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Abstract

This working paper looks at wage developments in central and eastern Europe (CEE) over the past twenty years and shows that wages are not only low compared to western Europe but, as demonstrated by a number of variables, also tend to be lower than what the economic potential of these countries would allow for. After the initial and turbulent phase of the transformation process, wages in all CEE economies started to grow dynamically from the mid-1990s up until the crisis in 2008. Wage convergence in this period was spectacular, particularly when expressed in euro terms. Czech wages, for example, more than quadrupled between 1993 and 2010 in comparison to Germany, and most CEE countries showed a similar pattern. In the wake of the crisis, however, wage convergence either experienced a sudden halt or slowed down substantially. European crisis management policies only directly interfered in the wage-setting mechanisms of a number of countries (Latvia, Hungary and Romania) but the effects of wage moderation were spread all over the region. This paper shows how real wage developments in the whole region suffered a setback after the crisis, and also demonstrates that (with the exception of Bulgaria) wages were lagging behind productivity.

Wage share, an important indicator that shows how value added is distributed between capital and labour in the whole economy, tends on average to be seven percentage points (p.p.) lower in CEE than in western Europe. Wage-adjusted productivity in manufacturing demonstrates how much value is generated by a unit of labour cost. In this respect, all CEE countries fare far better than Germany, showing that in this core sector that is the most exposed to foreign competition, a significant productivity reserve exists. When looking at drivers behind wage increases we identify two factors that played a significant role: foreign direct investment and outward labour migration. Tightening labour markets and labour shortages all over the region increased the pressure for higher wages, and multinational companies, well-established in the region, were less able to decouple wages from productivity. The case for a fair distribution of earned income – a demand that is fully justified, but also necessary – is therefore not the only argument for supporting the idea of a pay rise. The 'involuntary' low wage profile has become a constraint on future development as it keeps the region locked into a subordinated and dependent role in the international division of labour.

Introduction

The European Trade Union Confederation (ETUC) recently launched the campaign 'Europe needs a pay rise', which aims towards driving economic growth and tackling inequality (ETUC 2017). This working paper sets out arguments for why this pay rise is both possible and necessary, particularly in central and eastern Europe (CEE). The regional focus will be CEE new Member States (2004 and 2007 enlargement rounds), while for particular examples we will also refer to a smaller group of these countries.

Wage levels and dynamics in central-eastern European middle-income economies again resurfaced as a focus of academic and political debates in the aftermath of the crisis. The reasons for this are manifold.

For the sake of clarification, it should be first emphasised that a low wage-based competitiveness strategy was never a chosen development model for this region; CEE countries are significantly poorer than other parts of western Europe due to various historical factors. There were short-term wage drops in a few countries in the initial phase of the post-Communist transition (e.g. in Czechoslovakia and Poland between 1989 and 1991) followed by periods of wage moderation (Hungary in the mid-1990s, in Slovenia and Slovakia in the run-up to their eurozone accession) but no explicit 'low wage strategy'. On the contrary, the hope of these populations, fed also by the promises of the political elites, was to reach the level of western European living standards.

From the 2004 'big bang' EU enlargement round up until the crisis in 2009 it was taken for granted that economic and wage convergence between poorer new Member States and the high-income core of the EU was only a matter of time. Even if foreign investors saw the relatively low wages (and labour costs) in CEE as a comparative advantage and often used this as a threat to secure wage concessions from workers in their western European home countries, wages in CEE were nevertheless growing. There had been dynamic economic and particularly wage convergence, and by the mid-2000s CEE policymakers were starting to think about a future beyond a low wage-based economic model. Then came the crisis, bringing the trend of upward wage convergence to an abrupt halt. EU crisis management policies played a major role in reinforcing the low wage-based competitiveness model in the region, causing new cleavages in Europe.

This working paper examines wage developments in the CEE region over the past twenty years and argues that recent policies to reinforce a low wage-based growth model are unfounded and out of place. After briefly outlining the theoretical considerations, Section One provides an overview of wage developments in the early transformation years up until the crisis. Section Two demonstrates the effects that crisis management and austerity policies had on wages, also taking productivity developments into account. Section Three looks at the main drivers behind wage convergence, in particular the impact of foreign direct investment (FDI) and labour mobility. Section Four uses economic indicators to show how contentious the arguments are of mainstream economists and policymakers who push forwards with the ongoing campaign on wage restraint, allowing the region to get caught in the low-wage trap. Section Five concludes by arguing why a pay rise in the region is justified.

1. Theoretical considerations

Standard microeconomic theory suggests a clear relationship between productivity, wages and labour demand, where wages correspond to the marginal productivity of labour in line with the profit-maximising behaviour of firms (Borjas, 2010). Microeconomic theory also suggests that labour demand would increase if productivity per unit of labour input increased (at given wages), because a further extension of production would increase firms' profits. This microeconomic mechanism is commonly put forward as the underlying justification for a wage-setting rule, with the argument that restraining wage increases to remain below the rate of productivity growth increases employment levels. However, profit maximisation applies to private sector enterprises only, and there are several limitations and controversies to applying this pattern to the macroeconomic level, as we will demonstrate. Even if this line of argumentation sounds plausible in the short term, given the links between wage moderation and employment growth when productivity is growing at the microeconomic level, the medium and long-run effectiveness of such policies is much less clear.

