

# The various European capitalism models: Convergence and growth in the 2014–2019 inter-crisis period

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## ABSTRACT

The Varieties of Capitalism (VoC) literature has recently manifested a dynamic development. Among others, the member states of the European Union (EU) have been studied extensively from this viewpoint, and main capitalism models have been identified. Yet, the global financial and economic crisis and its aftermath in Europe have impacted the member states' economies, typically in asymmetric ways and, in 2020, a highly diverse EU faced the COVID-19 induced economic crisis.

Our study investigates the EU member states from a perspective different from the existing research on VoC in Europe: our starting point is the macroeconomic decomposition of GDP. Our findings draw up a categorisation somewhat different from the previous results: while the core of the EU is rather consistent and homogenous, clusters of the periphery do not fully coincide with geography and earlier typisations; there are also single outliers and 'New tigers of Europe' emerging. Nevertheless, the core-periphery divide still stands overall.

## KEYWORDS

European Union, varieties of capitalism, growth, convergence, crisis

## JEL CLASSIFICATION INDICES

F02, O11, O47, O52, O57, P52

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## 1. INTRODUCTION

The European Union (EU) and its member states were not prepared for the global financial and economic crisis (GFEC) of 2008. The COVID-19 induced economic crisis found them unprepared as well. Before 2008, the countries had conducted rather diverse economic policies, in terms of objectives and measures, as well as in relation to the commonly defined EU rules. This was in part deducible to institutional-historical reasons (Jackson – Deeg 2012). Nevertheless, the pre-GFEC economic performance was satisfactory in the EU, so not much attention had been paid to the intra-EU differences and variations at that time. This has changed with the crisis unfolding in and after 2008.

The Varieties of Capitalism (VoC) literature stems from the general classification of the developed economies of the world by Hall – Soskice (2001) into two main categories of liberal market economies (LME) and coordinated market economies (CME). This dipole modelling has been challenged from several viewpoints, mainly debating that there are merely two categories in which all countries could be classified (Nölke 2019). At the same time, research has continued also within the LME-CME framework (Witt – Jackson 2016). Hay (2019) claims that the existing variations of capitalism can only be identified inductively and depend largely on the investigated variables or factors – we agree with this observation, and therefore, execute our analysis along these lines.

Our study takes an overview of the various capitalism models co-existing in the EU. The adverse effects of the common European economic policies, historically liberal and market-friendly, have come to the forefront only recently, especially upon the latest crises (Pelle 2017). We first examine the imbalances in the EU and its member states and the effects of the GFEC from this perspective. Then we present the VoC literature discussing the member states of the EU, with special regard to the EU periphery encompassing the Southern Eurozone and the Eastern new member states. We continue with investigating the various post-crisis capitalism models, convergence paths and growth trajectories of the EU member states through statistical analyses. Eventually we contrast our findings with the relevant VoC literature and formulate conclusions.

## 2. IMBALANCES IN THE EU AND THE EUROZONE AND THE IMPACT OF THE GFEC

The GFEC of 2008 and its impact on the EU and the Eurozone have been extensively studied (Bastasin 2012; Lin 2013; Pisani-Ferry 2014; Sinn 2014). The GFEC shed light on a number of structural weaknesses of the EU. However, the roots of the Eurozone crisis and the build-up of the macroeconomic imbalances date back much earlier, to the time of introducing the common currency (Mundell – Friedman 2001; Padoa-Schioppa 2004; Lamfalussy et al. 2013). The monetary institutions of the Eurozone were built on the model of the Bundesbank in order to keep inflation low and the Southern member states previously characterised by tendentially higher inflation rates wished to share the benefits of restricted inflation with Germany.

In the early 2000s, the downward convergence of the interest rates in the Eurozone was in fact not accompanied by the effective convergence of the member states' economic structures (Pisani-Ferry 2014). The unique Eurozone-level interest rate, paired with varying inflation rates



across the member states, has induced differences in real interest rates, and thus, competitiveness. The Southern Eurozone countries, in exchange for price stability, continuously lost competitiveness: their tradable sectors downgraded, their export shares declined while, in parallel, their import shares started to increase. This is deducible from the cross-country capital flows: while some member states have taken up net creditor positions, others became net borrowers (Mangone et al. 2016).

The internal imbalances of the EU and the Economic and Monetary Union (EMU) were further aggravated by the deficiencies of the financial intermediary system (Sinn 2014). The mitigation of transaction costs and the full liberalisation of capital movements were seen as the most attractive features of the monetary union, both by the private sector and the sovereigns. However, the mistaken evolution of the low interest rates in the Southern Eurozone countries in the early years of the EMU is interpretable as a sort of moral hazard since this way the more risky and higher-yielding Southern European deals could be financed at the same interest rate level as those more stable, lower-yielding ones in the core (Krugman 2012). Seemingly, the Southern Eurozone countries benefited the most from the processes. Yet, they did not utilise these ample resources for modernisation and the improvement of competitiveness but, typically, for non-returning state investments, social transfers and wage-increases in the governmental sector (Sinn 2014). Moreover, the introduction of the euro was welcome by the creditors of the Southern Eurozone countries as well because the exchange rate risk of sovereign bonds ceased to exist. The deterioration of the Southern Eurozone countries' economies that started in the GFEC is particularly unfavourable in light of the endogenous growth theory (Barro – Sala-i-Martin 2004) that emphasises the importance of quality-type competitiveness (Sala-i-Martin 2010) that can be achieved by endogenously accumulating knowledge (Romer 1986) or through innovation and technological development (Romer 1990; Aghion – Howitt 1998).

In 2008/2009, the first EU member states in need of international financial assistance were Latvia, Hungary and Romania, capable of preserving their solvency only through IMF assistance (Martorano 2014). In the meanwhile, the largest fallback occurred in Ireland, the country deeply integrated into the American capital markets, and in the Baltic states, operating as small and open economies largely exposed to the global events. Nevertheless, these countries were able to stabilise their economies by 2010/2011 while the group of the crisis countries evolved in parallel: Portugal, Italy, Greece and Spain (often referred to as PIGS) faced enduring refinancing difficulties. For them, persistent recession, degrading industrial capacities, high (often two-digit) unemployment rates and high government bond interest rates were the economic realities. The Southern Eurozone countries effectively underwent their sovereign debt crises (as a next chapter for them after the GFEC) and suffered long-lasting deterioration of economic performance although undertook painful adjustments under international financial assistance, provided conditionally. However, the expected recovery did not come. These countries were later supported by the European rescue funds and the ECB's interventions on the secondary bond markets, as a result of which their government debt paths could become sustainable although at considerably higher levels than before. Even so, Greece had to declare partial default in 2012 (Bini Smaghi 2013; Végh 2013). The third distinct within-EU country group, the Eastern New Member States (NMSs) suffered a large fall-back in the early phase of the global crisis. Nevertheless, rebound did occur in these countries. Still, post-crisis growth paths appear to be diverse for the Eastern NMSs.



