
Why are wages still lower in eastern and central Europe?

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Working Paper 2018.01

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europaen trade union institute

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Abstract

Wages in the four Visegrad countries (Czechia, Hungary, Poland and Slovakia) are substantially lower than in western Europe. The level in Romania is even lower. The period up to 2008 saw them all catching up to some extent, but the trend stagnated in terms of nominal wage levels in the immediate following years. The explanation for this lies in the kinds of dependent economies that were created as inward investment from multinational companies, attracted by the lower wage levels, became the main driver of economic growth. The potential of inward investment is limited: financial outflows can surpass inflows as investment levels reduce. Data on shares of value added going to labour and on the detailed structure of exports show how multinational companies profit from their investment activities. Lower wages are the result of past policies and of the weak bargaining power of labour. Multinational companies benefit directly by making higher profits but also indirectly by reducing the prices of outsourced products. They transfer production mostly of cheaper products, retaining the most expensive in higher-wage countries. As a result, productivity is measured as lower where wages are lower, even in cases where production processes are the same. Without an increase in wages, accompanied by a more general shift in economic strategy, the countries of central and eastern Europe will remain in a 'middle-income trap', never able to converge to the western European level.

Introduction

The aim of this paper is to explain the persistent gap in wage levels between western Europe and the new EU Member States of eastern and central Europe (CEECs). The difference remains substantial, with nominal wages in the latter countries below half the average level of the 15 older EU members, and well below the levels of the richest. This is after 27 years of transition from state socialism and after 14 years of EU membership. The CEECs remain providers of cheap labour with no prospect of closing the gap in living standards in the foreseeable future. This situation has not gone unnoticed. Some governments and trade unions have been looking critically at past economic strategies, seeking alternatives that can begin to use the slogan used by the Czech trade union confederation ČMKOS, and taken up by their colleagues in Slovakia, to bring 'an end to cheap labour'.

Various ETUI publications have investigated the historical development and extent of this gap in wage levels. Béla Galgóczi (2017) has shown that the gap in nominal terms appeared to be narrowing in the years up to 2008, but that tendency then slowed down. It even went into reverse for a time in some countries, before showing signs of revival in 2017. Although the gap appears lower when measured by purchasing power parity, it remains significant by this measure too.

A further study of pay levels for different skill categories, using data for the whole EU, showed that large differences exist at all skill levels. In other words, lower pay in CEECs cannot be explained by different labour-force skill structures or by the different sectoral structures of economies (Drahokoupil and Piasna 2017). Galgóczi's paper shows that there is some explanation for the gap in wage levels in the lower share for labour in value added, suggesting that private business should find activities more profitable in these countries. However, that explains only a part of the issue and also raises the further question of why labour's share should be lower in some countries than others.

There is a need for a more complete explanation which sets wage formation in the context of the kinds of economies that have developed in CEECs. As will be demonstrated, a key point is that wages are not closely linked to labour productivity. This is contrary to what is predicted in standard economic theory and also calls into question policy advice that wages should only rise when preceded by a productivity increase. The main determinants of wages are to be found elsewhere and low wages are as likely to be a determinant of low (measured) productivity levels as the converse (Myant 2016). This, it will be argued, is a feature of the kind of dependent economies – relying for their

dynamism on inward investment by multinational companies (MNCs) – that have been created in eastern and central Europe.

It has recently been argued that this kind of development has reached its limits (Galgóczy and Drahokoupil 2017). It enabled CEECs to experience a period of rapid growth, but it does not lead to full convergence of those countries to the level of their western European neighbours. The term 'dependent' has been used to describe the kind of economy that has emerged (Nölke and Vliegenthart 2009; Drahokoupil and Myant 2016), adapted from the notion of 'dependent development' applied in earlier decades to a number of Latin American countries (Evans 1979; Cardoso and Faletto 1978). In fact, this term seems even more applicable to CEECs. For Latin America, dependent development was conceived of as being driven by a combination of three groups of actors: foreign capital, domestic capital and an active state. CEECs are more dependent on incoming MNCs for economic dynamism, while the other two groups of actors offer less as drivers of development.

The task for this paper is to demonstrate that convergence of economic levels is helped only up to a certain point by dependence on incoming foreign direct investment (FDI), attracted by low wage levels. However, the paper does not set out in detail an alternative that could be more successful. Higher wages should certainly be a part of that, but need also to be supported by further policy measures to encourage a different form of development. This does not preclude a role for further inward investment, but it points also to the need for active state policies both to influence the kind of investment that does come and to encourage autonomous domestic development to surpass the technological level currently offered by incoming MNCs.

The focus in what follows is on the four countries of the Visegrad Group: Czechia, Hungary, Poland and Slovakia. They are at very similar economic levels and have similar nominal wage levels at roughly one third that of Germany. Romania is included for comparison. It has significantly lower wages and this has implications for its economic development prospects, while also affecting the prospects of the other four. Comparisons could also be made with Bulgaria, Slovenia and the Baltic states, but they have followed somewhat different growth paths, as have other lower-income EU Member States. Romania is the best example of a country following a similar growth model to the Visegrad Four but coming from a lower economic level.

The paper is organised into five sections. The first outlines the course and extent of economic catching up from the early 1990s, showing the persistent gaps in gross domestic product (GDP), productivity and wages in nominal terms alongside somewhat smaller divergences when measured by PPP. The second section shows the course of inward FDI, peaking before 2008, and its importance to export-oriented activities, and considers the arguments that it may become as much a burden as a benefit. The third section poses key questions on the strategies of MNCs regarding alternative means by which they can take advantage of cheap eastern European labour. The fourth section then provides evidence on which of those strategies have been chosen, using data

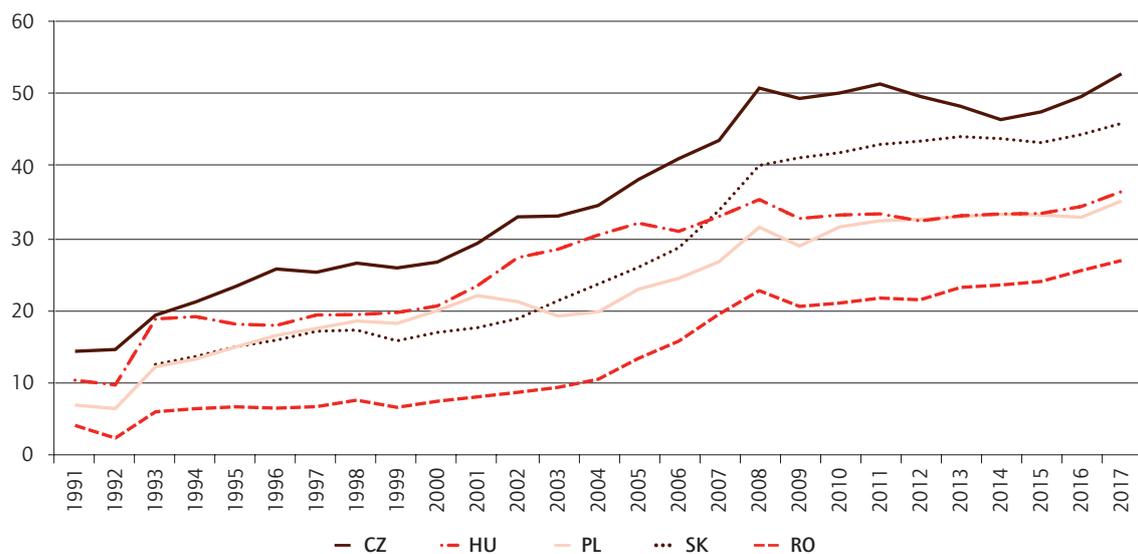
on export volumes and prices per kilogram of exports. This shows how far the kinds of products exported differ, or as is often the case do not differ, from those coming from countries where wages are higher. This leads to the fifth, concluding section in which the question is posed again of how wages are determined such that they remain so much lower than in western Europe. The answer points to considerable scope for increasing wage levels without negative consequences for future economic development, but also to the need for a change in strategies for economic development in these countries.

1. Is central and eastern Europe catching up to the EU average?

Economic levels can be compared in nominal terms, using official exchange rates, and by purchasing power parity (PPP). The latter corrects for differences in price levels and should therefore provide a more accurate comparison of actual differences in living conditions. Both are relevant to the following discussion and the difference between them is important for understanding the behaviour of incoming MNCs and the resulting potential for these dependent economies.