Undoubtedly there is a strong relationship between the growth of productivity and the growth of wages in a national economy, but this is not a mechanical one in the way that standard economic theory suggests and international financial institutions and the European Commission mostly apply in their policies. In this working paper we will argue that a less simplistic view is needed. A major question that will be addressed is what comes first between productivity and wages; changes and developments certainly matter, but the level (of productivity and wages) is also important. A further issue is what level of the economy wages and productivity should be examined at; should it be the national or sectoral level (with regard to tradeable and non-tradeable sectors)? The specificities of transformation economies also need to be taken into account.

An alternative approach to looking at the link between wages and productivity is the concept of 'efficiency wages' (Shapiro and Stiglitz, 1984). In most efficiency wage models the link between wages and productivity is not straightforward, even in the short run. Efficiency wage models reject the premise that in perfect competition wages are aligned to the marginal productivity of workers. Instead these models argue that paying higher-than-market wages can be a rational choice for firms, e.g. in order to increase the work effort of employees. In this sense, efficiency wage models imply a kind of 'reverse causality': rather than wages being set according to productivity, they have to be set at a particular level in order to achieve a specific productivity (Shapiro and Stiglitz 1984: 434). With regard to catching-up transition economies, 'efficiency wages' can play a role in helping these countries to break out from the low-wage trap.

2. Main trends in wage developments in CEE

2.1 The early phase of the transformation

The 1989–1990 systemic change and the subsequent economic integration of the CEE region into the European and world economy had far-reaching consequences for wage developments. It is important to bear in mind that the *de facto* economic integration (free trade, free movement of capital) of the CEE region took place right after its opening up in the early 1990s. The accession of CEE countries to the EU (eight central-eastern European countries in 2004, followed by Romania and Bulgaria in 2007, then by Croatia in 2013) can be seen as a political-institutional act that completed this process by drawing these countries into the EU legislative framework. Freedom of services was extended to the CEE region at the time of the accession, while free labour mobility was granted in a gradual process (completed in 2011 for the 2004 accession countries and made partially available – with restrictions up to 2014 – for 2007 entrants, for Croatia transitional measures are applied until 2020).

During the process of transformation from a closed planned economy towards an open market economy, developments were not linear but rather turbulent. In Czechoslovakia, for example, wages were subject to radical change in the initial phase of the transformation, with a 30% real drop between 1989 and 1991, followed by a dynamic recovery over the next ten years. By 1996 Czech real wages had reached their 1989 level. Hungary on the other hand did not show a dramatic and abrupt initial decline but it took until 2001 to reach the 1989 wage level in real terms.

It is of great significance how wages in a dynamic environment are measured and compared. In the national context, real wage developments measured in national currency are decisive for purchasing power, i.e. what workers can buy from their earnings. For international comparisons, wage levels of different countries are compared in a common denominator foreign currency (in Europe mostly in euros). This can be done at market exchange rates (the most common) but also at an exchange rate that takes into account price differences between countries (exchange rate at purchasing power parity). If we want to illustrate differences between living standards in different countries, the best way is to compare wages in terms of purchasing power parity. When comparing the international competitiveness of countries, however, the market exchange rate is relevant. Wages of CEE countries expressed in euros are important for foreign investors, because these determine labour costs; or more precisely the labour cost advantage they can benefit from. Furthermore, the relative wage increases were most dynamic in foreign exchange at market rate, as Table 1 illustrates. An important feature of CEE countries when drawing international comparisons is that they do not easily fit into the traditional models which delineate high and low income countries. The divide between the former's high wages, high skills and high productivity, and the latter's low wages, low skills and low productivity proves to be too simplistic. The skill levels of the labour force in CEE countries are, for example, comparable with those in western European countries, albeit with structural differences due to the lack of market economy and management know-how.

The rate at which wages were catching up in CEE in comparison to western Europe is especially spectacular when expressed in euros (instead of national currency). Besides real wage increases, there was also the effect of an appreciating exchange rate (despite some devaluation of national currencies during the crisis, for the whole period between 1993 and 2015 the phenomenon of appreciation was characteristic). Table 1 provides an illustration of wage convergence for three CEE countries, Czechia, Hungary and Poland, in comparison to Germany. The main trend is similar for the entire region. In Czechia the wage level (in euros) grew from 8.3% of that of Germany in 1993 to 35.1% in 2010 (the peak level), before sliding back down to 30.9% in 2015. The catch-up rate of Hungarian wages was slightly lower but also striking, from 10.5% of the German average wage in 1993 to 31.9% in 2008 (29.7% by 2010) and then falling back to 25.1% in 2015. In Poland wage levels grew from 13.7% of Germany's in 1995 to 33% in 2008 (31.1% in 2010), before sliding back down to 29.3% by 2015. These trends show that dramatic changes can occur and this does not necessarily result in a loss of international competitiveness. While Czech wages more than quadrupled in nominal euro terms in proportion to German ones between 1993 and 2010, this was also the period that included the most intense FDI inflow into the Czech economy, as well as a growth in export performance. There were similar trends in many of the CEE countries.