With regard to the various impacts across the EU, the core has overall proven more resilient than the periphery: the Western and Northern member states did not suffer such deep recessions lasting so long, and their economic structures remained relatively more competitive, even in the times of crises. Therefore, less painful measures were needed to be implemented there, which improved their relative situation further. Consequently, the real convergence of the early years of the EMU turned into divergence and the core-periphery divide became deep and apparently persistent (Pelle et al. 2021). The crisis itself was an asymmetric shock for the member states, and the EU and the Eurozone did not have common institutions and means to tackle the situation. Initial fiscal positions at the outburst of the crisis varied largely and so did the institutional settings of the EU member states (Benczes – Rezessy 2013; Dallago – Rosefelde 2021). In the EMU as a whole, resilience has been improved but sustainability has still not been secured institutionally (Pelle – Véghe 2019). The European Central Bank (ECB), though slightly shifted from the original strict inflation-targeting to a more active policy, never quit its original philosophy overall, i.e., that monetary policy is not apt for remedying structural problems in the economy. Due to the lack of a common, EU-level crisis management upon the outburst of the crisis, countries had to find their own ways through the storm – this has been problematic (Rácz 2009) as several anti-integration crisis management attitudes could endure. As a result, the EU member states have found themselves on different and, often diverging, post-crisis growth trajectories.

Although several member states introduced austerities in order to regain stability, some of them have exited the crisis with tendentially lower growth rates and higher debt levels – a highly unfavourable combination (Perluigi – Sondermann 2018). The EU as a whole reached its pre-crisis (2007) GDP level in 2014. By then, the group of under-performers was however joined by Cyprus, Finland, Croatia and Latvia. Overall, the intra-EU differences and varieties of economic structures and growth models have persisted during and following the crisis.

### 3. VARIETIES OF CAPITALISM (VOC) IN THE EU, WITH SPECIAL REGARD TO THE EU PERIPHERY

We now take a look at how VoC scholars evaluate the EU member states. Deeg – Jackson (2007) emphasised that the European integration affected these capitalism models, while Johnston and Regan (2017) pointed out that the European economic integration setup favours the high-wage export-led member states (i.e., the North-Western countries, and thus, their capitalism models) and distresses low-wage, domestic demand-led member states of the periphery. The incompatibility is particularly apparent within the EMU (Johnston – Regan 2015). The crisis pointed out the relevance of the varieties of capitalism models in the EU, especially for the Southern Eurozone periphery and the Eastern post-socialist new member states (Hall 2018).

At the country level, several scholars categorised the EU member states into certain VoC. Based on institutional forms in five areas (product market, labour market, financial sector, social protection and the welfare state, and the education sector), Amable (2003) identified five different models: the market-based, the social-democratic, the continental European, the Mediterranean, and the Asian ones. Concentrating on the social and labour market aspects in the first place, Sapir (2006) categorised the EU-15 countries into an Anglo-Saxon, a Nordic, a continental, and a Mediterranean model. Though on different grounds, both Amable (2003) and



Sapir (2006) saw the Southern Eurozone periphery as forming one group. However, these early investigations did not involve the post-socialist country block – which actually gave way to a whole new branch of the VoC literature, i.e., the study of emerging post-socialist transition economies as capitalism model(s).

For the Eastern new member states, joining the EU had an effect in their accession phase already (Csaba 2007; Landesmann – Rosati 2004). The motivation to adhere to the explicit and implicit rules of European integration was referred to as Europeanisation, in particular top-down Europeanisation as the ‘recipe’ was provided by the European institutions and negotiating delegations (Börzel – Panke 2013). Nölke – Vliegenthart (2009) saw the Visegrad countries as a distinctive, new group in the VoC setting that they had named as dependent market economies (DME), thus expressing the strong dependence of these countries on foreign direct investment (FDI). At the same time, they also pointed out the comparative advantage of this model arising from the successful entering into global value chains and experiencing upgrading through technology transfer but Nölke (2018) later highlighted the risk of this level of dependence. An obvious disadvantage of the DME model manifested in the early phase of the crisis when the foreign banks and multinational corporations pulled back tremendous amount of capital to their home bases (Myant 2018).

Farkas (2011) also claimed that, besides Amable’s (2003) categories, there is a new, fifth model of European capitalism although not determined exclusively by FDI: Central and Eastern European (CEE) capitalism is characterised by not only a shortage of capital, but also a weak civil society, and the impact of the EU (through the accession of these countries) and other international organisations (e.g., IMF, World Bank, EBRD). Later Farkas (2016) reviewed the capitalism models across the whole post-crisis EU and identified six distinguishable clusters: a ‘Stable North-Western Europe’, an ‘Unstable Mediterranean’, a ‘Stable East Central Europe’, an ‘Unstable Eastern and Southern Europe’, and Luxembourg and Ireland constituting two distinct clusters in themselves, tagged as ‘Lucky offshore financial haven’ and ‘Victim of the banking system’, respectively. During the Eurozone crisis, the disadvantages of the Southern Eurozone periphery were aggravated by internal institutional and macroeconomic factors such as indebtedness or weak innovation systems as pointed out in the VoC framework by Nölke (2016).

Myant – Drahokoupil (2011, 2012) took the post-socialist (in part post-Soviet) transition economies (of Europe and Asia) as the subject of their analysis. Among these economies, they distinguished between five types, among which the ‘FDI-based (second rank) market economies’, as they coined them, were those of Central and Eastern Europe. These countries exhibit democratic political systems, integration in the EU, and export-oriented manufacturing dominated by foreign multinational enterprises. Their export structures are complex but they occupy the mid-range of value chains, hence the labelling ‘second rank’ of their capitalisms. Besides the FDI-based model, they also identified ‘peripheral market economies’ where the South-East European countries and the Baltics belong – this group consists of more vulnerable countries with lower levels of social welfare protection. Most of the post-Soviet Commonwealth of Independent States (CIS) countries belong to the third group called ‘oligarchic or clientelistic capitalism’, including Russia itself. The other part of the CIS constitutes the ‘order states’ where capitalism as such can be questioned overall while the fifth group is the ‘remittance- and aid-based economies’. None of the EU member states belong to the latter three groups though.

