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ANNIVERSARY SERIES OF THE HUN-REN CERS IWE

# Working paper

275.

June 2024

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HUN-REN Centre for Economic and Regional Studies, Institute of World Economics Working Paper Nr. 275 (2024) 1-20. June 2024

# Convergence in public finances? The case of the new member states of the EU

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ISSN 1215-5241 ISBN 978-963-301-733-3





# Convergence in public finances? The case of the new member states of the EU

István Benczes<sup>1</sup>

#### Abstract

The eight new member states that joined in 2004, followed by three more in Central and Eastern Europe, have achieved a significant degree of convergence in terms of economic development. In the present study, however, we examine whether the size of public finances in the 11 CEE new member states has also approached the EU average, and to what extent the structure of public expenditures and revenues in these countries show similar or different patterns to that of the EU27. The distinction between the size and composition of public finances is rather important because, while empirical research on the sample of developed countries has found a non-existent or negative relationship between government size and economic growth, individual revenue and expenditure items can have very different impacts on economic growth and hence on the convergence process itself. The analysis of public finances can also help identify those commonly shared preferences in spending and revenues where old and new member states can agree on to strengthen the common budget of the EU in the future.

**JEL**: E62, H11, P35

*Keywords*: general government, public finances, economic convergence, Central and Eastern Europe

# **1. Introduction**

By examining macroeconomic data on Hungary and ten other former socialist Central and Eastern European (CEE) states (also known as the new member states of the EU), Kerényi and Lakócai (2024: 13) found that while before accession these countries showed significant differences in terms of per capita GDP, by the twentieth anniversary of the first wave accession of CEE countries "the newly joined member states were closer both to

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each other and to the European Union average." Their study also showed that EU funds clearly supported the catching-up process of the 11 new member countries, even if it happened in a somewhat unbalanced way.<sup>2</sup>

Similarly, in this working paper, we argue that the 11 CEE countries have come close to the EU average level of development to a significant extent. Whereas Kerényi and Lakócai (2024), based on this convergence, mainly wondered whether the quality of life (such as private consumption or life expectancy) is also showing a similarly improving situation, in this study we examine whether the catching-up in terms of GDP per capita (in purchasing power parity) also implied a similar convergence process in the size and structure of the general government in the 11 new member states. Building on the socalled Wagner law (see Wagner 1883), the study hypothesises that there is a positive relationship between the level of development of a country (measured in GDP per capita, PPP) and the size of the general government and, as a corollary, any convergence to the EU average in per capita income also induces similar tendencies in the size of the state. However, our study does not aim at determining any causal relationship between economic development as measured by GDP per capita on the one hand and the size of the state on the other, it does not want to take a position on the debate whether the size of the state is more of a driver of economic growth (see Ghali 1998, Loizides and Vamvoukas 2005) or whether progress in economic development implies an increase in the size of the state itself (Lamartina and Zaghini 2011).

Just as there is no consensus on the direction of causality between economic development and the size of the general government, there is also an ongoing debate about the optimal size of a state which can also prove to be the most conducive to the development of an economy. The absence of a state is just as bad for economic development as an omnipotent state which exerts a total control over the resources of an economy (Stiglitz and Rosengard 2015). While the paper does not attempt to take a position on the optimal size of the state, it does, however, consider it desirable to examine whether the accession of the 11 new member states to the European Union, the world's most sophisticated regional integration form (Pollack 2010), has also brought their public

<sup>&</sup>lt;sup>2</sup> In his quantitative analysis, Kollárik (2020) also adds that while convergence was indeed strong in the region, within-country differences remained significant.

finances closer to the EU27 average, and to what extent the structure and composition of their public expenditures and revenues show similar patterns to the EU trends.<sup>3</sup> The distinction between the size and composition of public finances can be rather important because while empirical research on the sample of developed countries (such as OECD countries) has either found no convincing relationship between government size and economic growth or has found only a negative one (Angelopoulos, Philippopoulos and Tsionas 2008; Churchill, Ugur and Yew 2016), individual revenue and expenditure items can have very different impacts on economic growth and hence on the convergence process itself (Barro 1990, Afonso and Furceri 2010, Bergh and Henrekson 2011).