Table 1 **Wage catch-up of Hungary, Czechia and Poland with Germany (yearly average gross wages in nominal euro terms* and in % of the German wage level), 1993–2015**

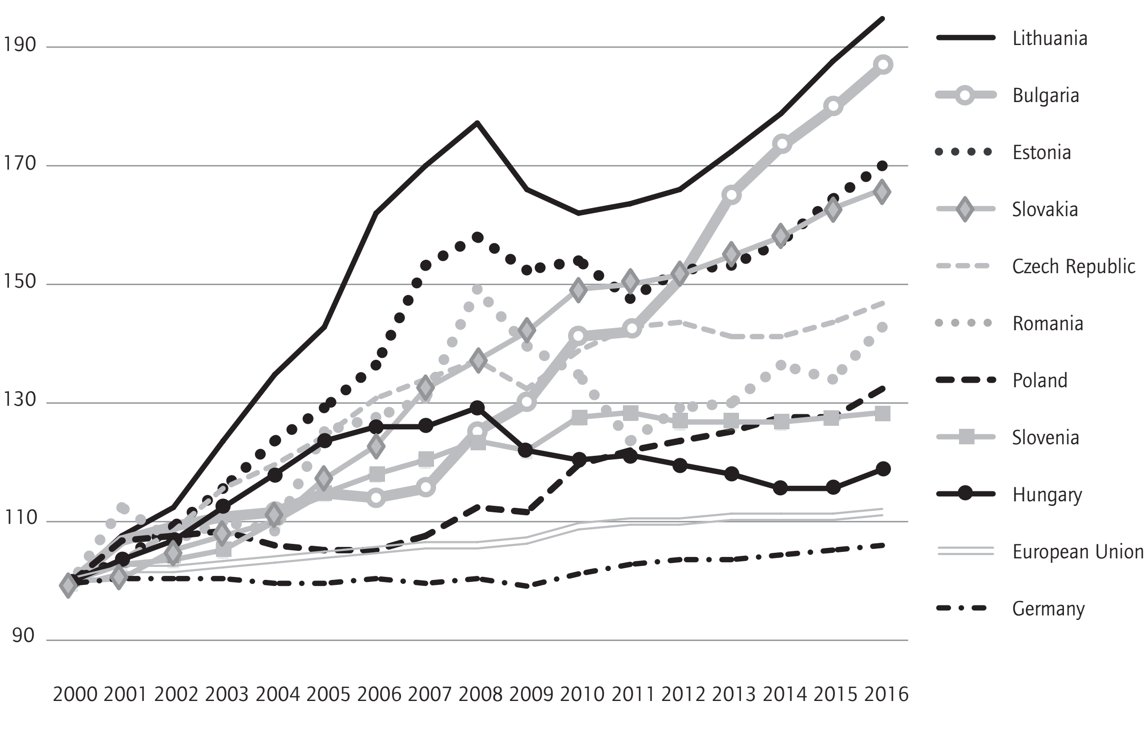
	1993	1995	2000	2008	2010	2015
Hungary						
Average gross wage in EUR	3,233	4,064	4,825	10,226	9,744	9,432
In % of German level	13.1%	15.5%	17.2%	31.9%	29.7%	25.1%
Czechia						
Average gross wage in EUR	2,054	2,942	4,747	11,197	11,503	11,624
In % of German level	8.3%	11.2%	16.9%	34.9%	35.1%	30.9%
Poland						
Average gross wage in EUR	n.a.	3,591	6,619	10,569	10,176	11,045
In % of German level		13.7%	23.6%	33.0%	31.1%	29.3%
Germany						
Average gross wage in EUR	24,567	26,069	27,990	31,997	32,754	37,613
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Yearly average wages in national currency converted to EUR at national bank yearly average exchange rate.
Source: OECD, 2016, Czech, Hungarian and Polish National Bank

2.2 Wage developments after 2000

The second decade (2000–2010) brought a clear convergence of wages between CEE and core western European countries. Figure 1 shows the development of real compensation (in national currency) in all CEE countries compared to Germany for the period 2000–2016. Germany is used as a reference point because of its importance as a major trade and investment partner for the region. While real wages practically flatlined in Germany throughout the whole decade (in 2010 they were 0.9% higher than in 2000), in CEE countries they grew by figures such as 19% in Poland and 62% in Lithuania. Real wages grew dynamically up until the crisis, and even when including a downward correction at the end of the decade, an upward trend was afterwards restored to various degrees. In Estonia, Bulgaria and Lithuania wage convergence nearly reached its pre-crisis pace (real wage levels in 2016 were 70, 87 and 95% above their 2000 levels). In the rest of CEE the catch-up process began to significantly slow down from 2008/2009 onwards. For Czechia, Poland and Slovakia, real wage increases were rather moderate up to 2016. For Slovenia, real wages flatlined after the crisis, while Romania and Hungary saw a real wage decrease when we compare 2016 to 2008 (by 4 and 8% respectively). These trends raise serious questions about convergence, in particular regarding the wage convergence between richer and poorer countries that has hitherto always been seen as one of the major strengths of the European integration project.