In 2018, the Eurofound, the EU-managed tripartite agency monitoring and counselling labour market policies in the EU, also examined the capitalism models of the EU member states concentrating solely on industrial relations. By constructing a composite indicator along these



lines (from the level of organisation of the work force through the intervention of the state to minimum wage), they identified six clusters (Eurofound 2018). We include their work here because we find their results interesting as these do not follow the conventionalised approach (i.e., North, West, Southern/Mediterranean, East) but come up with rather unique groupings of the EU member states (see details in Table 1, Appendix 2, and in the summary).

Bohle – Greskovits (2007, 2012) emphasised that there was a variety within the DME model: a neoliberal variation in the Baltic states, an embedded neoliberal type in the Visegrad countries, and neo-corporatist in Slovenia. Sallai (2013) discussed about the post-socialist network capitalism in these countries and, most lately, about the emergence of Wedel's (2003) clan state as a result of serious backsliding, in Hungary specifically (Sallai – Schnyder 2018). Rapacki – Czerniak (2018) intended to categorise the Eastern new member states into Amable's (2003) categories based on 132 institutional indicators while Próchniak (2018), within the same research agenda, examined the nature and changes in product market competition in these countries, eventually tagging them as 'patchwork capitalism'. Importantly, Rapacki – Czerniak (2018) emphasised that, though the Eastern member states do make up a colourful institutional patchwork of capitalism, their internal differences are still smaller than those between their group and the traditional models defined by Amable (2003).

The concern that the capitalism model of the Eastern member states might have reached its limits and new development paths have to be found for these countries had only been articulated lately (Galgóczy – Drahokoupil 2017). Particularly the constraints deriving from the labour market (i.e., the limited availability of apt labour force) may even hinder further FDI (Hunya 2018). A prospective way forward shall embrace general institutional development (Farkas 2018), shall provide more scope for traditional economic development policies in these countries, and put in place or strengthen institutions which guarantee that foreign-financed innovation yields benefit locally as well (May – Schedelik 2019). Nevertheless, Myant (2018) was sceptical that such policy shift is likely to occur in these countries.

Eventually, the VoC approach has enabled scholars with various backgrounds and viewpoints to make relevant observations on, among others, the EU member states. Their findings are summarised in Table 1 and Appendix 2.

#### 4. POST-CRISIS CAPITALISM MODELS IN THE EU – OUR ANALYSIS

The investigation we carried out was based on the composition of countries' GDP. Previous studies did not include this aspect although it seems to be a basic characteristic of capitalism models. Thus, we did not invent a new methodology but applied an old way of expressing the performance of countries, thus amending the already existing comparative research on them. So, our approach is in fact based on the macroeconomic equation:

$$Y = C + I + G + (X - M)$$

where  $Y$  denotes the GDP of the countries,  $C$  is total household consumption,  $I$  refers to investments in the economy expressed in the gross fixed capital formation (GFCF) indicator,  $G$  stands for total government expenditures, and  $X-M$  is the trade balance expressed as the difference of total exports and imports in an economy. In addition, we included the gross value added (GVA) as an indicator of the quality of competitiveness (Blandinières et al. 2018).



**Table 1.** Varieties of Capitalism (VoC) in EU member states\*

Scholar(s)	Attributes	Country groups	Specificities of the analysis
Amable (2003)	<ul style="list-style-type: none"> <li>• Product market competition</li> <li>• Labour market</li> <li>• Financial sector</li> <li>• Social protection education</li> </ul>	<ul style="list-style-type: none"> <li>• Market-based</li> <li>• Social-democratic</li> <li>• Continental European</li> <li>• Mediterranean</li> <li>• Asian</li> </ul>	Only EU-15 categorised
Sapir (2006)	<ul style="list-style-type: none"> <li>• Labour markets and social policies: efficiency and equity</li> </ul>	<ul style="list-style-type: none"> <li>• Anglo-Saxon</li> <li>• Nordic</li> <li>• Continental</li> <li>• Mediterranean</li> </ul>	Only EU-15 categorised
Nölke – Vliegenthart (2009)	<ul style="list-style-type: none"> <li>• Coordination mechanism</li> <li>• Investment</li> <li>• Corporate governance</li> <li>• Industrial relations</li> <li>• Education and training systems</li> <li>• Innovation</li> <li>• Comparative advantages</li> </ul>	<ul style="list-style-type: none"> <li>• Dependent market economies (DME)</li> <li>• Liberal market economies (LME)</li> <li>• Coordinated market economies (CME)</li> </ul>	Only Visegrad countries analysed (DME), besides Austria and Germany (CME), and the US and the UK (LME)
Bohle – Greskovits (2007, 2012)	<ul style="list-style-type: none"> <li>• Variations of the DME model</li> </ul>	<ul style="list-style-type: none"> <li>• Neoliberal</li> <li>• Embedded neoliberal</li> <li>• Neocorporatist</li> </ul>	Only post-socialist EU NMS analysed
Farkas (2011)	<ul style="list-style-type: none"> <li>• Shortage of capital</li> <li>• Weak civil society</li> <li>• Impact of EU and international organisations</li> </ul>	<ul style="list-style-type: none"> <li>• CEE is a new model</li> </ul>	Only post-socialist EU NMS analysed
Myant – Drahošková (2011, 2012)	<ul style="list-style-type: none"> <li>• Forms of integration into the international economy</li> <li>• Financial flows</li> <li>• Exportation</li> <li>• Foreign ownership</li> </ul>	<ul style="list-style-type: none"> <li>• FDI-based (second rank) market economies</li> <li>• Peripheral market economies</li> <li>• Oligarchic or clientelistic capitalism</li> <li>• Order states</li> <li>• Remittance- and aid-based economies</li> </ul>	Post-socialist (in part post-Soviet) transition economies analysed, no EU member state in the 3rd, 4th and 5th country groups
Sallai (2013), Sallai – Schnyder (2018)	<ul style="list-style-type: none"> <li>• Drivers of government and business decisions</li> </ul>	<ul style="list-style-type: none"> <li>• Post-socialist network capitalism</li> <li>• Emergence of Wedel's (2003) clan state</li> </ul>	Only post-socialist EU NMS analysed
Farkas (2016)	<ul style="list-style-type: none"> <li>• Cumulative gain/loss in GDP</li> </ul>	<ul style="list-style-type: none"> <li>• Stable North-Western Europe</li> </ul>	Capitalism models in post-crisis EU

(continued)