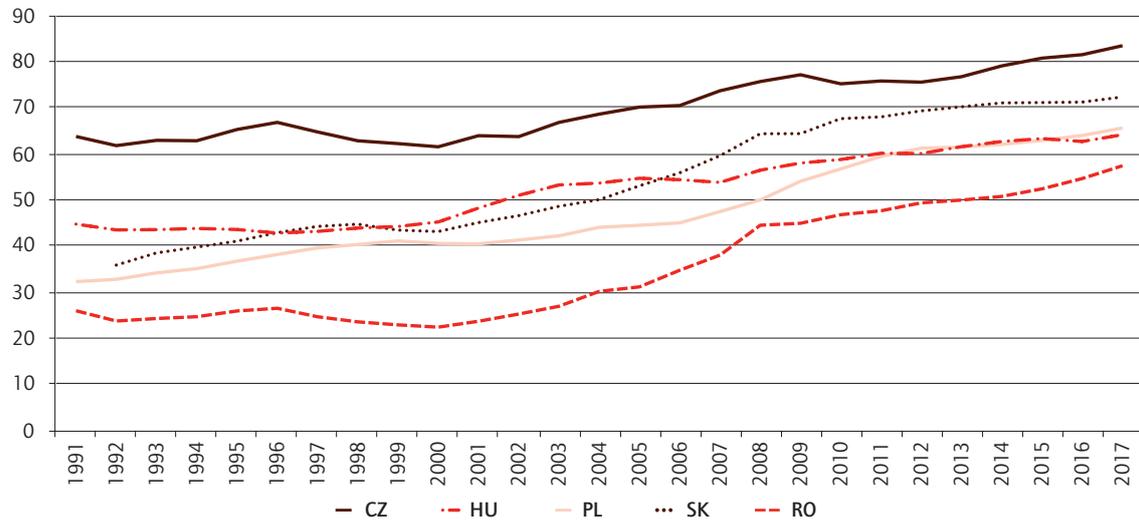
By both measures, and especially in nominal terms, the economic level of CEECs in the early 1990s was some way behind that of western Europe. This followed the disappointing results of decades of centrally planned economies. The gap in nominal GDP levels was made to appear enormous thanks to policy decisions, following International Monetary Fund (IMF) and other international advice, to start economic transformations with exchange rates far below levels that would be justified by GDP comparisons using PPP measures. The extent of the subsequent catching up, using the EU-15 (pre-2004 EU members) as the standard, is demonstrated by GDP in nominal and PPP terms, in Figures 1 and 2.

Figure 1 Gross domestic product at current prices per head of population, euros, percentage of EU-15



Source: AMECO database, http://ec.europa.eu/economy_finance/ameco/user/serie/ResultSerie.cfm

Figure 2 Gross domestic product at current prices per head of population, PPP, percentage of EU-15



Source: as Figure 1

Per capita GDP by PPP shows a substantially smaller gap at the start of the period and also a significantly lower degree of catching up than when nominal values are used. This demonstrates that much of the catching up in nominal GDP did not reflect more rapid growth in real terms. It was due rather to price and nominal wage increases and/or currency revaluations, helping to counter the effects of the large devaluations at the start of the 1990s, and incidentally despite warnings over the years that this movement could be a threat to international competitiveness.

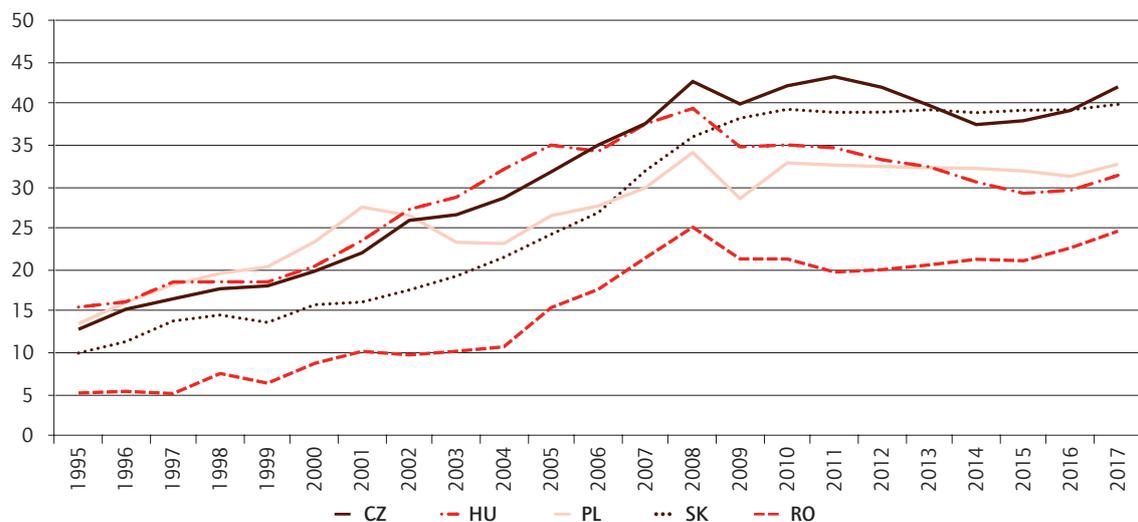
Three periods can be distinguished in the years following the early 1990s. In the first, the real growth that did take place was largely driven by emerging domestic- and inherited state-owned enterprises, the latter quickly reorienting to exporting simpler products to western Europe (Myant and Drahekoupil 2011: Chapter 11). Growth in the second period, from the mid- to late 1990s up to 2008, was increasingly led by MNCs. In the third period, from around 2008, inward FDI was considerably lower and catching up slowed down or ceased entirely, picking up again in 2017 for reasons explained below. However, that still left the nominal GDP indicator in only one case able to pass 50% of the EU-15 level.

This slowdown is not so clear from the PPP indicator which shows a continuing narrowing of the gap after 2008, albeit at a significantly slower pace than in earlier years. A notable exception was Poland where growth continued to be quite rapid: this was the country the least dependent on inward FDI and on exports of manufactured goods. It too showed a renewed upsurge in 2017. It should be added that the date of joining the EU (1 May 2004) does not appear as a decisive break. It had been anticipated by MNCs that were already investing heavily in the region.

The picture is broadly similar for labour productivity and wages; the latter is shown in Figure 3 with Germany as the comparator, that country being the biggest source of inward investment in export-oriented manufacturing. This wage gap is important for the kind of development that has taken place. The lower level of nominal wages is the key attraction for export-oriented FDI while the narrower gap in PPP levels implies that this investment could be much more profitable than that in western Europe. There is again a marked recovery in three countries in 2017 – Czechia, Hungary and Romania – and in all of these cases wages became a leading force in stimulating overall GDP growth, a point taken up in the concluding section.

Before turning to the issue of FDI, two further points should be made on the effects of the gap between GDP, productivity and wage levels when measured in nominal terms and when measured by PPP. The first is that the difference in price levels is not uniform across all kinds of products. GDP in Czechia by PPP in 2016 stood at 81% of the EU-15 level. For some products there was little difference in consumption levels, but for internationally traded consumer goods, for which prices are very similar between countries, differences in consumption levels were quite large and more in line with the differences in GDP levels measured by nominal exchange rates. New registrations of passenger vehicles in Czechia in 2015 were 55% of the German level and with a bias towards smaller and cheaper models. Vehicle ownership is somewhat lower in CEECs, but in addition there is a strong bias towards ownership of considerably older vehicles that are replaced less frequently. That is the kind of difference in living standards that follows from the combination of much lower GDP levels in CEECs in nominal terms combined with only somewhat lower GDP levels when measured by PPP. Full convergence would therefore imply convergence of price levels and relativities as well as earnings levels.

Figure 3 Nominal compensation per employee, percentage of German level



Source: AMECO database

The second point is that a lower price level in one country implies a loss of income. Thus, for example, services used by tourists from abroad and exported goods are all sold at prices below those charged in western Europe. This can be seen as a loss of potential income so that raising the price level – or the exchange rate as is possible in all cases considered here apart from Slovakia which has already joined the Eurogroup – would mean that more income would remain in the country. As long as somewhat higher prices do not deter incoming tourists or substantially reduce export volumes, that should also benefit the external balance. At some point, raising the price level could be expected to affect international competitiveness and threaten the external balance. That need not have been a serious danger either in the mid-1990s, when the gap in wage and price levels was enormous, or in the years that followed, when it remained still very large. The next section shows that FDI continued as wages increased. It did decline in the Visegrad countries after 2008, but the inclusion of data from Romania, where there was a similar decline, suggests that this was not because wages had by then become too high.

2. CEEC economies' dependence on inward investment

The first substantial inward FDI came in the early and mid-1990s as some MNCs participated in the privatisation of state-owned enterprises. As it became clear that CEECs offered a safe and attractive environment more MNCs came, through greenfield investments and the purchase of previously privatised enterprises. Table 1 shows at what point different countries reached their peak levels of inflow as well as the average over the period of sustained inflow, from 1995 to 2008. In all cases the volume declined from around 2008 onwards. FDI also changed somewhat in nature, with a greater weight for elements such as movement of financial resources and other intangible assets within MNCs that did not constitute lasting or productive investment (Hunya 2015: 66).