Figure 1 **Development of real compensation in national currency, 2000–2016**



Source: Ameco, 2017

3. What were the main drivers of wage increases in CEE?

Apart from Slovenia, CEE countries have the lowest trade union density and collective bargaining coverage rates in the EU and these are decreasing every year (Visser 2014). The weak role of collective bargaining in wage-setting in CEE countries can also be seen in the persistent positive wage drift between collectively agreed and actual wages that was characteristic in these countries before the crisis (Delahaie *et al.* 2015). In the early 2000s, up until the crisis, actual wage increases in CEE countries tended to be higher than collectively bargained wage increases (Borbély and Neumann 2015). This is exactly the opposite of what had been the main phenomenon in western Europe and especially in Germany, where wage outcomes were regularly lower than what had been collectively agreed (negative wage drift due to opt-outs and low coverage). In CEE, however, actual wage increases were regularly overshooting collectively agreed wages throughout most of the pre-crisis period. This suggests that other factors beyond collective bargaining must have played a major role. Dynamic growth in the period before and after enlargement and up to the crisis certainly created a favourable environment for wage increases in the region. Two main drivers were, however, particularly important in terms of their direct or indirect effects: foreign direct investment and cross-border labour mobility to western Europe.

Foreign direct investments (FDI) were an important driver that contributed to upward wage dynamism, but this did not happen automatically. The primary effect of FDI is that it increases productivity, which should then be reflected in wages that are higher than the sectoral or regional average. FDI stock makes up a high share of the GDP of individual CEE countries, characteristically between 60 and 80% (Hunya 2015). Foreign investment enterprises provide a major share of the exports in the region; they tend to have higher productivity and pay higher wages than the national or branch level average. It is a matter of bargaining how much of the productivity gains can be converted into higher wages, and there are now signs that the bargaining climate is becoming more favourable for labour. FDI relies strongly on skilled labour and in recent years the lack of its availability all over the region has become a major issue. The automobile manufacturing cluster that includes southern Poland, Czechia, Slovakia, northern Hungary and western Romania is facing increasing difficulties in recruiting skilled workers and engineers. In Hungary mounting labour shortages were reported from a number of firms in the automobile sector, including Bosch, Audi and Mercedes (Gergely 2016), who started poaching workers from plants in the neighbouring countries. In previous years labour shortages were limited to engineers and skilled workers, but recently manual workers have been increasingly affected (Előd 2016). The first strike to happen at the Audi plant in Győr, northern Hungary, in its 23 years of existence was announced by the trade union organisation there in early 2016 and aimed at achieving a significant general wage increase and improvements in working conditions (Reuters 2016). Co-operation between the trade unions at Audi's German headquarters and in the subsidiaries took on a new momentum when IG Metall opened transnational partnership offices (in Győr in 2014 and at the Mercedes plant in Kecskemet in 2016) to assist Hungarian organisations in fighting for higher wages and better working conditions (IG Metall 2017).

A second factor that had an impact on wage growth in CEE was outward migration. A study (Holland *et al*. 2011) found that between 2004 and 2009 emigration led to an increase in wages of 0.44% in Czechia, 0.68% in Hungary and 2.73% in Poland.

Higher wage levels in the west were among the most important pull factors for labour mobility from the CEE region. Large-scale out-migration from certain countries (particularly Poland, Romania and the Baltic states) resulted in labour market bottlenecks in certain sectors; in particular, teachers, doctors, nurses and bus drivers have often been hard to recruit in these countries. One consequence was that wages in these sectors got a further boost, among other things by means of government-initiated public sector wage increases. From time to time, governments made unilateral increases in public sector wages in an attempt to balance out the effects of labour market tensions that arose in specific professions, mainly due to these two drivers of FDI and out-migration.

For instance, in 2002, the then governing socialist administration in Hungary announced a pay rise of 50% for teachers and nurses in the public sector; this was an election promise that intended to compensate public service workers for low wage growth in the past, but also with a view to tackling emerging labour market tensions. A similar increase had been made in 2012, when the austerity measures of the previous years were partially rolled back, with the declared objective to slow down the out-migration of health professionals from Hungary, who had to commit themselves to not moving abroad to work for five years.

In Poland, a law was passed in 2006 to guarantee doctors' wage levels, providing a 40% increase in pay for hospital doctors in order to tackle personnel shortages due to emigration (Holt 2010).

Hospital doctors in Czechia agreed to a wage settlement after a long and bitter struggle in which nearly a quarter of the country's 16,000 doctors threatened to quit and leave the country unless they received pay rises. The settlement was approved by the government in February 2011, after which point doctors who had tendered resignations that were due to take effect from 1 March withdrew them. Under the settlement doctors saw their pay rise by around a third (Stafford 2011).

In the Baltic states, meanwhile, several rounds of double-digit wage increases took place, mostly for doctors, nurses, and teachers. Trade unions in this period saw more opportunity for bargaining for higher wages. At the same time, the state also raised wages in certain public sector professions to offer migrants an incentive to return.

Beyond anecdotal evidence, a number of studies also confirmed the positive effect of outward migration in certain professional groups. Dustmann *et al.* (2015) identified a positive wage effect of emigration in Poland, showing that between 1997 and 2007 wage increases were highest in the skills categories of workers that were over-represented in the emigration flows. An IZA working paper (Zaiceva 2014), meanwhile, found that out-migration has increased the wages of stayers, especially for socio-economic groups that have become relatively scarce in numbers.