**Table 1.** Continued

Scholar(s)	Attributes	Country groups	Specificities of the analysis
	<ul style="list-style-type: none"> <li>• CA at outburst of crisis</li> <li>• Public and private debt</li> <li>• Size and vulnerability of banking sector</li> <li>• Openness</li> <li>• GVA</li> <li>• Productivity</li> <li>• REER</li> </ul>	<ul style="list-style-type: none"> <li>• Unstable Mediterranean</li> <li>• Stable East Central Europe</li> <li>• Unstable Eastern and Southern Europe</li> <li>• Lucky offshore financial haven</li> <li>• Victim of the banking system</li> </ul>	
<a href="#">Eurofound (2018)</a>	<ul style="list-style-type: none"> <li>• Degree of centralisation of collective bargaining</li> <li>• Degree of collective wage coordination</li> <li>• Extension mechanisms</li> <li>• State intervention in collective bargaining</li> <li>• Statutory minimum wage</li> </ul>	<ul style="list-style-type: none"> <li>• Social partnership,</li> <li>• Organised corporatism</li> <li>• State-centred associational governance</li> <li>• Company-centred governance</li> <li>• Voluntarist associational governance</li> <li>• Market-oriented governance</li> </ul>	Clustering based on industrial relations
<a href="#">Rapacki – Czerniak (2018)</a> , <a href="#">Próchniak (2018)</a>	<ul style="list-style-type: none"> <li>• 132 institutional indicators</li> </ul>	<ul style="list-style-type: none"> <li>• Originally: Anglo-Saxon (liberal) continental Nordic Mediterranean.</li> <li>• Result: Patchwork capitalism</li> </ul>	Intended to categorise the NMS into <a href="#">Amable's (2003)</a> groups

Notes: \*EU-15: EU after the 1995 enlargement. FDI: Foreign direct investment. MNCs: Multinational corporations. EU NMS: New Member States of the EU (joined in 2004, 2007, and 2013). CEE: Central and Eastern Europe. CA: Current account. GVA: Gross value added. REER: Real effective exchange rate.

Source: Own compilation.

Following the above approach, we conducted a hierarchical cluster analysis<sup>1</sup> on Eurostat and AMECO national account data ([Table 2](#)). For reasons of comparability, and in order not to lose the full scale of differences among countries, we worked with per capita at market prices indicators. All data are from 2019 as the latest available.

One can challenge our decision to work with one year's data only. To justify our decision, we had checked the EU member states' GDP compositions for the years 2014–2019. Interestingly,

<sup>1</sup>Hierarchical clustering: "Stepwise clustering procedures involving a combination (or division) of the objects into clusters. The two alternative procedures are the agglomerative and divisive methods. The result is the construction of a hierarchy, or treelike structure (dendrogram), depicting the formation of the clusters. Such a procedure produces  $N - 1$  cluster solutions, where  $N$  is the number of objects. For example, if the agglomerative procedure starts with five objects in separate clusters, it will show how four clusters, then three, then two, and finally one cluster are formed." ([Hair et al. 2014: 416](#)).





**Table 2.** Indicators of K-means clustering

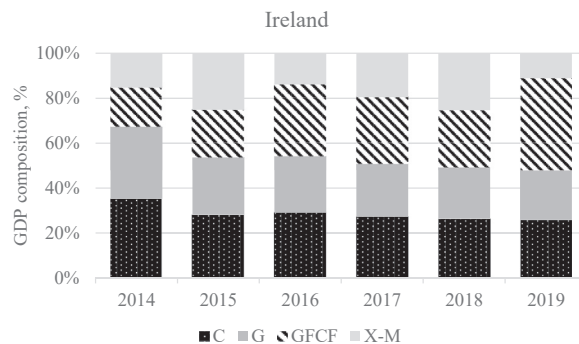
Indicator	Measurement unit	Year	Source
Household consumption	EUR/capita at market prices	2019	Eurostat, code: nama_10_pc
Government expenditures	EUR/capita at market prices	2019	AMECO (total government expenditure, population)
Gross fixed capital formation	% of GDP	2019	Eurostat, code: tec00011
Gross value added	EUR/capita at market prices	2019	Eurostat, code: nama_10_a10
Exports	EUR/capita at market prices	2019	Eurostat, code: nama_10_exi
Import	EUR/capita at market prices	2019	Eurostat, code: nama_10_exi

Source: Own compilation.

the shares of the components have shown convincing stability, with insignificant changes throughout the years. Ireland has been the only exception, driven by the intensive increase in the post-crisis investment rates (from 17.4% of GDP in 2014 to 41.1% in 2019). Although the Irish GDP as a whole grew at outstanding rates in the reference period, implying an investment-based growth model, similar increase in consumption not pairing with such an exceptional intensification in investment is not surprising but still affecting GDP composition data (Figure 1). However, this applies only to Ireland – an outlier anyway, as demonstrated later.

Last but not least, since we assessed the EU member states prior to Brexit, we included the United Kingdom in our analyses, so we worked with EU-28 as our sample.

Hierarchical clustering fits our purposes best because it allows for experimentation with the number of clusters as we did not need to set it prior to running the analysis. Further benefit of this analysis is the chosen cluster method (i.e., the Ward method), which aims at minimising the variance within the formed clusters, therefore maximising the homogeneity of the resulting groups.

**Fig. 1.** GDP composition Ireland, 2014–2019 (%)

Notes: C: Total household consumption, G: Government expenditures, GFCF: Gross fixed capital formation, X-M: Trade balance

Source: Own edition.



Regarding the number of clusters (for details, see [Appendix 1](#)), we found that, in case of creating two clusters, we received the EU (as one cluster) and Luxembourg (as the other one). Three clusters already represent the core-periphery divide. Therefore, increasing the number of clusters has given us the opportunity to potentially grab the variety within the periphery – and that is in fact what we received. In the four-cluster setup, the only difference is that Ireland is separated from the core. When creating five clusters, the periphery was divided into the Southern Eurozone countries (including Slovenia) and the group of the Eastern new member states. Then, if the cluster number is further increased to six, the Eastern NMSs split up into two distinct sub-groups. More than six clusters, on the other hand, did not provide any additional value to our study. Eventually we chose to apply the six-cluster solution as it points out further distinctions within the Eastern periphery that we considered relevant ([Table 3](#)).

We named our six clusters as follows:

1. Old core: Belgium, Denmark, Germany, France, Netherlands, Austria, Finland, Sweden and the United Kingdom;
2. Eastern periphery: Bulgaria, Croatia, Latvia, Lithuania, Poland, Romania and Slovakia;
3. New tigers of Europe: Czechia, Estonia and Hungary;
4. Unexpected shooting star: Ireland;
5. Mediterranean 2.0: Greece, Spain, Italy, Cyprus, Malta, Portugal and Slovenia;
6. Extreme upward outlier: Luxembourg.