Table 1 Net FDI as percentage of GDP

	Peak year	Value	Average 1995-2008	Average 2009-2016
Czechia	2005	10.1	5.5	1.4
Hungary	1995	10.3	4.6	1.9
Poland	2000	5.4	3.2	1.7
Slovakia	2002	11.7	4.1	0.5
Romania	2006	8.5	4.2	2.0

Source: calculated from World Bank World Development Indicators, <https://data.worldbank.org/indicator/BM.KLT.DINV.WD.GD.ZS>, and <https://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS>

The pioneer was Hungary, reflecting that country's government's greater willingness to privatise by selling to foreign companies. There were clear and abrupt breaks in Czechia and Slovakia where policy changes in the late 1990s meant that the remnants of several big enterprises and banks, previously privatised into domestic ownership, were taken back and sold off to foreign owners. The governments in those two countries then also determinedly pursued policies of attracting incoming FDI. Poland was also initially more reluctant to welcome foreign ownership and retained a larger domestically owned sector. Nevertheless, in all of these countries firms could compete in key branches of modern manufacturing only when foreign owners brought new technology, known brand names and access to established distribution and sales networks.

Table 2 indicates the importance of MNCs in CEECs, measured against economies as a whole, including public services. Table 3 shows their importance for the manufacturing industry. These countries are near or at the

top among EU members in terms of both employment and value-added shares. Data on export shares are less complete. A part is listed as 'unknown' regarding the ownership of the companies, reaching 30% of exports in the case of Czechia. The figures in Table 2 may therefore significantly understate the role of MNCs.

Table 2 Percentage shares of foreign-controlled companies in total, 2011

	Employment	Value added	Exports (2014)
Czechia	27.3	42.9	50.8
Hungary	25.6	51.9	
Poland	25.4	35.1	43.0
Slovakia	25.0	38.2	74.8
Romania	22.0	40.8	67.3
Germany	10.3	18.1	24.9

Source: Eurostat, tps00004, tec00024, ext_tec07

Table 3 Percentage share in value added of foreign-controlled companies by branch of manufacturing, 2014

	Manufacturing	Computers, electronics, and optical products	Motor vehicles
Czechia	59.2	73.8	92.3
Hungary	69.9	92.7	94.8
Poland	44.0	45.6	85.4
Slovakia	68.5	88.5	96.2
Romania	58.0	74.	93.0
Germany	23.1	32.8	13.7

Source: calculated from Eurostat, fats_g1a_08, and sbs_na_ind_r2

Table 3 shows the share of foreign-controlled companies to be consistently high in electronics and motor vehicles. This domination by foreign companies leaves little scope for a direct positive impact on domestically owned firms, and research looking for spillover effects has consistently found them to be negligible. Foreign ownership is lower in some other sectors – such as chemicals, garments and furniture – but they also are less successful as exporters. It is also very high in finance, reaching effectively 100% of assets in banks in Slovakia and only somewhat lower figures in other countries.

Despite its enormous role in driving economic growth over a number of years, the dangers of dependence on FDI have long been recognised (Mencinger 2007). Inward investment could become an embarrassing burden if the evolution of financial effects follows a plausible cyclical process. Thus, it can be suggested, an initial investment comes, bringing benefits to the external balance. After the investment has been undertaken, exports of what is produced should again bring benefits for the external balance. Over time this

positive effect will be reduced, if not eliminated or reversed, as investment declines, as profits are increasingly repatriated and possibly also as production is reduced either in total or as alternative locations are used.

There is no doubting the first positive effects, leading to substantial financial account surpluses in all CEECs every year from 1996, countering persistent current account deficits. However, Table 4, using 2014 as an illustrative year, shows how repatriated profits reduced the net benefits to the external balance. The outflow of income associated with FDI was in all cases greater than the FDI inflow. There were differences between branches of activity. Some, such as utilities, finance and retail, were clearly net extractors of wealth. For export-oriented manufacturing, net exports could still be enough to mean that MNCs were bringing a positive effect for the annual balance of payments figures. However, Table 4, combining available data from the OECD and Eurostat and omitting Romania as a non-OECD member, suggests that net benefits were already small. The motor vehicles figure shows how much of the continuing positive effect was due to MNCs from that one branch of manufacturing.

Table 4 Effects of FDI on external balances, indicators as percentage of GDP, 2014

	FDI	Income outflow	Net exports, whole economy	Net exports, motor vehicles
Czechia	2.6	7.7	6.0	5.0
Hungary	5.6	9.4	-	
Poland	3.2	3.7	-2.1	1.6
Slovakia	-0.5	4.7	5.3	7.1

Source: Calculated from OECD Foreign Direct Investment statistics, <http://www.oecd.org/corporate/mne/statistics.htm> and Eurostat, ext_tec07

3. How multinational companies can profit from cheap labour

Having demonstrated the importance of MNCs to CEEC economies, the aim of this section is to discuss the strategies they use to make profits from these countries. The most visible attraction for MNCs is the much lower wage levels than in western Europe. Other employment-related factors may also appear beneficial to them, such as weaker enforcement of employment laws even when the legal framework need not be very different from that of western European countries (Drahokoupil 2015). These factors alone are not enough to attract MNCs. They would not contemplate investing if there were not adequate infrastructures, institutional and legal frameworks and adequate labour skill levels for the kinds of activities they want to undertake. They are also attracted by the financial support offered by governments. The importance of these other factors means that the differences in wage levels between the Visegrad countries are not important for determining choice of location. For motor vehicles, a case referred to in detail below, personnel costs amounted to only around 5% of production value in those countries in 2014, so that differences in wage levels between the countries would make very little practical difference. Labour costs in Romania were somewhat lower, giving that country an advantage, as will be demonstrated, for products for which other factors, such as the availability of more skilled labour and proximity to western Europe, are of lesser importance.

Thus, the key question in determining the economic performance and international competitiveness of this kind of dependent economy is where an MNC will locate a particular activity. This is not the central focus of traditional international trade theory, in which the question has been how well domestic producers can compete with producers in other countries. Instead, for CEEC economies success depends on what they can attract and that depends on institutions, infrastructure, skill levels and labour costs. Productivity depends on what activities an MNC chooses to place in a country and that can only be influenced indirectly by policy measures which may improve the environment for inward investors.

This leads on to the question of how MNCs take advantage of cheap, eastern European labour, and for this they have a number of alternatives, depending on the kind of economic activity they undertake and also particular choices they decide to make. These can be set out as four strategies which do not necessarily exclude each other:

1. They can outsource parts of their production chains that are the least demanding in terms of labour skill levels. This can be production of

specific components or assembly of final products from imported components. Standardised production processes needing little more than routine labour can move to where wages are the lowest, provided other preconditions, such as infrastructure needs, are met. In these cases the MNCs benefit from lower costs, but these need not be reflected in high profits in the CEEC. Instead, the MNC may increase profits in its home country by reducing the price for a part that it imports or by increasing the prices of components that it exports for final assembly in a CEEC. Both of these can also be combined with higher recorded profits in the CEEC. An important consequence of such outsourcing is that, if it leads to a lower product price, productivity in the CEEC will appear to be lower than it had been in the MNC's home country simply because the price is lower. This would apply even in cases where the production process is identical to that previously used in the higher-wage country.

2. They can outsource the production of products that are not their most profitable. This could be because they use established technologies that other firms can copy. It is also often the case with firms selling a range of products that some are more profitable than others. The lower labour costs in CEECs can then justify continued production. This assumes adequate skill levels and satisfaction of other preconditions for transferring a full production process, but there is no need for close links to research and development. The benefits to the MNCs can come from lower product prices helping to maintain competitive positions, and also from higher profits in the CEEC.
3. They can use CEECs as an additional base for the production of parts of their product ranges, without any significant differences in products or production technology. This also clearly depends on satisfying preconditions for transferring a full production process. It would also depend on there being no need for close geographical proximity to research and development input of a kind that cannot be provided in CEECs. If these conditions are satisfied, MNCs could be expected to benefit by selling products at the same price as those from the home country, leaving a larger profit margin in the CEEC. The MNCs could also benefit from a stronger bargaining position in relation to all their employees thanks to the continual veiled, or even open, threat to move production between different sites.
4. They can use CEECs as a base for their full range of activities, including research and the newest products and production processes. This would require satisfaction of all the conditions set out for the three previous strategies. It would also require availability of an adequate labour force and local infrastructure for research and development activities. This is constrained not only by the current labour force composition and educational facilities, but also by low wages, less attractive public services provision and generally less attractive environments for keeping geographically mobile employees. Even if these conditions were met, a substantial relocation could be expected to provoke considerable

opposition within the MNC's home country. Not surprisingly, evidence presented below on MNC strategies does not include any cases that are consistent with this fourth strategy.