According to an IMF working paper (Atoyan et *al.* 2016), countries that have experienced significant outflows of skilled workers (e.g. the Baltic states, Romania and Bulgaria) have also seen greater upward pressures on domestic wages. The authors estimated the contribution of skilled emigration to nominal wage growth to be up to 10p.p. during the period 1995-2012. The study found that low substitutability between skilled emigrants and natives in the sending countries, as well as higher reservation wages associated with remittances, have contributed most to this outcome. In addition, increasing opportunities to work abroad may in the short term have strengthened workers' bargaining power in the labour market.

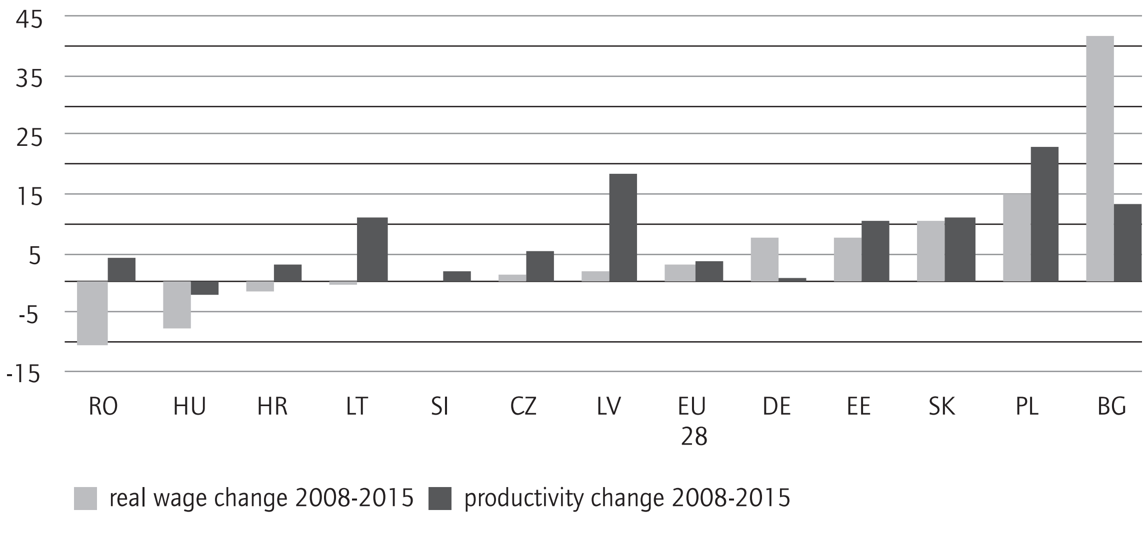
It can also be expected that with tighter labour markets (in 2016 Czechia and Hungary had unemployment levels below 5%) and the continuing scarcity of skilled labour, foreign investment enterprises embedded in clusters and widespread supplier networks in the region would be less resistant to paying higher wages and that any threat of them moving further away or back to their home country would be rather limited.

4. Wage developments since the crisis

The ongoing economic crisis has brought into question one of the fundamental pillars of the European ideal: namely, achieving the income convergence of poorer countries towards the level of their richer counterparts. Underperformance in terms of GDP and investments is a characteristic feature of these countries and convergence in terms of GDP/capita to that of the EU15 seems to have run out of steam. With the exception of Slovakia and Poland, the GDP level in 2015 is not far above the pre-crisis level.

In terms of real wage development, apart from in Bulgaria wages are lagging behind productivity as wage moderation takes place, as Figure 2 shows. Much of the wage convergence of CEE countries that had taken place prior to the crisis has since been called into question. Wage cuts and wage moderation became common features for CEE countries in the post-crisis period and this was not only limited to those countries that were severely affected by the crisis or were subject to the conditionality of bail-out programmes. Furthermore, this has all been happening at a time when (in the longer-term perspective) the low wage-based competitiveness model in the CEE region is reaching its limits.

Figure 2 **Real wages and productivity for CEE countries and Germany (2008–2015)**



Source: AMECO

Pre-crisis wage convergence came under pressure, not so much as an effect of the crisis itself developing in 2009, but more as a result of the subsequently applied austerity policies in the European Union and the macroeconomic surveillance mechanism within the European Semester that placed constraints on wages. The EU's crisis management strategy identified dynamic wage increases as one of the core problems that needed to be solved. Although this was a simplification of the case, as the lack of competitiveness had more to do with their economic structure (lack of export potential in the cases of Greece and Portugal, and real estate bubbles in Spain, the Baltic states and Bulgaria) than with wage increases, this remained the main narrative. As we saw in Figure 1, the new CEE Member States witnessed significantly greater wage increases than Germany, so the 'one size fits all' approach of EU crisis management had its answer ready: CEE countries had a competitiveness problem due to persistent unit labour cost increases and their wages needed to be cut.

In reality, however, most CEE countries do not have a fundamental (cost) competitiveness problem. The real effective exchange rate (REER) – the key indicator of competitiveness according to the European Commission – shows the combined effect of exchange rate, inflation, nominal wages and developments in productivity. An increase of REER is interpreted as a loss of (cost) competitiveness. Between 2000 and 2010 Slovakia and Czechia experienced an increase in REER of 41.5% and 54.2% respectively, followed by Hungary with 13%. According to the dominant interpretation, this should have signified that their international competitiveness positions were ruined, yet these countries had positive trade balances and increases in market shares, showing that this was not the case.