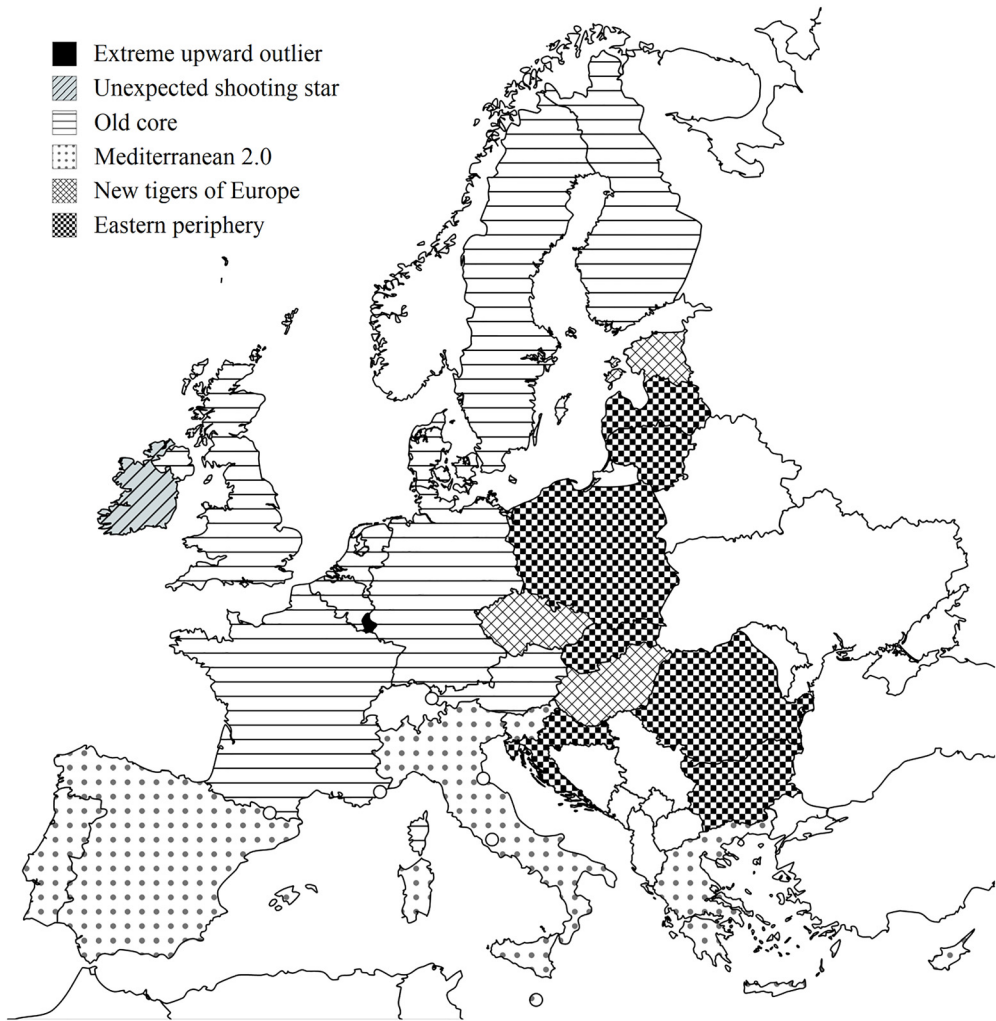
**Table 3.** Descriptive statistics of clusters

		C	G	GFCF	GVA	EX	IM
Mean	Old core	21081.5	18960.8	21.3	35900.7	17983.1	16938.8
	Eastern periphery	7651.9	5344.9	20.3	11732.7	7570.1	7255.7
	New tigers of Europe	8452.8	7811.0	27.3	16094.4	14108.8	13193.4
	Unexpected shooting star	20710.0	17690.4	45.6	67860.9	89769.9	79592.0
	Mediterranean 2.0	15675.7	12181.5	18.3	23879.2	9391.5	8653.5
	Extreme upward outlier	28420.0	43243.1	16.9	92920.0	215985.3	178749.6
	EU-28	16130.0	14564.2	21.5	27907.8	17150.1	16026.4
Standard deviation	Old core	1863.5	2421.6	2.6	3383.8	7938.2	6726.7
	Eastern periphery	1107.1	1115.1	2.2	1937.9	2990.9	2810.0
	New tigers of Europe	1465.3	903.5	1.2	3092.9	1666.6	1327.7
	Unexpected shooting star	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Mediterranean 2.0	2097.9	2251.3	2.2	3604.5	2424.9	2083.1
	Extreme upward outlier	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	EU-28	10499.8	8553.8	7.5	17239.2	12139.8	10252.0

Note: n.a.: not applicable.

Source: Own edition.





**Fig. 2.** Clusters of EU member states based on GDP composition

Source: Own edition using [mapchart.net](https://mapchart.net).

Clusters 4 and 6 are not real clusters but single countries; Luxembourg outperforms all other member states by far and Ireland proves to be a distinct model of its kind explained in more detail below.<sup>2</sup> As a matter of fact, the clusters form rather coherent geographical areas as well (Figure 2).

<sup>2</sup>An interesting parallelism in the analyses is that Farkas (2016) also identified Luxembourg and Ireland as separate clusters although based on different attributes (detailed in Table 1).

We named Luxembourg the ‘Extreme upward outlier’ due to its values representing a separate dimension of economic model and performance. Interestingly though, investment rate is the lowest (16.9%) there – the reason for this is most likely the very high Luxembourgian GDP level (in the denominator of the applied GFCF indicator). Ireland, at the same time, performs an extraordinary investment level (45.6%) while the EU has set out a guideline of reaching 23% of GDP for the GFCF rate of its member states after the financial crisis (EC 2014). We considered Ireland as a separate model not only because of this but also for its per capita exports and imports accounting for ca. three times that of the EU as a whole, and its per capita GVA being more than twofold. However, Irish household consumption and government expenditure are somewhat lower than the respective values of the Old core. Apparently, the Irish model is built on investment, high value creation capacities and intensive trade.

Regarding the characteristics of the multi-country clusters, the Old core, encompassing 9 countries, is relatively homogeneous in terms of household consumption and investment (GFCF), the latter (21.3% of GDP) being the closest to the EU average (21.5%). The Old core stands out in all other terms though: its consumption and government expenditure levels are the second highest (after Luxembourg) and its gross value added, export and import levels are third (after Luxembourg and Ireland), however still above the EU-28 average.

