in the past two decades shows that the focus on assembly was always present, and data show the lack of upgrading progress. This process implies that the industrial production increase that was

²⁵Hungary was specialised in commercial vehicles such as buses and trucks but not in passenger cars.



experienced after 2012 was rather due to the increase of input factors, namely, labour and capital (investments), and not because of the growth in productivity. This path can be followed while the OEMs are willing to invest in the industry and the economies have enough labour force capacity.

6. CONCLUSIONS

While the early formation of GVCs already began at the beginning of the 20th century, ESEE countries could only join the international division of labour after the 1990s. That period was represented by high-volume FDI inflows into sectors in which the region had experience and some amount of comparative advantage. Trade agreements and the accession to the EU brought the era of export-led growth to some countries. Integration into the value chains has been supported by the economic policies aimed at improving competitiveness in the short term (accompanied by depreciating currencies). In the past three decades, there has been a considerable amount of productivity and GDP per capita increase. Nonetheless, 80% of the economies permanently run trade deficits.²⁶ This suggests that despite the deep integration into GVCs, the impact on employment, productivity, and wages in the region is ambiguous. Most countries are still short of production bases that could create high value-added exports.

We aimed to ascertain the paths that led ESEE economies to become deeply integrated into GVCs. We only analysed the downstream flows. Our approach was based on the UIBE-GVC methodology that classifies domestic value added into four categories: LVC (the product does not leave the country and is immediately consumed), traditional GVC (export of final goods to foreign consumers), simple GVC (export to foreign intermediate producer, then consumed by households in the same country), and complex GVC (export to a foreign producer, that also exports to a third country as a final or intermediate good). As our prime focus was the ESEE economies, we utilised the Eora database, which covers all countries in question from 1995 to 2015.

Unsurprisingly, the most domestic value added was circulating within the economies, since domestic consumption is still the largest component of the GDP. The gap between LVCs and the export ones (traditional, simple, and complex) is still large. A declining share of domestic chains is observable almost everywhere, which indicates that the integration into the GVCs has not been fully accomplished yet. Producers tend to fulfil more foreign demand every year, and new capacities are more likely to produce export goods. Though LVCs are not expected to completely disappear, their diminishing share signals that domestic demand is still low compared with the foreign one, most likely because of the lower purchasing power. Export is dominated by intermediate goods, while traditional trade has almost disappeared in all economies. However, there is no clear indication of which type of value chain is associated with a higher value added, and consequently, which one supports GDP growth more. Countries exporting raw materials are certainly on the complex GVC line. However, this has no particular advantage when it comes to development.

It was revealed that economies in the ESEE region followed very different paths in the past 20 years. Non-EU members could barely join the international division of labour. Thus, their corporate sectors mostly serve the local market. Despite the fact that a large amount of FDI

²⁶With the exception of Russia, all countries are energy importers. However, the imported amount is only 5%–10% of total merchandise imports.



flowed into these countries, it happened mainly in the direction of the service industry, which is a non-tradeable sector. Strong export concentration can be observed in non-EU countries. GVC participation rates have been sluggishly growing, and further integration is limited by restricted access to the EU markets and unfavourable institutional backgrounds.

EU member states have no trade barriers and already have higher productivity compared with non-EU members of the region. Though the integration into GVCs was successful in terms of embeddedness, not all economies could take the advantage as the Baltic states or Romania did. It is mostly because of the differences in key industries. The import share of production in the service industries (in which the Baltic countries are integrated) is traditionally low,²⁷ and the domestic value-added content of exported services is high, which supports economic growth more than export of manufacturing goods does (in which the V4 countries are integrated).

The automotive industry is one of the key sectors wherein economic policies build long-term growth. The industry is dominated by multinationals, and while they employ directly and indirectly around 10% of the total labour force and their export share is around 25%, productivity is very low, especially in the SME sector. As a consequence, the multiplier effect of the car industry is also very low. The odd one out is Romania, which is successful in both domestic and international markets (almost half of the Romanian value added produced by vehicle producers is consumed by domestic households). The fact that a large amount of value added remains within the economy means that the multiplier effect of the industry is also larger.

The prevailing economic policy in the V4 countries puts high stress on attracting FDI into the vehicle industry, and in that term, these direct and indirect ambitions are proven to be successful, considering the amount of FDI stock in the industries. Despite the long term and deep integration into the automotive value chains, the low value-added share in gross exports is still extremely low, while the volume of export per GDP is among the highest in the world. This suggests that the car producers in the region are embedded into GVCs close to the final consumers. It means that there are no other production stages in the chain, and no value will be added by other producers. The last value chain in a manufacturing GVC is also called an assembly. The share of traditional trade in the value-added production of the vehicle industry in the V4 economies is continuously increasing, and the data show the lack of upgrading progress.

From a historical perspective, one may conclude that the rapid integration into GVCs after the 1990s was clearly successful in all ESEE economies. Around the millennium, countries that did not join the EU lagged behind. These countries are still confronted with infrastructural and institutional challenges that constrain their future integration. Consequently, they cannot be an integral part of the European value chain, and their trade relations are mostly strong with other non-EU member states. Between 2004 and 2010, EU members enjoyed fast development; However, after the global financial crisis, many of them stuck on a path with low value-added exports accompanied by low productivity, providing an unstable long term growth prospect. The fading LVCs and increasing participation in the international division of labour did not induce productivity growth. Specialising in assembling manufactured products for export leads to low multipliers, which should not be an inevitable outcome. LVCs mean less exposure to international shocks and, thus, more robust demand.

²⁷Despite the licences, royalties, and the technology that the service sector might pay for. Transfer prices can have a significant impact on the value added.



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