According to these policy recommendations (that for national policymakers appeared as hard constraints), past wage increases were seen as unsustainable, and CEE, similarly to the southern periphery of the eurozone, was considered to have lost its competitiveness. A downward wage correction was therefore on the agenda. In the case of countries where financial help through an IMF-EU bailout had been provided (in Latvia, Hungary and Romania, of the CEE countries), wage cuts were among the conditions for receiving assistance from the Standby Credit Facility. Direct intervention in wage developments, by cutting and freezing public sector pay and minimum wages, was implemented in Latvia, Hungary and Romania, and then followed by structural reforms of wage-setting institutions to increase downward wage flexibility. For the countries in these programmes the policy constraints were tough, but other countries (e.g. Czechia, Slovakia and Poland) also followed the trend of wage moderation (Meszmann 2015) without any explicit pressure or recommendations to do so. The trend is also visible in Figure 1, which shows that real wage increases only started to pick up after 2013 in some countries (the Baltic states and Bulgaria), while in Hungary, Romania and Slovenia they remained flat. Poland continued along its path of very moderate wage increases, with slightly more than half of its productivity gains materialising in wage gains over a seven-year period between 2008 and 2015 (as shown in Figure 2).

EU crisis management practices, with their key pillars of austerity and 'internal devaluation', were particularly harmful to CEE middle-income economies. Apart from Hungary and Croatia, CEE countries had low public debt levels and no fundamental cost-competitiveness problems.

Increasing nominal unit labour costs (ULC) are generally interpreted as a loss of competitiveness and set alarm bells ringing before there is any proper consideration of the circumstances. It is very questionable why only *changes* in ULC are placed under scrutiny, regardless of their *levels*. Such an approach suggests that at a given time of the observation, relative ULC levels among countries were in equilibrium, and that any change in this state represents a distortion. Upward corrections are seen as illegitimate. This view is particularly harmful for transformation economies with low wage levels and competitive manufacturing sectors.

Regardless of ULC increases and differences between countries, there was no general and fundamental erosion of competitiveness in the CEE region before the crisis, as trade balances, export performance and market share developments all showed (World Bank 2015). Wage levels are still a fraction of those of the EU15 but productivity levels are higher in the exporting manufacturing branches. Wage-adjusted productivity in CEE manufacturing is substantially higher than in the EU15 or Germany (as Table 2 will show). This 'productivity reserve' gives room for upward wage convergence; yet austerity and a downward pressure on wages remained the typical policy instruments applied in most CEE countries in the years following the crisis.

5. Why the low wage-based economic model reached its limits in CEE

Although there has been no explicit low wage strategy in CEE, the region has been fixed into a particular role in the international division of labour, with one important characteristic being lower wage (and labour cost) levels. The pressure on wages was kept up by foreign investors, as wage increases, even if dynamic, were kept below the rate of productivity increases. European crisis management policies implemented a policy of wage moderation in the wake of the crisis that was both detrimental and dysfunctional. Now this 'involuntary' low wage profile has become a constraint for future development as it limits growth prospects by containing domestic demand. Even more importantly, it keeps the region locked into a subordinated and dependent role in the international division of labour that is based on low value-added assembly and supplier activities without any future prospects.

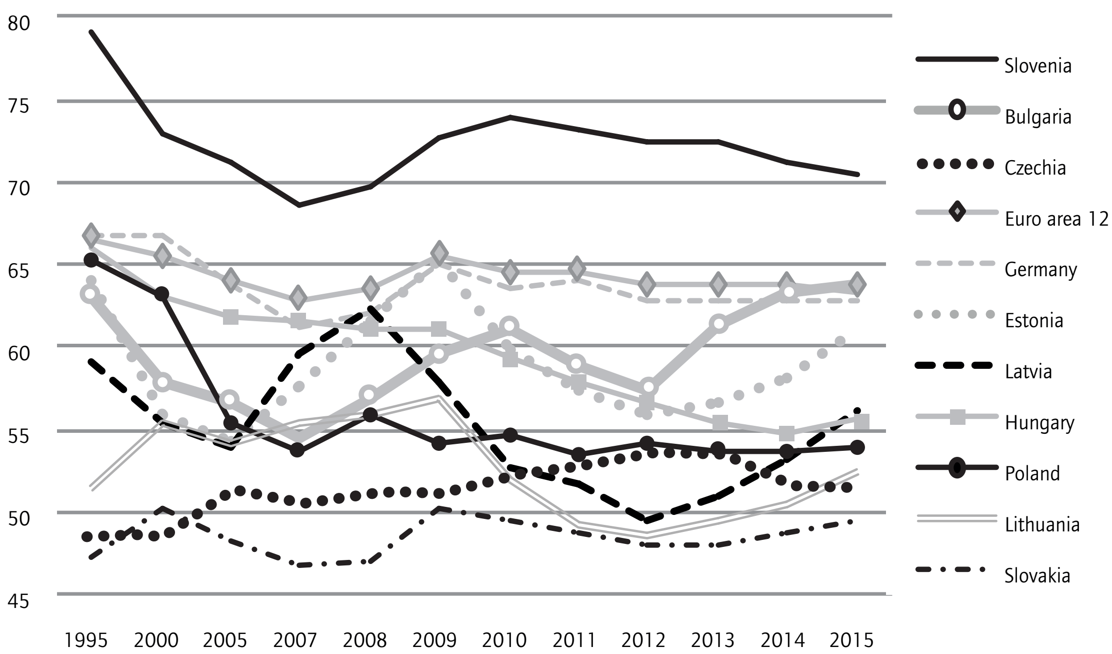
Despite a decade of dynamic catching-up, wages in CEE are still comparably low. Even if we adopt the mainstream interpretation of wages and productivity at national level, CEE wages appear to be lower than what productivity levels should accordingly allow for. In this section, we collect further evidence to support this argument, looking at wage shares in GDP, followed by wage-adjusted productivity in manufacturing, and conclude with some comments on competitiveness. The section concludes by arguing that the downward policy pressure on wages is not justified in the CEE region. There is room to move upwards!