We labelled our Mediterranean country group as ‘Mediterranean 2.0’ due to Cyprus, Malta and Slovenia joining the ‘traditional’ Mediterranean cohort. This cluster performs slightly below the EU average in terms of consumption, government expenditure and GVA, and considerably lower in their investment level, exports and imports. The low level of their investments and exports is problematic, not only because their per capita GDPs are in the middle range, but also in terms of their growth perspectives that had been seriously compromised by the financial and Eurozone crises already. We must remark here that Slovenia’s membership in the Mediterranean 2.0 group is an achievement, rather than any sign of underperformance or weakness.

The Eastern periphery is the worst-performing of all the country groups, except for investment, which is the lowest in the Mediterranean 2.0 country group (besides Luxembourg).

Czechia, Estonia and Hungary form a separate cluster. We called them the ‘New tigers of Europe’ for several reasons. Firstly, compared to their development levels, their per capita exports and imports are extensive (14108.8 EUR/cap. and 13193.4 EUR/cap., respectively), even outperforming the values of the Mediterranean 2.0 group (9391.5 EUR/cap. for exports and 8653.5 EUR/cap. for imports). The ‘new tigers’ surpass the Eastern periphery in all aspects and, as regards investments, their rate (27.3% of GDP) is the highest in the EU (besides Ireland). Apart from trade, the level of per capita government expenditures (7811.0 EUR/cap.) is noteworthy as it is ca. 45% higher than the respective value of the Eastern periphery (5344.9 EUR/cap.), while household consumption is only 10.5% higher (the data are: 7651.9 EUR/cap. for the Eastern periphery and 8452.8 EUR/cap. for the ‘new tigers’). This model, building on trade, investment and an active government recalls that of the Asian tigers (Rodrik 1997), hence our labelling of the cluster. Yet, the level of government interventionism in these countries, especially in Hungary, calls for concern (Sallai – Schnyder 2018; Mihályi – Szelényi 2020).

So far, we had ignored the left side of the macroeconomic equation. The question can be asked, especially for the ‘tigers’ (i.e., Ireland and the three ‘new tigers’), whether GDP is the appropriate indicator and not GNI as the latter better expresses the incomes of a country’s residents than the former? In order to answer this question, we calculated the GNI/GDP ratios

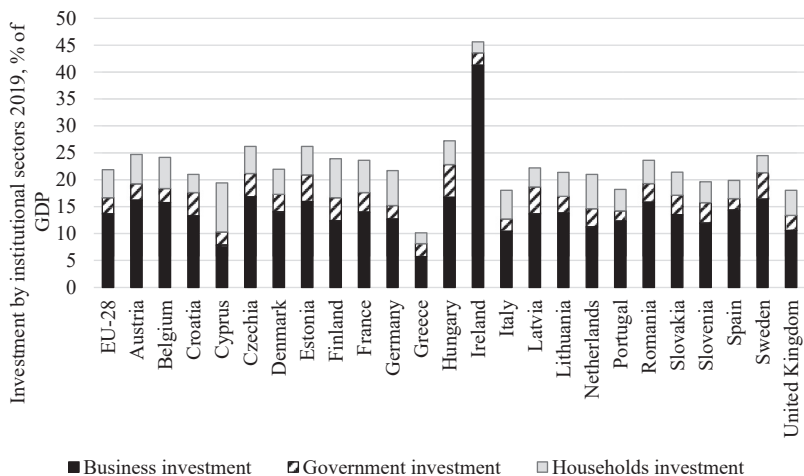


for the countries, for the years 2014–2019. We found that, except for Luxembourg (with ca. 63–67% rates) and Ireland (with the quotient ranging between 77 and 85%) which, as it seems, are outliers in this respect as well, the difference between the GNI and the GDP is not significant. Specifically, for the three ‘new tigers’, the ratio took values between 93% and 98% all throughout the reference period. This way we regarded the use of GDP on the left side as justifiable.

The other intriguing aspect, especially in relation to the ‘tigers’, may be the composition of the total investment along its sources (business, government and households). [Figure 3](#) represents the data for 2019.

Ireland and the ‘new tigers of Europe’ indeed perform the highest investment rates. Nevertheless, their rates are the highest in terms of business investment as well (Ireland 41.27%, Hungary 16.75%, Czechia 16.85%, Estonia 15.94%). Besides them, only Sweden (16.42%) and Austria (16.22%) perform similar business investment rates. Regarding government investment, Hungary stands out with 6.06% but, if we look at government investments as a share of total GFCF, Greece performs the highest ratio (23.9%), Hungary comes only third (22.3%) after Latvia (22.6%), and Croatia and Sweden perform shares above 20%. Therefore, the highest GFCFs of the ‘tigers’ are not mainly government-driven.

Now let’s compare our model with the previously presented capitalism model categorisations of the EU member states. These, together with the results of our clustering, are presented in [Appendix 2](#). Although the various categorisations tend to use different approaches and variables in their analyses, the core-periphery divide of the EU is apparent in all of them. We can also see that, lately, the Southern Eurozone periphery and Eastern new member states mingle in the peripheral groups (where the whole of the EU is analysed, i.e., [Farkas \(2016\)](#), [Eurofound \(2018\)](#) and our clustering), whatever the basis of investigation. This reassures the end of the East-West division and the evolution of a mixed post-crisis periphery in the EU.



**Fig. 3.** Investment composition in the EU, 2019 (% of GDP)

Source: Own edition based on Eurostat (Code: tec00132) data.



## 5. INTRA-EU INTER-CRISIS CONVERGENCE (2014–2019)

We now turn our attention to the intra-EU convergence trends following the GFEC but preceding the COVID-19 induced economic crisis, i.e., for the years 2014–2019. Convergence can be interpreted in the nominal (e.g., though inflation, exchange or interest rates) and in the real sense (e.g., in real GDP per capita) (Dvoroková 2014). There is convergence when the less developed are catching up (Bongardt – Torres 2013), which Ben-David (1994) classified as upward convergence (contrary to downward convergence). The two main measures of convergence are sigma ( $\sigma$ ) and beta ( $\beta$ ) convergence. For the EU member states,  $\sigma$ -convergence would refer to the narrowing of the variation between different economic indicators implying reduction of the intra-EU disparities with time (Wunsch 2013). On the other hand,  $\beta$ -convergence, of which the measuring was laid down by Baumol (1986), acknowledges that the speed of convergence tends to vary: economies starting from lower levels are likely to grow more dynamically, at least in the early phase (Martin 2001; Schmitt – Starke 2011; Stanišić 2012). We analysed  $\beta$ -convergence because the prospect of catching-up has been an important element of European integration, noticeably since the Southern enlargements of the 1980s, but especially after the Eastern enlargements reunifying the continent.