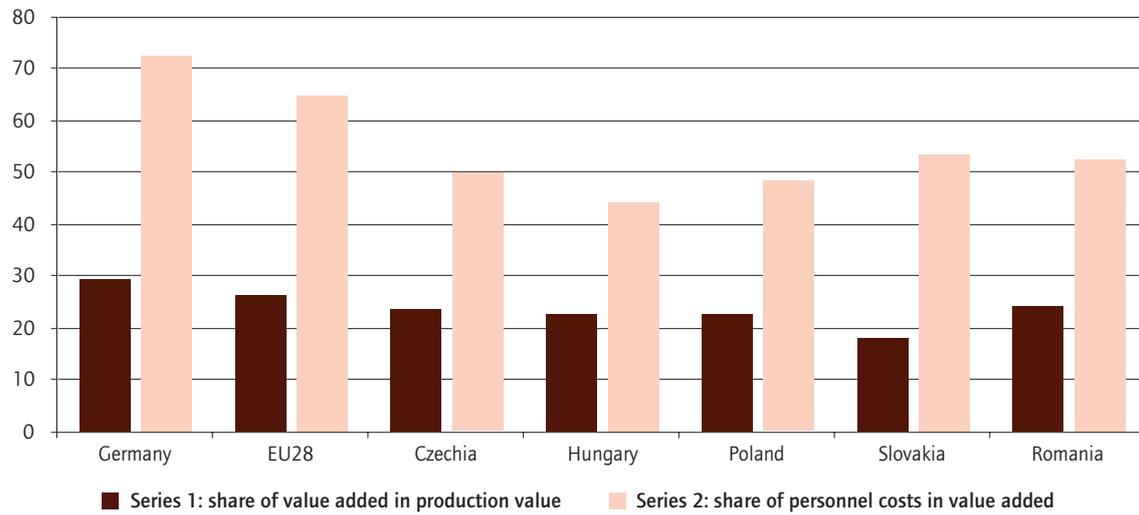
Before discussing in detail evidence for the use of these strategies, it is important to check available evidence that MNCs' operations in CEECs do produce substantial profits. The possible benefits from lower prices cannot be identified from data in the standard statistical databases. Benefits to an MNC's total profitability may be further concealed, for example by high prices for components imported into the CEEC, by returns of credits or by fees for patents or consultancy services that similarly flow back to the company's home base. Thus, higher measured profits in CEECs would be only one of the ways in which MNCs can benefit.

Nevertheless, Figure 4 shows that production in manufacturing is more profitable in CEECs than in western Europe, the sector in which MNCs predominate. The share of personnel costs, predominantly wages, in value added is substantially lower than in Germany and than the EU-28 average. Comprehensive data for foreign-controlled companies are not available, but for branches where they do exist they show shares going to labour at a similar level to all enterprises.

Figure 4 is also helpful for revealing possible differences in production technology. Thus, if there is a high dependence on assembly from imported components then the share of value added in production value should be lower. This does appear to be true of all CEECs and corresponds to some well-known cases. Thus, Slovakia's motor vehicle production is indeed biased towards the assembly of quite expensive models, with a heavy dependence on imported components. However, for CEECs as a whole, this low share of value added in total production value is largely explained by the difference in wage levels, implying a remarkable similarity in this aspect of production processes across countries.

This can be illustrated by a comparison between Germany and Czechia. Increasing wages in the latter case to such an extent as to raise personnel costs by 50% would bring them close to the German level. If this were then absorbed by raising the price of the products – and evidence will be presented that the prices of exported products are frequently somewhat lower in CEECs than in Germany – the shares of value added in production would be roughly the same between the two countries. This is consistent with the principal difference being wages, and there being no difference in the kind of production being undertaken. How far this really is the case can only be clarified by a more detailed look at what MNCs produce, sell and export, and this is the task of the following section.

Figure 4 Share of value added in production value and share of personnel costs in value added, manufacturing industry



Source: Eurostat, sbs_na_ind_r2

4. What do MNCs choose to export from CEECs?

Understanding MNC strategies, in terms of the strategies set out in the previous section, requires looking at the individual products they export, the prices they charge and the profits they make. This can be done to a reasonable level of disaggregation using data from the United Nations Comtrade database and from Eurostat. The former gives exports and imports, in terms both of value and weight, making it possible to calculate kilogram prices of exports. The latter provides data on the shares of personnel costs in value added for product groups that roughly correspond to some of those found in Comtrade data.

The kilogram price indicator was frequently used to indicate the technological level of exports from state socialist countries (Myant 1989: 232-5). A high kilogram price relative to other countries for a particular product would normally signify a higher level of product quality. Thus, a higher price for the same weight of motor vehicle from Germany than from Czechia implies better products, at least in the sense that somebody is prepared to pay more for them. The kilogram price measure needs to be used with caution. In a modern, open economy, a high price of exports from a country may reflect a high price of imported components rather than high value added within that country. It is therefore also important to follow import prices for likely inputs. This was done as far as possible for the analysis that follows.

In the early or mid-1990s CEEC exports still included products designed in, and inherited from, the state socialist period. For later years it is reasonable to assume that manufactured goods exported by MNCs followed designs brought by those MNCs. The quality was satisfactory for their needs, or they would not have located production in those countries. A low kilogram price therefore implies a choice by an MNC to locate production of a product with a low kilogram price in that country. Reasons for this will be explained below, with examples. A fall in kilogram price when exports take off in a CEEC could indicate a lower price for an outsourced product, made possible by lower labour costs. This would be in line with the first of the strategies covered in the previous section for an MNC to take advantage of cheap labour in CEECs, with benefits to the MNC being lower prices rather than, or as well as, higher profits. A steady kilogram price as exports take off from a CEEC, assuming the same technology is used as in western Europe (as is often the case), ought to be associated with higher profits for the MNC. This would be consistent with the third kind of strategy outlined above.

To shed more light on these possibilities, a substantial analysis was undertaken of manufactured goods, constituting around 20% by value of exports from the five countries under consideration. Volumes and kilogram prices of exports and imports were calculated for products, defined to the 4-digit and 6-digit HS (Harmonized Commodity Description and Coding System) code levels for the period from 1990 (where such data exist) to 2016.¹ What follows provides only illustrative examples of products, all linked to the motor-vehicle industry. Data are presented below only for countries and time periods that are helpful for illustrating more general trends and to show examples of MNC strategies. The units throughout were value in US dollars divided by weight in kilograms as a percentage of the figure for Germany, taken as the standard and also being the country of origin of many of the active MNCs.

In almost all cases Germany remained a substantial exporter, usually increasing its volume of exports, even when there was substantial outsourcing to another country. There is some evidence of the first strategy outlined in the previous section, leading towards the migration of production processes. The fourth strategy, complete migration of all of a firm's activities, does not appear at all. Very frequently, operations in CEECs appear as additional to operations in western Europe. In the overwhelming majority of cases, Germany's kilogram prices of exports also remained higher than those of any CEEC, although that is not true of all the examples used below.

4.1 Wiring systems and other simpler products

The first example is that of wiring systems for transport equipment (HS 854430), meaning mostly motor vehicles. These are relatively simple to make, requiring little expensive equipment and low levels of labour skill and can therefore move to lower-wage countries without demanding conditions of skill levels, infrastructure or capital investment. Production can therefore be quite mobile. Figure 5 shows export volumes in terms of kilograms, easily available in the Comtrade database. At the start of the period covered here, Germany was the main exporter. Production expanded in Czechia for a time, but it can then be seen expanding very rapidly in Romania to such an extent that that country comfortably overtook both Czechia, in 2001, and Germany, in 2006, in terms of export volume. Some production shifted between countries, leading to capacity closures in Czechia (Pavlínek et al. 2017).

Figure 6 shows kilogram prices for Czechia and Romania as percentages of the German level. It would be hard to doubt that quality is maintained for a car component manufactured by an MNC for other MNCs, but the Romanian kilogram price remained some way behind the German level, in fact falling further behind as exports increased. This is consistent with production shifting through lower-wage countries, enabling the manufacturer to sell the same

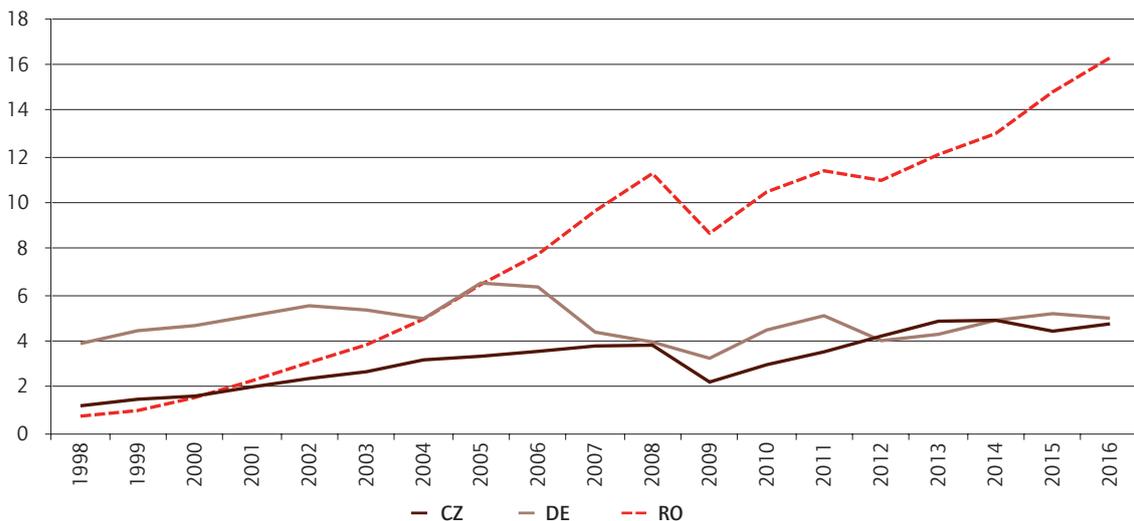
1. This is yet to be published in full.

product at a lower price. Unfortunately, implications for the profitability of production in CEECs cannot be followed up on, as the same product category is not covered in the Eurostat database.