Studying the size and the structure of public finances in new member states is reasonable from another point of view as well: if member states of the EU wants to meaningfully extend the size of the common budget of the EU in the future, it is worth detecting those common points and preferences around which the old and new member states can agree on in determining the revenue and expenditure items of the common budget.<sup>4</sup>

Following the introduction, the second section briefly describes the catching-up of the countries of the region in terms of economic development, using different kind of indicators. The third section examines the size of the general government in the 11 CEE countries. The fourth section first analyses the structure of the expenditure side of public finances, followed by the revenue side. The study is closed by a conclusion. The data have been collected (unless otherwise indicated) from the public finance chapter (code S16) of the European Commission's Ameco database (which is also available online), using data from 2004 to 2023. EU27 averages are used as a benchmark for all the comparisons.

# 2. Economic development and convergence

The period from 2004 onwards has seen a significant catching-up in the new member states of the EU. This can be seen in Figure 1 as well, which shows the average level of development of the 11 CEE member states (where EU27=100, measured in purchasing

<sup>&</sup>lt;sup>3</sup> Being the most sophisticated integration form, however, does not mean in any sense that these 27 countries would be alike, see, for e.g., Pelle, London and Kuruczleki (2021).

<sup>&</sup>lt;sup>4</sup> On the EU's common budget and its fiscal governance, see Benczes (2020), Kollárik (2019), Kutasi (2012), Orosz and Szijártó (2020), Pelle and Végh (2019).

power parity), alongside the averages of the Visegrad Four countries, the three Baltic states and the three Balkan states. While the EU average has been consistently approached by the 11 member states since 2004, with the short exception of the years of the global financial and economic crisis in 2008-2009, the speed of this convergence has varied substantially across the three groups of countries. Starting the process at a relatively high level, the Visegrad Four countries led the convergence race until 2016. From 2017 onwards, however, the Baltic states, which had performed even worse than the Balkan at the beginning of the time series in 1995, moved to the top, overtaking even the Visegrad Four.



Figure 1. Convergence based on per capita GDP

Source: own collection and calculations based on Ameco database Note: EU27=100 (all years), in purchasing power parity

Table 1. elegantly captures the actual magnitude of such a convergence by using the methodology developed by Győrffy (2021). First, the table presents the relative development positions of the 11 member states in 2004 (column 2), 2019, i.e. immediately before the outbreak of the coronavirus epidemic (column 3), and 2023 (column 4) – assuming that EU average was 100 in each case. Next, the change between 2004 and 2019 (column 5), and between 2004 and 2023 have been calculated (column 6). In the last column, which also determined the ranking of the 11 countries in Table 1, a

relatively simple but helpful ratio has been constructed, called here the catching-up index. The numerator of the index has been the value of column 6 (how far the member state has come to the EU27 average in 20 years), while the denominator being the gap between the initial 2004 value and the EU average in that year, i.e. 100%. (In other words, the denominator shows how much convergence would have been needed for the member state concerned to reach the EU average of 100% in 2004.)

Table 1 shows that Romania has not only made the greatest progress between 2004 and 2023, with an improvement of 43.5 percentage points (column 6), but this country was also able to catch up the most in the region if the initial gap (between its own level and the EU27) is taken into account as well (column 7). Romania is followed by two Baltic countries, Estonia and Lithuania, but Poland also had a "catching-up" ratio of over 50%. Interestingly, the four countries which managed to catapult themselves into the over 50% club arrived from each of the three country groups of Figure 1 above, that is, it seems that initial conditions, geography or date of entry alone cannot tell us much about which countries might be successful in the race of catching-up and convergence.