To examine  $\beta$ -convergence in the EU, we plotted the member states' initial real GDP per capita on axis  $x$ , and the accumulated growth achieved by 2019 on axis  $y$  in Figure 4. We also indicated membership in the above defined growth clusters with different signs. In order to point out the trend-changing nature of the GFEC, we did our calculations over three periods: 1995–2019 (long-term convergence trends), 2009–2019 (from the outburst of the GFEC), and 2014–2019 (post-GFEC), as shown in the three diagrams in Figure 4, respectively. We also fitted a power regression curve on the set, for all periods (excluding the two outlier single-country 'clusters', i.e. Luxembourg and Ireland, from the regression).

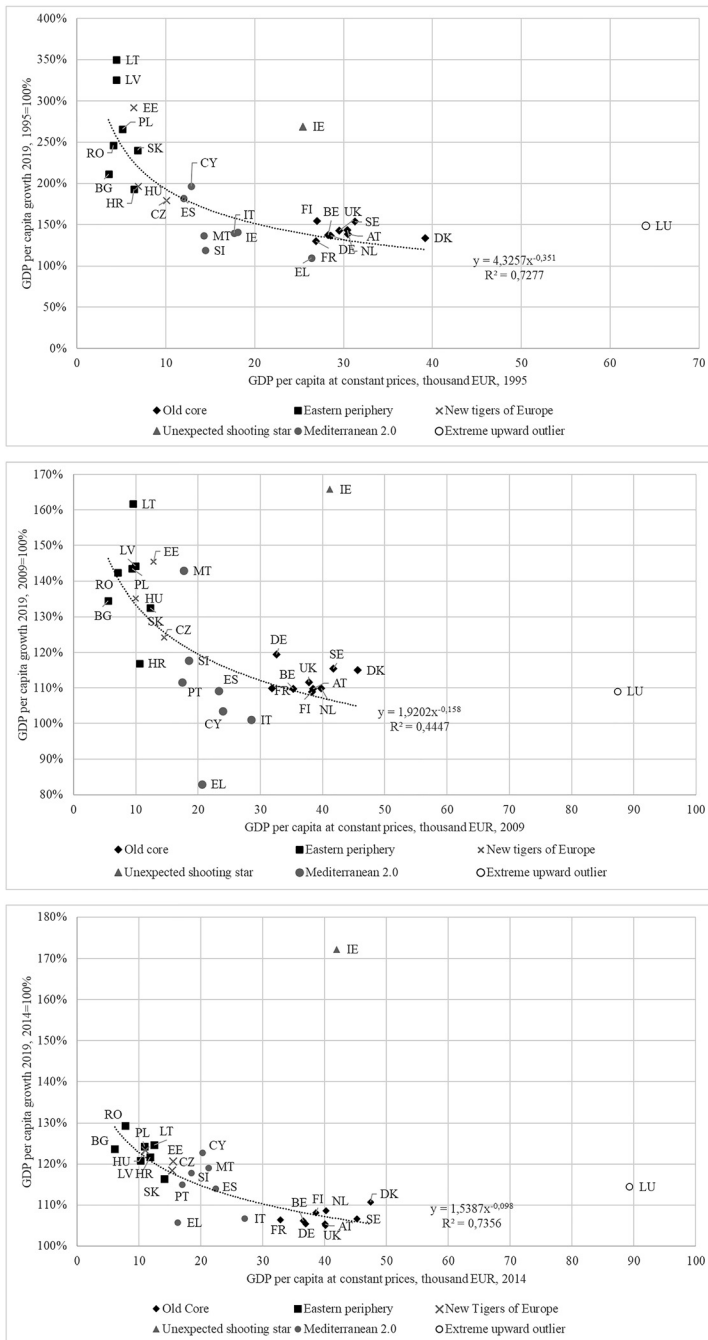
According to theory, there is  $\beta$ -convergence if the results well fit a negatively sloped power regression (Baumol 1986). Our results spectacularly showed that, over the whole examined period (1995–2019),  $\beta$ -convergence is clearly identifiable (with  $R^2 = 72.77\%$ ). In fact, the Baltics performed an overall real growth around 290–350%, Poland, Romania and Slovakia around 250%, and the rest of the Eastern member states around 170–200%, as opposed to the ca. 100–150% overall real growth in the old member states.

If only the 2009–2019 period is considered,  $\beta$ -convergence is broken. In fact, while the development of the core countries remained relatively uniform, the Eastern periphery showed high heterogeneity, with some countries stuck at the accumulated growth levels of the core, and the real growth rates ranging between ca. –20% (Greece) and +165% (Ireland) for the whole of the EU.<sup>3</sup> Overall, the global crisis was a definite game-changer in the intra-EU convergence. This is problematic not only from the viewpoint of the post-socialist new member states but also in respect of European integration overall.<sup>4</sup>

<sup>3</sup>Based on data for the 1993–2010 period, Stanišić (2012) could already detect the negative effect of the crisis on  $\beta$ -convergence, at that time presuming that convergence would get back on track, though potentially at lower rates. Well, post-crisis, this was precisely the case.

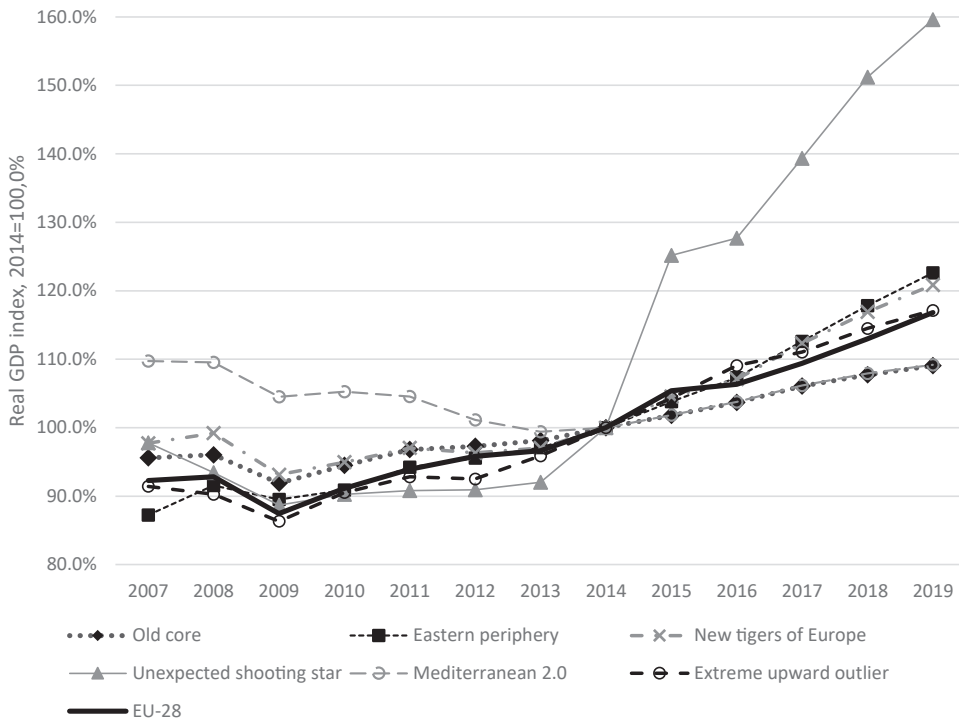
<sup>4</sup>Interestingly, Recher – Kurnoga (2017) came to effectively the same conclusion after a rather different analysis, both in terms of indicators used and methodology applied.