5.1 Wage shares

Wage shares in GDP are an important measure of how wealth created by an economy (in terms of GDP) is distributed between labour and capital. In most countries in western Europe (12 euro area countries) wage shares of GDP fell over the last two decades. The trajectories of those shares in CEE countries show a more mixed picture, yet western European countries display clearly higher shares than CEE countries despite their longer-term downward trend (Janssen 2015). According to the data of Figure 3, the average wage share of CEE countries in 2015 was 7p.p. lower than that of the 12 euro area countries in western Europe. This is an indication that their wage levels are even lower than their economic development potential would allow for. This is one reason why these countries do not have a fundamental cost-competitiveness problem in spite of high wage increases in the past.

Figure 3 shows a long-term overview of the development of wage shares, breaking down the figures for individual CEE countries. The overall case that CEE wage shares are lower than western European ones is well documented; at the same time, however, we see important differences between individual countries that allow us to draw some lessons. Slovenia is an outlier in terms of its high wage share even when compared to the euro area (12) average. Poland saw the largest decrease of its wage share, from 65.8% in 1995 to 53.9% in 2015, followed by Hungary (from 65.9% to 55.7%). Estonia and Latvia experienced more moderate but still significant decreases in their wage shares. Lithuania, Czechia and Slovakia saw no significant changes over the past 20 years but had the lowest wage shares in the region, with 52%, 51% and 49% in 2015. It is also interesting to observe that while Poland and Hungary experienced a 12 p.p. and 10p.p. decrease in their wage shares, there is no evidence that this produced any economic `benefit` (either in terms of FDI penetration or export performance).

Figure 3 **Development of the wage share in GDP (%) for CEE countries (1995–2015)**



Source: AMECO

5.2 Wage-adjusted productivity

Table 2 offers an alternative indicator of wage-adjusted productivity across EU Member States, by showing a cross-country comparison of the ratio of apparent labour productivity to average personnel costs in manufacturing. In principle, wage-adjusted productivity can be interpreted as an 'inverse wage share' for manufacturing, showing in a very illustrative way what amount of value added is being produced by a unit measure of labour costs in the sector most exposed to international competition.

Germany shows the lowest value in wage-adjusted productivity compared to the countries examined here. This implies that in German manufacturing, €67,900 value added was produced with labour costs of €51,500 per employee, meaning that for €100 of labour costs, €132 value added was produced; in Hungary, meanwhile, €100 of labour costs resulted in a value added of €211. All CEE countries, but in particular Poland, Latvia and Romania had significantly higher wage-adjusted productivity in manufacturing than Germany had. Manufacturing is just one part of the whole economy (with a share of between 22 and 25% of GDP in CEE countries) and the relationship between wages and productivity is therefore different at the macroeconomic level; however, manufacturing is the sector most exposed to foreign competition and wages there are certainly much lower than what productivity levels justify. The case of manufacturing shows that there is a 'productivity reserve' in these economies and this provides room for wage increases.

Table 2 **Wage-adjusted productivity in manufacturing, 2013**

	Apparent labour productivity	Average personnel costs	Wage-adjusted labour productivity
	(thousand EUR per head)		(%)
EU28	55.0	38.3	143.0
Germany	67,9	51.5	132.0
Czech Republic	25.9	15.9	163.3
Estonia	23.7	14.6	162.0
Hungary	28.0	13.2	211.7
Latvia	15.6	8.5	184.3
Lithuania	14.5	9.2	158.4
Poland	23.2	12.0	193.0
Romania	12.0	6.7	179.7
Slovakia	22.8	15.4	147.5
Slovenia	33.3	22.7	146.8

Apparent labour productivity is defined as value added at factor costs divided by the number of persons employed.
Source: Eurostat, 2017 (online data code: sbs_na_ind_r2)

5.3 Competitiveness

How the European Commission interprets competitiveness can be clearly seen in the latest country-specific recommendations (CSR) for Hungary (European Commission 2016). The report states that 'breaking a trend of real appreciation, Hungary's price and cost competitiveness has markedly improved since the onset of the crisis.' Between 2008 and 2015, the consumer price and the unit labour cost-based real effective exchange rate (REER) in Hungary fell by around 12% and 19%, respectively. This was mainly driven by the nominal depreciation of the national currency, but the moderation of unit labour costs also contributed to this development.