	GDP	GDP 2019	GDP 2023	ΔGDP (2019)	ΔGDP (2023)	Catching-up
	2004	(EU27 =	(EU27 =	(percentage	(percentage	(percentage)
	(EU27	100)	100)	point)	point)	
	= 100)					
Romania	34.7	69.6	78.2	34.9	43.5	66.6
Estonia	55.9	82.9	82.1	27.0	26.2	59.4
Lithuania	50.2	84.3	87.4	24.1	27.2	54.6
Poland	51.5	72.9	77.5	21.4	26.0	53.6
Czech Republic	80.6	93.2	90.1	12.2	9.5	49.0
Latvia	47.2	69.2	72.3	22.0	25.1	47.5
Croatia	56.6	66.7	75.7	9.1	19.1	44.0
Bulgaria	35.2	53.0	62.5	17.8	27.3	42.1
Hungary	62.7	73.0	76.3	10.3	13.6	37.5
Slovakia	58.6	70.5	68.5	11.9	9.9	23.9
Slovenia	87.7	88.7	88.8	1.0	1.1	8.9

Table 1. Catching-up of the 11 CEE countries, 2004-2023

Source: own construction by using the method of Győrffy (2021)

Note:  $\triangle$ GDP (2019): between 2004 and 2019;  $\triangle$ GDP (2023): between 2004 and 2023; Catching-up =  $\triangle$ GDP(2023) / (100 - GDP2004). Ranking is based on the value of "catching-up" (column 7).

In the middle range of the catching-up race are the Czech Republic, Latvia, Croatia and Bulgaria, with values between 40% and 50% - implying again that the three groups of countries shown in Figure 1 are again represented by at least one country each. The catching-up index in the last column of Table 1 is an extremely useful tool because it shows that, while Bulgaria and Latvia managed to close the gap between themselves and the EU average by 25 to 27 points over the 20 years (column 6), a performance similar to those of the Czech Republic, Estonia or Lithuania, still this latter group, in relative terms, i.e., measured to their initial (year 2004) gap, made a more impressive progress following their accession.

Hungary and Slovakia come next in the convergence race (9th and 10th position, respectively), while Slovenia, which joined the EU in 2004 with the highest starting value and 20 years later was in virtually the same position, came last. For sure, the Slovenian economy did expand after 2004, but the rate of expansion could not exceed the EU average, so convergence, in relative terms, was not endorsed. In consequence, the Czech Republic has become the richest nation in the region by 2023, Slovenia came second, and Lithuania was third only slightly behind Slovenia. At the other end, Bulgaria came last, at around two-thirds of the EU average.

Table 1 also shows the state of convergence in 2019, i.e. right before the eruption of the coronavirus epidemic ( $\Delta$ GDP (2019)). The Czech Republic and Slovakia came out of the crisis particularly badly, but Estonia's convergence was also somewhat set back by the health crisis. On the other hand, Croatia, Bulgaria and Romania significantly improved their positions in the four years before and after the crisis – as it has been demonstrated by Figure 1, too.

By depicting the data of Table 1 in a more illustrative way, Figure 2 informs about how the catching-up index (column 7) and the convergence index (column 6) relate to each other. Figure 2 shows that the two do not necessarily provide the same results in terms of ranking (of the 11 new member states). It also shows that even with relatively high initial values (GDP per capita in 2004) a country was able to significantly outperform relatively poorer economies, that is, relatively less developed countries did not necessarily evoke higher rate of growth and as a corollary a more robust convergence – a well-known hypothesis on unconditional convergence of neoclassical economics.



Figure 2: Convergence versus catching-up

Source: own construction based on Figure 1

Note: the ranking has been made according to column 7 of Figure 1, shown as "Catchingup" in the figure;  $\Delta$ GDP (2023) is the value of column 6 of Figure 1 (the value of convergence between 2004 and 2023).

### 3. The size of the state

Among other things, the uniqueness of the European Union can be captured in the fact that the income centralisation and redistribution of its member countries have historically been above other developed countries, including the United States, Australia, Japan or South Korea. This kind of shift was a product of the second half of the 20th century, as a consequence of the emergence and consolidation of welfare state models in the core states and the Nordic countries of the European Union (Masson and Mussa 1995).