There are more examples of outsourcing within the motor-vehicle and household-goods sectors, with a big increase in exports from a CEEC coinciding with a fall in the kilogram price of its exports and an increase in imports into higher-income countries. This applies to starter motors, vehicle lights, other electrical equipment for motor vehicles, and vacuum cleaners. In this last case Hungary's exports grew rapidly from 2007 after transfer of production by the Swedish firm Electrolux, increasing 27-fold by 2016. The kilogram price fell from the same as the German level in 2007 to half of it by 2016. These cases correspond to the first or second of the strategies outlined in the previous section, usually with a large part of the benefit to the MNC coming in reduced prices for their products. In some of the cases, such as vacuum cleaners, Germany remained a major exporter, while in others, such as starter motors for cars, it switched more to importing from CEECs.

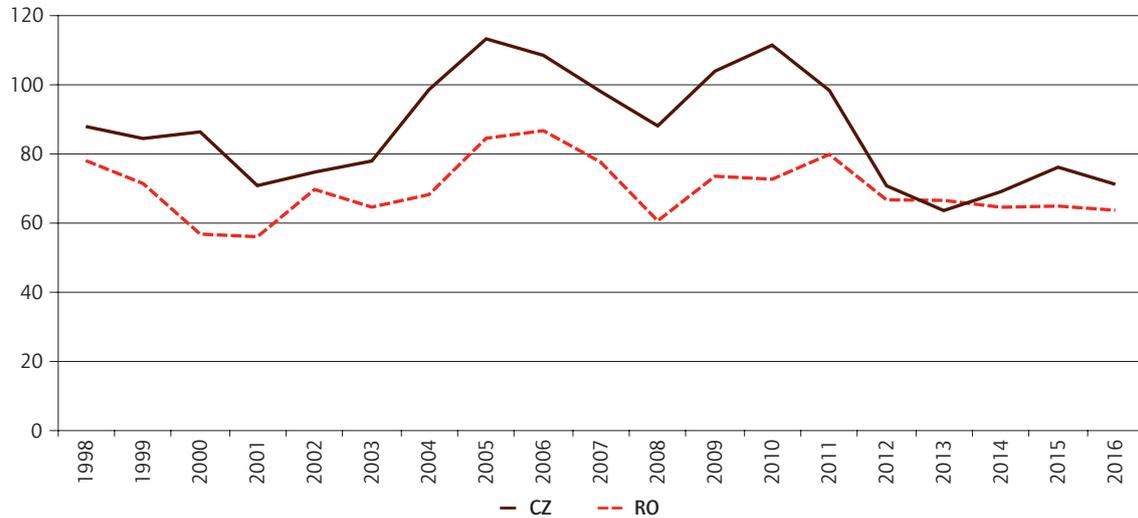
Unlike the case of wiring systems, production of these other products did not move on to even lower wage countries, such as Romania, presumably because the necessary preconditions in terms of labour skill levels and infrastructure were not met. Nevertheless, the example of wiring systems could be an indicator of what may eventually happen with other products as even currently lower-wage countries improve their economic potential.

Figure 5 Exports of wiring systems (HS 854430) in million kilograms



Source: Calculated from UN Comtrade database, <https://comtrade.un.org/data>

Figure 6 Kilogram prices of exports of wiring systems (HS 854430) as percentage of German level



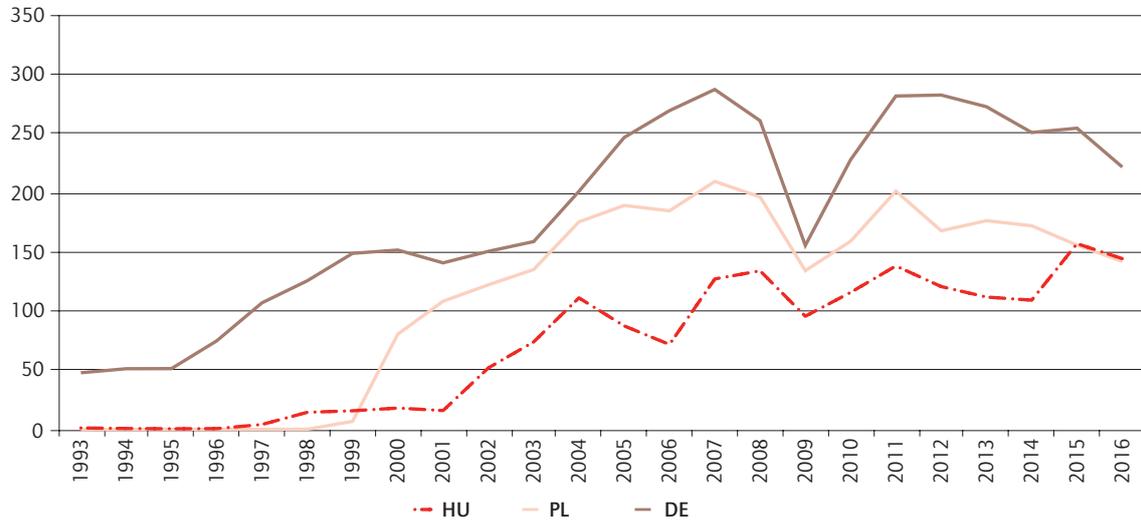
Source: as Figure 5

4.2 Diesel engines

For motor-vehicle diesel engines (HS 840820), Germany's key partners are Hungary and Poland where Audi and Volkswagen respectively produce for export. The big increase from Hungary came after 2001 and, as shown in Figure 7, the kilogram price remained slightly above the German level. Results for earlier years, before there was a substantial export volume, are not important as they need not relate to mass production in that country. As Figure 7 shows, Germany's exports peaked in 2007. It was in fact a net importer of diesel engines almost every year from 2001 onwards, with 27% of its imports in 2016 coming from Hungary. As indicated in Figure 8, the kilogram price of exports from Hungary was even slightly above the German level. The other major sources were Austria, with a very similar kilogram price, and Poland, from which prices were slightly lower.

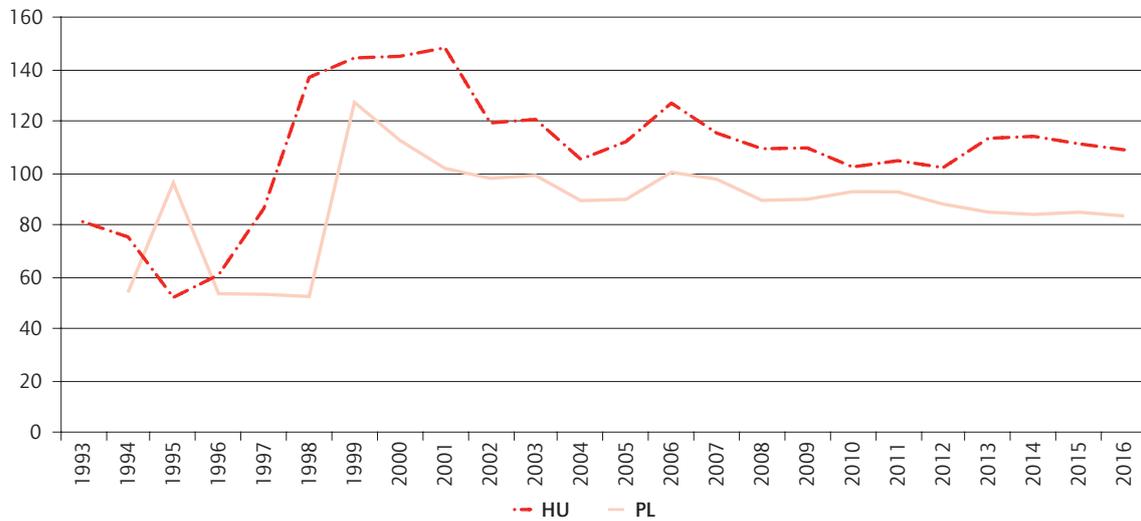
It would appear that products of very similar types were being traded between these and a few other countries. This appears to be a case of the same product with the same production process being outsourced, which fits with the third kind of strategy outlined in the previous section. It does not fit with the fourth as the firms still remained firmly based in Germany where most development work took place. Retaining the same price for CEEC exports suggests that the benefit to the MNC should come from higher profits in the CEECs. Romania was not a player, despite its lower wages, presumably because it lacked other conditions to make this production attractive to MNCs.