While it is certain that unit labour costs and REER depreciated in Hungary over the last couple of years, the mid- and longer-term trend is appreciation, as is the case in all other CEE countries. This negative adjustment can be seen as an attempt to reinforce the low wage-based competitiveness model. The Commission contradicts itself with its further comments: 'However, there seems to be little improvement in Hungary's non-cost competitiveness. Hungary's export deflators in euro terms have remained broadly unchanged since the beginning of the last decade'. This is of little wonder, as cutting wages does not improve non-cost competitiveness. Indeed, the report shows that euro-denominated export prices for Hungary were 5% lower in 2015 than they had been in 2000. At the same time, Czechia and Slovakia, where 2015 export prices were 50% and 57% higher than they had been in 2000, are referred to as good examples. So what was the purpose and result of wage adjustment and REER depreciation, when other countries in the region (Czechia and Slovakia) were achieving market share increases and export price increases without it? In short, there does not seem to be a plausible link between wage levels and competitiveness.

The Commission goes on further to state that 'this phenomenon may be linked to Hungary's inability to improve the quality of its products, albeit from a comparatively high initial level.' The traditionally significant weight of high-technology products in the Hungarian export sector has been declining since the last decade. The share of high and top quality products in export value decreased from around 30% in 2009 to 23% by 2014, while the quality distribution shifted towards the middle-range, with a potentially greater exposure to cost competition.

Concluding remarks on the limits of low-wage specialisation

Data on and trends in wages, wage shares and performance outcomes do not support the case that the CEE region has a cost-competitiveness problem. This was not even the case in the pre-crisis period.

As mentioned earlier, there has not been an explicit low-wage competitiveness strategy in CEE; lower wages rather represent a historical heritage, but have become a characteristic feature of the region, particularly regarding its role in the international division of labour. Although foreign investments were a main driver of productivity growth and thus contributed to wage increases, this did not reflect the full scale of productivity growth. The European crisis management policies reinforced wage moderation in the wake of the crisis in a detrimental and dysfunctional way.

The 'involuntary' low wage profile of the CEE region that defines its role in the international division of labour has now become a double constraint for future development. Firstly, it limits growth prospects by keeping domestic demand under pressure, and secondly it keeps the region locked into a subordinated and dependent role that is based on low value-added assembly and supplier activities without any future prospects.

At the same time, foreign investors that tried to keep a lid on wages as much as they could (especially in relation to productivity) have less and less leverage to continue doing so. The CEE region has established itself as a major FDI location, with clusters in the automobile and electronics sectors embedded into a large supplier network, and these are not easy to shift. The low-wage profile has reached its limits and there is room for wages to go up; here we summarise why.

First of all, we saw that after an initial drop in the early transformation years, a dynamic catch-up process in CEE wages began in the pre-crisis period. There was a more than fourfold increase in Czech wages in nominal euro terms between 1993 and 2010, in relation to German wages; other CEE economies also showed a similar pattern. Yet even with this historical wage dynamism this was the period (in particular between 1995 and 2005) when the region received record levels of foreign direct investment, and the foundations of a competitive manufacturing-based exporting economy were laid down. Dynamic wage increases therefore did not prevent this massive investment wave.

This paper also showed that despite a substantial increase in unit labour costs in the pre-crisis period, regional economies have significantly higher wage-adjusted productivity in manufacturing than Germany has. This is an indication that, particularly in the sector that is most exposed to foreign competition, there is a productivity reserve.

There is also another way of seeing how data on, and trends in wage shares seem to undermine the simplified interpretation of competitiveness. Wage shares for the whole economy show how the produced value added is distributed between capital and labour. In the CEE region wage shares were on average 7p.p. lower than in western Europe. This shows that wage levels are not only significantly lower in absolute terms, but they are also lower than what productivity levels would allow for. Furthermore, when we looked at differences between wage shares in different CEE countries, it does not seem to be the case that countries with a higher wage share suffered from a lack of competitiveness. At the same time, while wage shares in Hungary between 1995 and 2015 displayed a drop of 10 p.p. from 66% to 56% of GDP, this did not result in an improvement in its comparative advantage.

Contradictions and inconsistencies emerge when policymakers (above all the Commission) try to interpret cost and non-cost competitiveness outcomes. The Commission's 2016 CSR for Hungary claims the 19% REER devaluation between 2008 and 2015 to be a success for restoring cost competitiveness, while simultaneously noting that the declining export deflator indicates a deterioration of non-cost competitiveness. In line with standard economic theory, the Commission would claim that an increase of the export deflator signals a shift of the export structure towards producing higher-priced quality products with higher value added. However, there is no reason to believe that wage cuts and a decrease in REER would help to improve the export structure. The Commission (together with the IMF in the case of Hungary) pushed for a wage correction, and when this happened it wondered why a qualitative shift did not happen; but this view fails to acknowledge the specific character of CEE economies. Their export sectors are dominated by foreign multinationals and the actual export performance does not depend greatly on short-term changes in the exchange rate or labour costs. Export performance is primarily determined by subcontracting chains and depends on earlier decisions to build up or expand these capacities. Even these decisions will be much more influenced in the future by the availability of skilled labour and competences, not by wage and cost levels.

In line with the efficiency wage model considered above, it is certainly true that wage levels also have an effect on long-term productivity. Higher wage levels may induce a structural change towards more skills-intensive and higher value-added activities. However, since current productivity levels justify higher wages than what we have now, the first step would be to get rid of the current low-wage specialisation bias. Allowing wages to grow and acknowledging skills and qualifications would result in more selective investor decisions. This is the way to achieve a qualitative shift in the economic structure of CEE countries and avoid the low-wage trap.

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