Figure 3 shows the averages of government expenditure over the investigated 20year-long period. On the one hand, the graph shows that the 11 CEE countries (and within them the Visegrad Four) have fully converged to the trend of the EU27, and, on the other hand, the expenditure side of public finances suggests that the business cycle of the countries of the former socialist bloc is likely to move in line with the rest of the EU. The general government expenditure-to-GDP ratio has fully tracked (counter-cyclically) changes in economic performance. On the other hand, as a share of GDP, spending has not increased significantly, the size of the state has not grown - or rather, it has not grown more than the economy itself. Between 2004 and 2023, total spending amounted to 45.2% of GDP on average in the EU (calculated with unweighted averages). The CEE 11 average

was generally 3-4 percentage points below this, while the Visegrad countries were somewhere in between.



Figure 3: Total general government expenditure (2004-2023)

France had the largest general government (56.2%) over the twenty years, but several old member states, such as the three Nordic countries, plus Belgium and Austria, as well as Greece and Italy, which have been hit by the crisis in the past, also operated with a state of over 50% of GDP. Amongst the new member states Hungary managed to maintain the largest general government (48.9%), while Slovenia came quite close and was only second (48.0%) to Hungary. These two new member states have followed a similar path since accession in that they both "boasted" a state size above 50% at the turn of 2014/2015, which then declined by several percentage points over the course of a few years, only to return to above 50% (in GDP) as a result of the coronavirus epidemic.

Table 2 provides additional information on total general government expenditure and total revenue by reporting the mean values and the standard deviation of the EU27 as a benchmark, and then classifies and groups the 11 new member states according to their performance compared to the EU average. The "oversized" countries have already been discussed above. However, most of the countries in the region performed below or

Source: own calculations based on Ameco database Note: unweighted averages

actually well below the EU average, the other three Visegrad countries being the closest to the artificially created average value of the EU27. The Baltic states and the two Balkan countries, on the other hand, redistributed less than 40% of their GDPs, with Romania and Lithuania having the lowest average government expenditure in the region.

Table	2:1	[otal	exi	bend	iture	e and	rev	enue
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	Total expenditure	Total revenue
EU27 average	45.2 (6.0)	42.6 (6.2)
Above mean by at least 1	-	-
standard deviation		
Above mean with a standard	Hungary	Croatia
deviation of 1 or less	Slovenia	Hungary
	Croatia	Slovenia
Below mean with a standard	Poland	Czech Republic
deviation of up to 1	Czech Republic	Poland
	Slovakia	Estonia
	Latvia	Slovakia
		Latvia
		Bulgaria
Below mean by at least 1	Estonia	Lithuania
standard deviation	Bulgaria	Romania
	Romania	
	Lithuania	

Source: own calculations based on Ameco database

Note: data are expressed as a percentage of GDP, standard deviation in brackets; the order within each cell reflects a ranking from largest to smallest

On the revenue side, the picture is only partially similar. In the EU27, total general government revenue as a share of GDP was at 45.6% (weighted average) and at 42.6% (unweighted average) between 2004 and 2023. Contrary to the expenditure side, the share of public revenues did increase over the time both for the EU as a whole and for the countries under study (see Figure 4). The group of "large- sized" countries (where "large" refers to countries of having an income centralisation of more than 1 standard deviation above the mean value) again includes Nordic countries such as Denmark, Finland and Sweden, plus core countries such as Austria, Belgium and France.



Figure 4: Total general government revenue (2004-2023)

The average rate for the CEE member states was 39.2%, 3.5 percentage points below the EU average. In the group of "small" states, where the member states have a centralisation rate at least 1 standard deviation below the mean value, we find Romania (32,8%) and Lithuania (34.6%) as well as the old member state Ireland. Latvia and Bulgaria are just slightly behind the negative record of the former countries. Estonia, Slovakia and Poland also remained consistently below the average (but within one standard deviation) (see Table 2).