Figure 7 Exports of diesel engines for motor vehicles (HS 840820) in million kilograms



Source: as Figure 5

Figure 8 Kilogram price of exports of diesel engines for motor vehicles (HS 840820) relative to German level



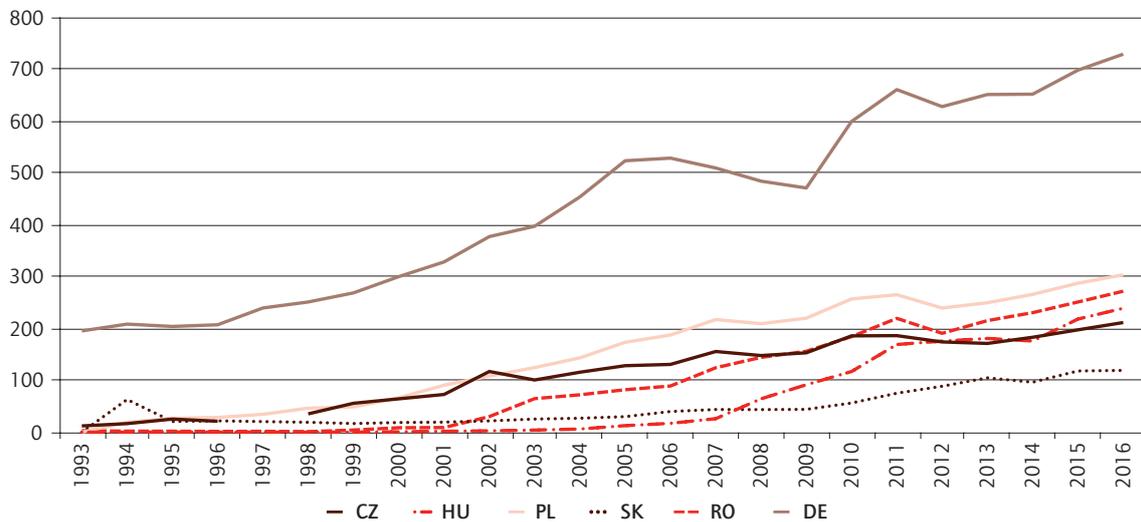
Source: as Figure 5

4.3 Car tyres

Another striking example, this time with a growing role for Romania, is the production of car tyres, shown in Figures 9 and 10. All the major tyre-producing MNCs became active in CEECs, in some cases with several plants in different countries typically claiming to be bringing their most modern production methods. Tyre manufacture is not characterised by rapid innovation, but it does require substantial equipment and the key advantage for MNCs is their control over the production technology.

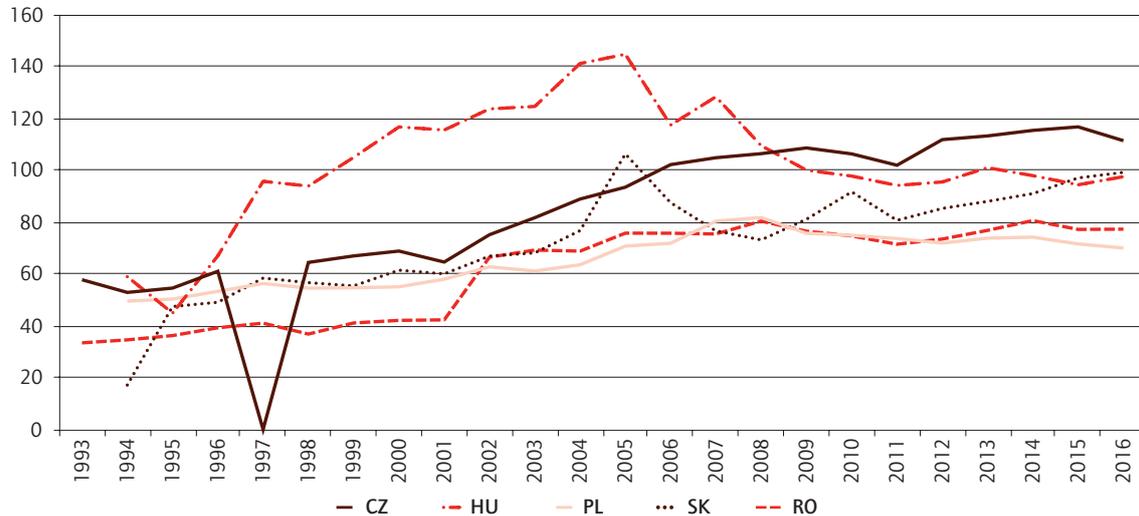
The established Czech tyre manufacturer Barum was taken over by the German company Continental in 1992. Exports increased only slowly, gaining pace from 2001 onwards. Hungarian production took off from 2008 after a big investment by Bridgestone. Polish output grew from investment by three MNCs, and Romanian exports took off after construction of a new plant by Pirelli in 2006. This production was attracted by lower wages, but exports from higher-wage CEECs continued to grow. They also increased from Germany, which remained the biggest exporter, although the other five countries combined were exporting more than Germany by 2007, rising to 79% more in 2016. Figure 9 shows these trends in export volumes.

Figure 9 Exports of car tyres (HS 401110) in million kilograms



Source: as Figure 5

Figure 10 Kilogram price of car tyre exports (HS 401110) as percentage of German level



Source: as Figure 5

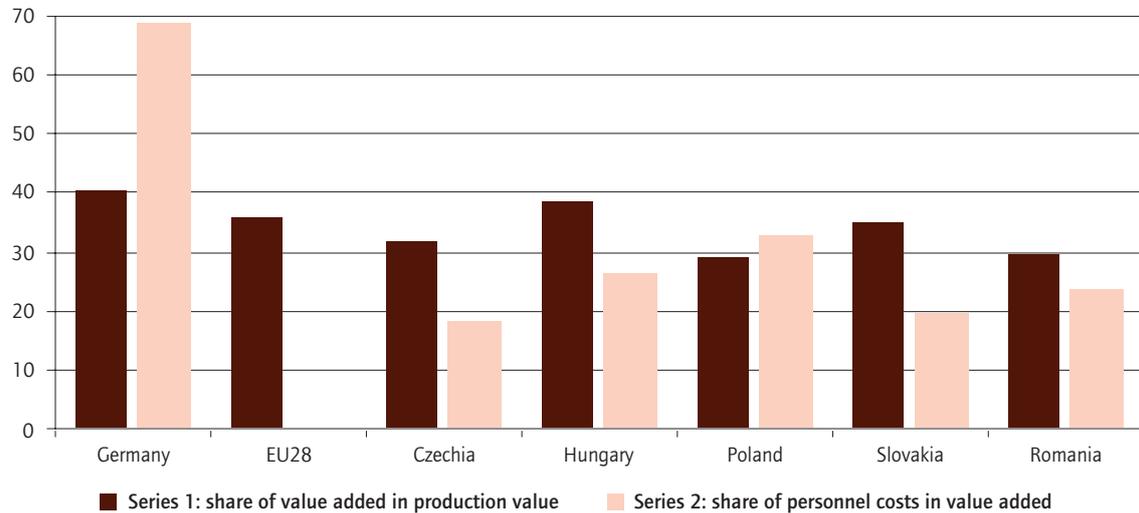
Figure 10 shows the development of kilogram prices relative to the German level. Remarkably, kilogram prices in CEECs were lower than those in Germany only in Poland and Romania, having in all cases caught up even as exports increased. For the others it would appear that the same product was being sold at the same price, leading to higher profits outside Germany. Romania, as in all cases studied where it had a significant export level, had the lowest kilogram price, suggesting that its lower wage levels are consistently attractive in enabling MNCs to cut the product price.

This finds support from data on labour's share in value added, shown in Figure 11. The branch in the Eurostat database is defined slightly more broadly, including all road vehicles, but the comparisons are striking. The share of personnel costs in Czechia and Slovakia, where tyre production is dominated by the German company Continental, were far below those of Germany. Hungary, Romania and Poland, the latter two with considerably lower kilogram prices of exports, were only slightly closer to the German level. Thus, the key difference between countries was in wage levels, reflected primarily in higher profits in CEECs than in Germany. The differences in the share of value added in production value are also explained by differences in wage levels, implying very similar production processes. These conclusions from aggregate data are also supported by evidence from company accounts. For Continental, personnel costs across the whole world in 2016 were 47.4% of value added against only 33.9% for the Czech subsidiary.²

This, then, is an example of the third strategy outlined in the previous section. The extent of transfer of production towards CEECs is consistent with a production process that is well-established and does not need close links to research and development.