Based on the 20-year average, only 2 new member states, Hungary (44.3%) and Slovenia (44.5%), grew above the EU (unweighted) average, but still far below the values of the Nordic and core countries mentioned above. In Hungary, the total revenue to GDP was still particularly low (41.5%) in the years around accession, only to peak a decade later at a record high 48.2% in 2015 and then reach a record low 41.2% in 2021 as a result of the coronavirus epidemic. Poland has also experienced a similar surge in income centralisation to Hungary. But while in Poland the change was linked to alternating governments, in Hungary the sharp shifts occurred during the reign of a single government. Latvia and Croatia have shown a steady rise, but their rise has been slow and organic. In Estonia, during the years of the global financial and economic crisis, the share of revenues rose to over 40%, meaning that the Estonian government in power

Source: own calculations based on Ameco database Note: unweighted averages

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implemented pro-cyclical economic policies with the aim of making the euro adoptable soon.<sup>5</sup>

# 4. The composition of public expenditure and revenue in CEE

On the expenditure side of the general government budget, five major items have been identified by using the European Commission's Ameco database. These are the following: the compensation of public sector employees, welfare transfers in kind and in cash, gross fixed capital formation and interest payments (see Table 3).

	Compensatio	Welfare	Welfare	Gross fixed	Interest
	n of public	transfers in	transfers in	capital	payment
	sector	kind	cash	formation	
FU07	employees	055(45)	04.0 (0.7)	0 ( (0 0)	4.0.(0.4)
EU27 average	24.4 (3.4)	25.5 (4.7)	31.3 (3.7)	8.6 (2.3)	4.2 (2.1)
Above mean by at	Lithuania	-	-	Estonia	Hungary
least 1 standard				Latvia	
deviation				Romania	
Above mean with a	Latvia	Lithuania	Slovenia	Czech	Croatia
standard deviation	Estonia	Estonia	Poland	Republic	Poland
of 1 or less	Romania		Slovakia	Lithuania	
	Bulgaria		Lithuania	Bulgaria	
	Croatia			Poland	
				Hungary	
				Croatia	
				Slovenia	
				Slovakia	
Below mean with a	Slovenia	Czech Republic	Czech	-	Romania
standard deviation	Poland	Slovenia	Republic		Slovenia
of up to 1	Hungary	Croatia	Bulgaria		Slovakia
_	Slovakia	Poland	Romania		Lithuania
	Czech	Bulgaria	Estonia		Czech
	Republic	Latvia	Croatia		Republic
	_	Slovakia			Latvia
					Bulgaria
Below mean by at	-	Hungary	Hungary	-	Estonia
least 1 standard		Romania	Latvia		
deviation					

 Table 3. General government expenditures

Source: own calculations based on the Ameco database.

Note: data and rankings are expressed as a percentage of total government expenditure (not as percent of the GDP!); standard deviation in brackets

<sup>&</sup>lt;sup>5</sup> On the perspective of monetary integration in CEE, see Arató, Koller and Pelle (2021).

The weighted average of compensation of public sector employees (wage plus social security payments) amounted to 10.4% of GDP in the EU, while the unweighted average was 11.0%. On average, payments to employees thus accounted for 21.5% (weighted) and 24.4% (unweighted) of total public expenditure over the period under review. Member states spent ca. a quarter or a fifth of their total spending on wage bill. While not reaching the level of the most generous countries (such as Denmark, Cyprus and Malta with a ratio over 30% of total spending), the three Baltic states compensated their public sector employees well above the EU average. They were followed by the three countries from the Balkans, also above the EU average. At the bottom of the regional ranking has been the Czech Republic (21.5%) - which, however, operated a state being 6 percentage points *larger* (in GDP) than that Lithuania which finished on the top of the list of the public wage bill amongst the 11 countries with its share of 28%.

The weighted average of social transfers in cash was 16.3% of GDP in the EU, while the unweighted average for the 27 member states was 14.3% (with a standard deviation of 2.9%). In other words, the EU spent a third of total expenditure on various direct welfare transfers to households. Austria, Italy, Luxembourg and Germany spent well above the average, but Greece and Portugal also compensated households quite generously. Of the eight CEE countries that joined the EU in 2004, Slovenia and Poland showed the greatest preference for welfare payments in cash, spending 34.4% of total general government expenditure on this item. Hungary and Latvia had the lowest preference for cash payments. The Hungarian 20-year average (27.1%) can be explained by the fact that the government has actively influenced the amount of disposable income of households by altering personal income taxation in favour of the middle class.