² http://doc.kurzy.cz/static/sbirka-listin/35/82/78/sl45788235_c-15057sl92ksbr.pdf

Figure 11 Share of value added in production value and share of personnel costs in value added, manufacture of tyres



Note: Czechia figures are for 2015.
Source: Eurostat, sbs_na_ind_r2

4.4 Passenger cars

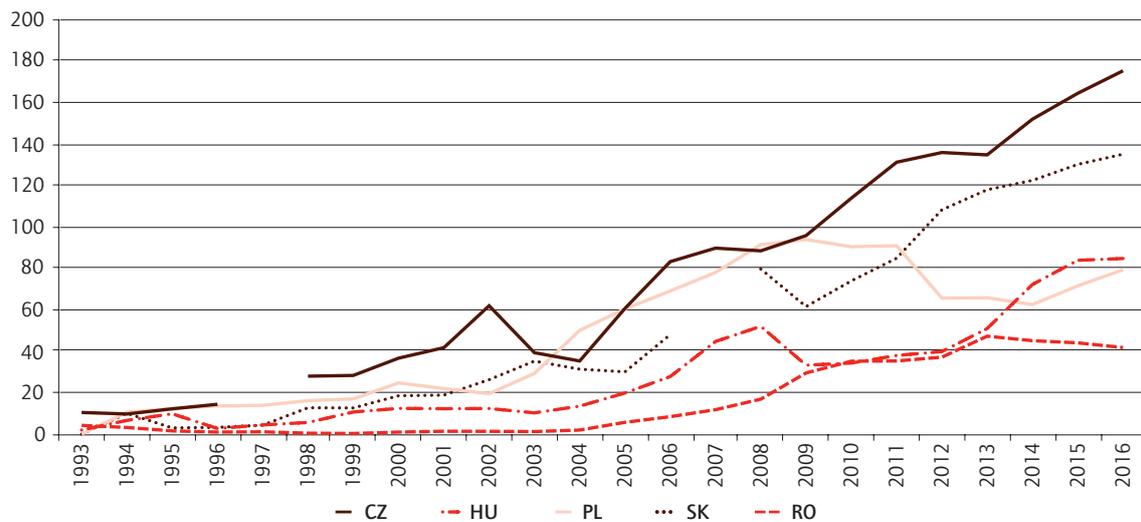
Passenger cars (8703) accounted for over 10% of exports from Germany, Czechia and Hungary in 2016, fully 20% from Slovakia, but only 3% and 5% from Poland and Romania respectively. Production was already established in the state socialist period and privatisation was the main means of entry for MNCs in the early 1990s. As EU membership became imminent, so greenfield investment increased dramatically, alongside further expansion from facilities previously acquired. As a result, several MNCs have been producing in each of the Visegrad countries, with the Volkswagen group active in all. In Romania, only Renault has a significant presence.

As Figures 12 and 13 show, German exports continued to increase and remained substantially above the level of any other country considered here. In 2016 their value was 2.7 times that of the other five countries combined and their volume in kilograms 65% higher than the other five combined. Comparing them on one graph would therefore show little more than Germany's lead, albeit a lead being slightly reduced after 2008 as all the countries covered here were showing substantial growth. In every case the CEEC operation is a relatively small part of European production (Pavlínek et al. 2017).

As shown in Figure 14, there is only gradual convergence of kilogram prices to the German level, after an initial catch-up phase, and none had fully caught up by 2016. Czechia moved from 39% of the German level in 1993, exporting a model developed before 1989, to about 60% in 1999, incidentally still a lower figure than had been achieved in the 1960s for the kilogram price of Czechoslovak exports as a percentage of the average for intra-EEC (European

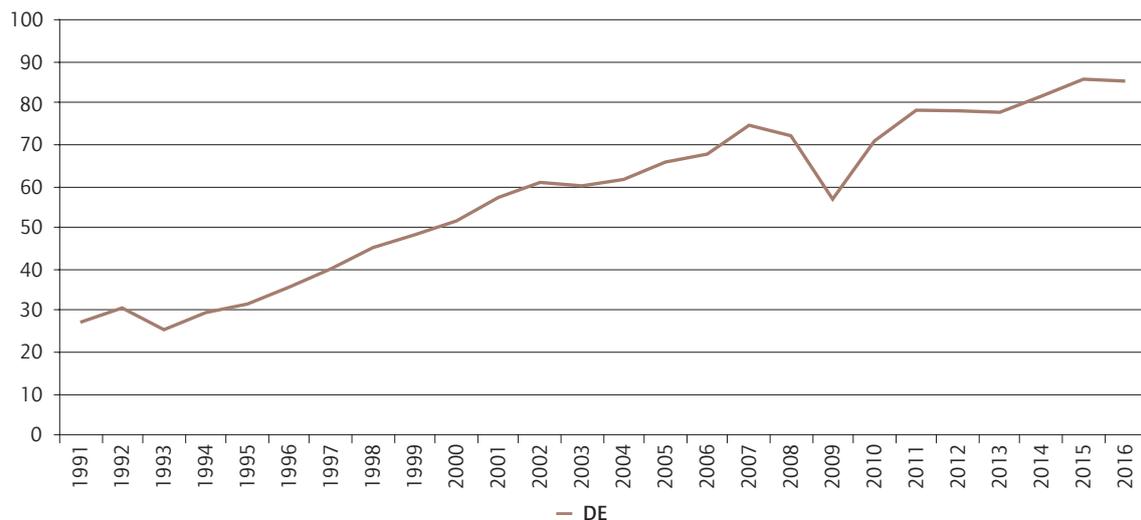
Economic Community) trade (Myant 1989: 234). It was still at that level in 2016. Romania remained under 43% of the German level in 2016, slightly below where it had been in 1996. Hungary exported higher-priced products, but its average kilogram price also fell below the German level as total passenger car exports increased.

Figure 12 Exports of passenger cars, in ten million kilograms, central and eastern Europe



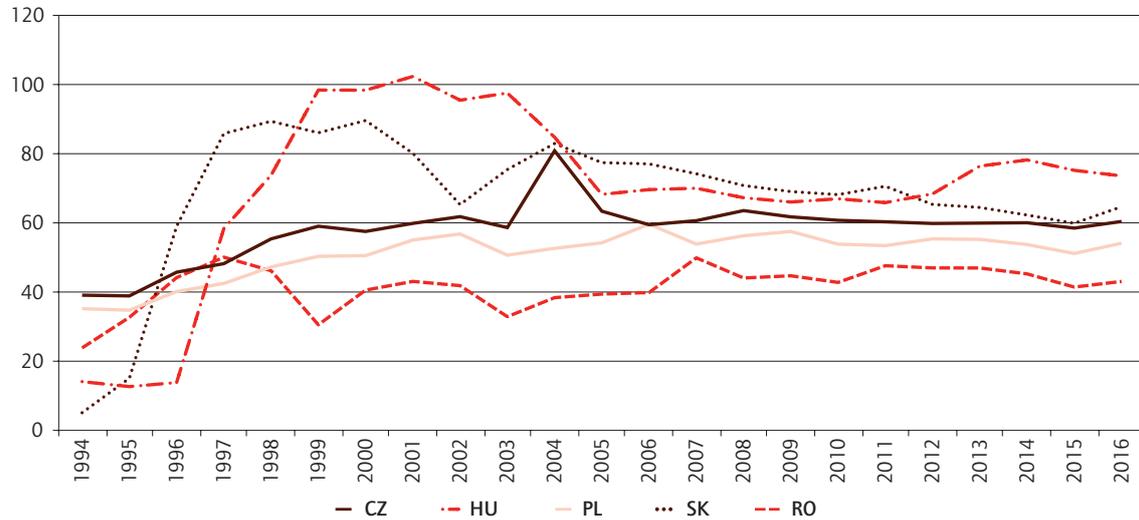
Source: as Figure 5

Figure 13 Exports of passenger cars, in hundred million kilograms, Germany



Source: as Figure 5

Figure 14 Kilogram price of exports of passenger cars, percentage of German level