Social transfers in kind were lower in magnitude than direct welfare payments, but they were still a significant item on the expenditure side of the general government. Welfare in kind accounted for just over a quarter (25.5%) of total public expenditure.<sup>6</sup> The Netherlands (37.1%), Sweden (36.5%), Denmark (33.5%) and Ireland (30.7%) were well above the mean value in this era under scrutiny. In CEE, Lithuania (27.6%) and Estonia (26.7%) were the countries with the strongest preference for welfare transfers in kind. The remaining CEE countries were all below the EU average, although Czechia,

<sup>&</sup>lt;sup>6</sup> Measured to GDP, the weighted average was 13%, while the unweighted average was 11.5%.

Slovenia and Croatia still spent more (in proportion) on welfare services in kind than core countries such as Austria or Italy. Slovakia, Hungary and Romania spent the least (in relative terms) on welfare services in kind (around one fifth of public expenditure).

The EU27 weighted average of gross fixed capital formation (public investment) was 3.2% and the unweighted average was 3.8% of the GDP (with an 0.8 standard deviation) between 2004 and 2023, accounting for 8.6% of total expenditure. This is the only area of public expenditures where all 11 CEE countries outperformed the average value of the EU27. Estonia (13.8%) and Latvia (12.4%) spent most intensively on physical capital, while Slovakia (8.8%) spent the least (in relative terms). What really sets Estonia's performance apart from the other new member states is that in the 20 years since accession, it has always spent at least one-tenth of its public spending on investment, and as much as 16-17% immediately after its accession in 2004.

Public sector wage bill, welfare spending or public investment - with certain restrictions – can convincingly express the preferences of the incumbent governments. Interest payments, on the other hand, can largely differ from the former four items as debt servicing is evidently the result of previous decisions (the amount of debt accumulated). As such, yearly interest payment is a direct function of past decisions (stock of debt) and an indirect consequence of current decisions of incumbents (in the form of risk premia). The former (debt ratio) shows extremely large variations across the CEE countries - but this high degree of variation is also true for the EU as a whole, where the average weighted debt ratio between 2004 and 2023 was 79.8% of GDP (with a high standard deviation of 9.4), well above the set limit of 60%.

In the EU, on average, every 25th euro cent goes on interest payments. Belgium, Italy, Greece and Portugal are the classic high annual debt financiers. Hungary (7.3% of total expenditure) is the only country in the region to join this club. Poland, Slovenia and Slovakia are the other countries where governments had to face relatively high interest payments each year, spending on average 3.5-4.5% of their public expenditure on debt servicing.

As far as the revenue side is concerned, three items have been analysed: direct taxes (where the taxable person and the person bearing the tax burden are the same),

indirect taxes (where the taxable person and the person bearing the tax burden are different) and social security contributions - see Table 4.

	Direct taxes	Indirect taxes	Social security
<b>EU07</b>	25 ( (0, 0)		contributions
EU27 average	25,6 (9,0)	32,5 (5,2)	27,2 (8,6)
Above mean by at	-	Croatia	Czech Republic
least 1 standard		Bulgaria	
deviation		Hungary	
Above mean with a	-	Latvia	Slovenia
standard deviation		Romania	Slovakia
of 1 or less		Estonia	Latvia
		Poland	Romania
		Lithuania	Poland
			Lithuania
			Estonia
			Hungary
Below mean with a	Lithuania	Slovenia	Croatia
standard deviation	Latvia	Slovakia	Bulgaria
of up to 1	Czech Republic	Czech Republic	
	Estonia	_	
	Poland		
	Slovenia		
	Romania		
	Slovakia		
	Hungarv		
Below mean by at	Bulgaria	-	_
least 1 standard	Croatia		
deviation			

Table 4: Breakdown of general government revenues (2004-2023)

Source: own calculations based on the Ameco database.

Note: Data are expressed as a percentage of total revenue, with standard deviation in brackets. The order within each cell reflects the actual ranking.

Central and Eastern European member states relied on direct taxes (such as personal income tax or property tax) less that the EU27 average. Bulgaria and Croatia preferred the least this kind of revenue, although Hungary, Slovakia or Romania did not have strong preference on direct taxes either – each had a share of below 18%. The fact that the new member states lagged far behind the old member states in terms of collecting revenues from direct taxes (and in particular personal income taxes) can partly be explained by their tax system itself. In the early to mid-2000s, CEE countries decided to adopt a flat tax system. Back in time, there was a strong fear amongst new member states that progressive tax systems similar to Western countries would have become a handicap on

the new members, thus they embarked on a considerable restructuring of their (direct) tax systems.

Estonia had already taken advantage of the flat tax regime before its 2004 accession, and eventually it set the single rate at 20.0% (not only VAT, but also corporate tax and PIT became flat). Lithuania reduced the tax rate to 15.0% over the years until the progressivity of the tax system was restored in 2019 (top rate being at 32%). In Slovakia, the Dzurinda cabinet introduced a single rate system of 19% in 2004, which led to a reduction in direct tax revenues of about 3 percentage points of total revenues. Poland also introduced a single rate system in 2004 with a 19% rate. Czechia turned to flat tax system in 2008, and set the tax rate at 15%, before tightening it again in 2021. Currently, the Baltic states, along with Czechia, have the highest share of revenue from direct taxation using the single rate system.

The most popular taxes in the EU27 are indirect taxes such as VAT, excise duties and other consumption taxes. These accounted for one third of total revenues on average over the period under review. Nevertheless, core EU countries such as Austria, Belgium, the Netherlands or Germany did not have a strong preference for this type of tax (in relative terms). On the other end of the spectrum, where the share of indirect taxes is at least one standard deviation above EU average, one finds countries such as Sweden and Cyprus and CEE member states like Croatia, Romania and Hungary.

The much smaller variation of indirect taxes (and especially of consumptionrelated taxes) in the EU can be explained by, among other things, EU regulation. Under the 2021 VAT Directive, member states have to adopt a rate of at least 15% - but in certain exceptions the rate can be as low as 5% or even 0% (especially for foodstuff). Currently, Hungary has the highest rate of 27% (25% until December 2011), but the Nordic countries and Croatia also use a relatively high sales tax rate of 25%. On the other side, there are small countries like Cyprus (19%), Luxembourg (17%) or Malta (18%).

Social security contributions (paid both by employers and employees) accounted for 11.5% of GDP in the EU27, equalling to 27.2% of total general government revenues. Of the Nordic welfare states, Denmark and Sweden have virtually no use of this type of revenue (2% and 6% respectively). In contrast to them, CEE countries relied on social security contributions to a very large extent (similar in magnitude to Germany, France, the Netherlands or Belgium). The eight new member states that joined in 2004, all collected more revenues than the EU average from social security contributions.

## **5.** Conclusions

In terms of economic development, the twenty years following EU accession in 2004 can be considered as a success story for the 11 CEE member states - even if during this twodecade long period member states were confronted with severe external shocks. Even Bulgaria, the least developed member country in the EU27, managed to converge to twothirds of the development level of the EU average (in purchasing power parity). But our study has also shown that just because a country started its convergence process with lower level of development in 2004, it was not necessarily more successful in terms of closing the gap than those countries which had a much better starting point over those 20 years - and vice versa.

Convergence in economic development, however, did not go hand in hand with the hypothesised growth of the size of the state (as measured by GDP) as expected under the Wagner law. The degree of income centralisation and income redistribution varied along business cycles, but, after all, it did not increase in size over the whole twenty-year period. By and large, the three Baltic states and the two Eastern Balkan countries have much smaller states than the EU average, while Slovenia and Hungary have larger states than the EU average if size is proxied by the expenditures (and revenues) of the general government. It would be difficult to draw any broad conclusions about the relationship between the size of the state and the process of catching-up, but it is clear that new member states with a smaller general government has been relatively more successful in catching up than the larger ones. However, further research into the causal relationship of the two variables requires a careful study of all the macroeconomic and microeconomic conditions on competitiveness that also include the quality of the business environment.<sup>7</sup> Governments can and do have a major responsibility in shaping that environment too.

<sup>&</sup>lt;sup>7</sup> On the specificities of regional economic growth, see Medve-Bálint & Éltető (2024).

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