Source: as Figure 5

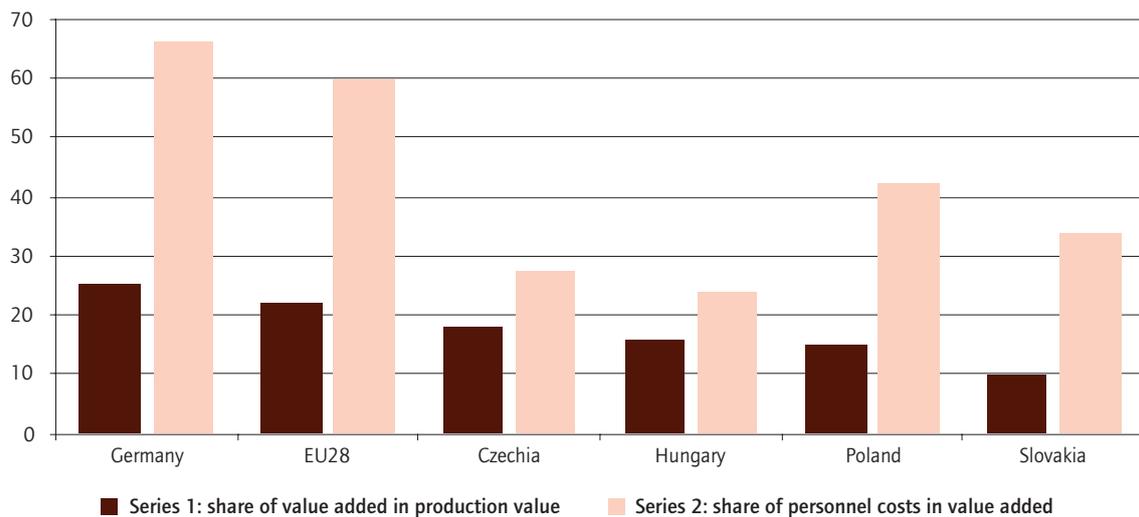
The gap is partly explained by the product mix. The category 8703 contains 14 sub-categories at the 6-digit level. Kilogram prices vary across product categories, for example being four times higher for cars with petrol engines with capacities of over 3000cc (870324) than for those with engine capacities of under 1000cc (870321) for German exports in 2015. An important part of MNC strategies is to locate production of smaller cars in eastern Europe, while often reducing their production in western Europe. This, an example of the second strategy outlined in the previous section, will inevitably lead to lower kilogram prices from CEECs even if production methods are the same as in western Europe.

However, even within each size category, kilogram prices are higher in Germany, so that product mix, defined at the level of six-digit categories, is only part of the explanation for the differences. A further factor is that, notably in the case of the Volkswagen group, similar products are sold with small variations under different names and at lower prices when manufactured in central and eastern Europe.

While lower overall kilogram prices reflect a choice by MNCs to locate production of lower-priced products in CEECs, data on labour shares suggest that MNCs can also earn higher profits than in western Europe from what they do produce. The category used in Figure 15, showing the much higher share going to labour in Germany, is motor vehicles as a whole, somewhat broader than just passenger cars. Where available, data from company accounts point in the same direction, with personnel costs accounting for only 30.5% of value added in the Škoda car manufacturer, wholly owned by Volkswagen, from its Luxembourg subsidiary, in 2016 (Škoda-auto 2017: 111 and 94).

Value added also appears to represent a relatively low share in production value, but that would not be the case if wages, and also product prices, were at German levels. Raising Czech wages to the German level would lead to similar shares going to personnel costs and a similar ratio of value added to production value. This is consistent with similar production processes, rather than there being a bias towards assembly from imported components. Slovakia is an exception with its particularly low share of value added in production value which does reflect greater dependence on imported components for the assembly of quite expensive vehicles. This is also reflected in the high kilogram price for its exports, shown in Figure 14. In general, the big differences in the shares of value added in production value are due to the lower level of wages in CEECs rather than any differences in production technology.

Figure 15 Share of value added in production value and share of personnel costs in value added, manufacture of motor vehicles



Note: Romania's data remain confidential.
 Source: Eurostat, sbs_na_ind_r2

In summary, passenger cars show a combination of strategies. There are cases of assembly using imported components, notably Volkswagen in Slovakia, but the technological level of the assembly operations is not essentially different from that in western Europe. The second strategy in fact appears in many of the MNCs active in the area. It is not linked to obsolete technology or products, but rather to the lower profitability of smaller vehicles. There is less evidence of the third strategy. Even when models produced in different countries are very similar, prices from CEECs are still frequently lower.

5. How can the wage gap be narrowed?

MNCs have brought benefits in terms of economic development to CEECs. With their appearance, the gap in wage levels narrowed. However, they do not bring an automatic convergence to western European levels. That would require a combination of active measures to increase wages and the development of an economic strategy that can raise the technological level of CEEC economies to above that brought by MNCs with their current strategies.

Wages in foreign-owned companies are not determined by the productivity of the employees. That cannot be the case when some profit levels are so high and when, as argued above in relation to a number of products, measured productivity is often low because of low wages rather than the converse. Instead, in the first instance, MNCs take the wage levels they find. These have been determined by these countries' past histories and reflect a going rate in the economy at the time, set at first by domestic employers and then increasingly by other MNCs. The latter may pay slightly more, to attract and retain a stable labour force. They may also face upward pressure on pay levels from market conditions or from labour's bargaining strength, but both are limited. As they do not choose to transfer production that requires large numbers of the most qualified workers – and this is a good reason for not doing so – specific labour shortages have remained manageable.

Labour's bargaining position is also significantly weakened by the power of an employer with multiple plants. Threats to transfer production, to concentrate investment elsewhere or, ultimately, to close a plant in total, figure persistently as a background to collective bargaining, encouraging moderation from employees. This applies even in the motor vehicle sector where investment appears to be among the most permanent (Drahokoupil et al. 2015). Indeed, in view of the permanence of much of this investment, the low share of wages in production value and the extent of the wage gap with western Europe, it is difficult to believe that MNCs would consider relocating even after quite substantial pay increases across the region.

The result of MNC strategies is to keep wages well below western European levels. Profits are then a residual, and often quite a large residual, after wages have been paid. The discussion of MNC strategies in the preceding sections provides strong evidence that in some cases they use the same production methods for the same products as are made elsewhere in the world, but then benefit from much lower wages. However, in many cases low wages lead MNCs to use CEECs as an ideal location for transferring activities that require only less-skilled labour or that would be the least profitable if left in a higher-wage country.

There is no strong incentive for MNCs to move their most complex activities to CEECs. There are solid reasons for why these remain in the higher-wage countries. Moving carries a financial cost particularly where large capital investment has been made. There would also be political and reputational costs and a skilled labour force would be harder to attract where wage levels and social service provision are lower. It therefore makes most sense for an MNC to keep activities that require higher-paid personnel in countries where the pay is higher.

The implication is that this form of dependency sets limits to catching up with western Europe. CEECs are left some way behind, and even threatened with further instability as MNCs may move on to still lower-wage countries. Using the typology of Porter's 'stages of competitiveness' (Porter 1990), they do not move into the 'innovation-driven' stage. Innovation almost always comes from the outside, embodied in products and processes designed elsewhere. CEECs are always followers, using established methods and technologies and never leading with the newest. They are left in a 'middle-income trap', holding down wages to make themselves attractive to MNCs, but in turn leaving themselves unattractive to the higher-level activities that would raise their economies to the western European level.

Achieving full economic convergence implies the same wage and price levels both in nominal and in PPP terms. To reach that target requires both a higher economic level in terms of real productivity and an effective currency revaluation. Three points can be made on the effects of possible economic strategies:

1. A strategy centred on holding down wages to keep them in line with measured productivity increases does not lead to full convergence. Productivity measures, as indicated above and as argued in detail elsewhere (Myant 2016), are themselves deceptive, with low measured productivity in large part a reflection, rather than a cause, of low wages. This is the road to remaining a lower-tech follower of more advanced western European economies. Low pay levels lead to the economic structures described above and in turn make it harder to retain skilled and qualified employees who instead benefit from the free movement of labour to take work in higher-income countries.
2. A strategy based on raising pay levels would have some potential. Some activities might move on to lower-wage locations, as is already happening, but in many cases profits are high enough to leave plenty of scope for higher wages. This would also help retain the most qualified employees that are needed for an upgrading of economies. Indeed, exasperation with the low-wage model has led to growing pressure for an approach based on more deliberate attempts to achieve convergence with higher-income EU Member States. Such was the thinking behind the Czech trade unions' campaign for 'an end to cheap labour' (Myant and Drahoukoupil 2017). This, partly through collective bargaining and partly through government decisions over minimum wages and public

sector pay, contributed to a 6.6% increase in nominal wages (4.1% in real wages) in 2017 (the first nine months). The increase in GDP of 4.1% in real terms was presented as an example of wage-led growth.³ There were also big increases in minimum wages in Romania and in Hungary. However, increasing wages alone cannot be a complete solution. At some point higher pay, if accompanied by no other changes, would undermine the basis for the low-wage economic structures that have been created without ensuring the creation of a basis for higher-level and more productive economic activities.

3. Full convergence of wage levels can only be achieved if increases in pay levels are accompanied by measures to create the basis for higher levels of economic activity. That would include investment in skills, education and research and the creation of an institutional structure appropriate for innovation-led growth. This implies a greater strategic role for an active state, both to encourage domestic economic activity and to encourage FDI in the kinds of activities that can support higher pay levels. That would be a big change from policies that have sought to generate economic activity only through keeping wages in check and keeping tax levels below those of western Europe.

3. From the Czech Statistical Office report on the first three quarters of 2017, <https://www.czso.cz/csu/czso/vyvoj-ekonomiky-ceske-republiky-1-3-ctvrtleti-2017>.

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