**Fig. 4.**  $\beta$ -convergence in the EU, 1995–2019, 2009–2019 and 2014–2019  
**Note:** Ireland and Luxembourg as outliers are omitted from the regressions.  
**Source:** Own edition.





**Fig. 5.** Growth trajectories of EU member state clusters, 2007–2019 (%)

Note: 2014 = 100%.

Source: Own edition.

What did the inter-crisis period (2014–2019) show us? The data and the power regression revealed that, once the EU managed to overcome the crisis, earlier  $\beta$ -convergence returned, which is favourable but is also a warning that convergence is primarily dependent on a general growth environment. The coefficient of determination was higher ( $R^2 = 73.56\%$ ) than that for the whole period; however, this may well derive from the brevity of the reference period and excluding both Luxembourg and Ireland from the regression analysis. At this point we could not tell how the next crisis, unfolding upon the pandemic, would affect  $\beta$ -convergence in the EU.

## 6. POST-CRISIS GROWTH TRAJECTORIES OF THE EU MEMBER STATES

In the following, we investigated the growth trajectories of the EU member states. We did so along our clusters formed above based on GDP composition, and we also calculated the EU-28 rates (Figure 5). We presented the growth trend from 2007 (as the last pre-GFEC year) to 2019 (latest data available). We used 2014 as our base year for indexing because this was the year by which countries had regained their pre-crisis GDP levels. The cluster growth rates had been calculated after adding up the yearly country-level real GDP volumes for the cluster members.

We can make some relevant observations. Firstly, the crisis arrived in the Eastern periphery later than to the other parts of the EU, in terms of GDP at least. Secondly, the post-crisis growth rates of the Mediterranean 2.0 cluster corresponded with those of the Old Core, which was unfavourable since it implied the Mediterranean 2.0 cluster sticking in its semi-peripheral status, without upward convergence in sight (please note that Greece forms part of this cluster). Furthermore, Ireland grew the most dynamically, especially from 2014 onwards, following a very deep crisis and stagnation in 2008–2013, and performed like a shooting star – which made us call the country that way. Our ‘new tigers of Europe’ performed similarly to the Eastern periphery in terms of growth dynamics after 2014, both clusters growing at larger rates than the EU as a whole.

Importantly, the GFEC put a halt to the previous convergence processes as discussed above however, since 2014, there has been an upward convergence again in the EU overall, although more in its Eastern periphery than in the South. The two reasons we can identify are that, first of all, it is easier to grow from lower bases ( $\beta$ -convergence) and second, the large difference in the investment rates between the Eastern clusters (27% and 21%) and the Mediterranean 2.0 country group (17.9%) is highly likely to affect growth rates in this way.

## 7. SUMMARY AND CONCLUSIONS

The global financial and economic crisis starting in 2008 and then, the Eurozone crisis, as its organic continuation in some of the EU member states from 2010 onwards, posed immense stress and challenges for the EU economy. The effects appear to be the most severe and longest lasting in the Southern Eurozone countries though (while the core of the EU has shown high resilience in the same time period). If we strive for finding answers in the VoC literature to the poor performance in the South, there are some features specific to the Mediterranean capitalism model, and there are also some country-specific factors. The social coalitions and the polarisation of the societies have been the roots of path dependence in crisis management and policy-making in general, but in Italy particularly. This implies that tax evasion and persistent support to certain social and entrepreneurial groups are tolerated and privileges are maintained by an implicit social consensus. Institutions are eventually hijacked by this constellation, which locks these economies into a low competitiveness – low growth mix in terms of economic performance. This sort of regressive path dependence is characterising the Mediterranean capitalism model as a whole.

Actually, the existence of the currency union has proven relevant in the crisis and its aftermath, causing adverse effects though. Without the EMU, the currencies of the core countries (and, potentially, Ireland) would well have appreciated while the currencies of the periphery, especially in the Mediterranean, could have devalued or been devaluated by crisis management policy. Consequently, the euro appears to be yet another cause of path dependence for countries or country groups, and in various directions. Due to the dominance of the German economic thinking in the Eurozone, the devaluation of the common currency, the euro, has eventually not taken place, which has, on the other hand, contributed to the depth of the crisis in the Southern Eurozone countries. Nevertheless, the construct of the EU and the Eurozone shall be completed and fixed (Bénassy-Quéré – Giavazzi 2017), otherwise the EU as a whole will likely face divergence and even disintegration in a next crisis (Podkaminer 2016) – and the COVID-19



induced economic crisis indeed may have such effects although the EU, its institutions, and the member states have learnt certain lessons from managing the GFEC crisis in 2008–2013.

In our clustering, the models building on investment and intensive trade (Ireland and the ‘new tigers of Europe’: Czechia, Estonia and Hungary) appear to be the most successful in the EU after the global crisis. This is relevant in light of the intra-EU core-periphery divide since all four countries concerned are peripheral countries, which implies that breaking negative path dependence and stepping on the way of prospective (though in political economic terms controversial) path creation instead is possible, at least for the small and open peripheral EU member states. Development built on investment and trade is not anything new though – therefore the political economic question might be how a country can be put on such a track, especially on the periphery of the EU single market and the European monetary union.

Our analyses of the intra-EU convergence, by assessing  $\beta$ -convergence in various time periods, has shown that a crisis may well be a game-changer in these respects. The 2014–2019 inter-crisis period of economic growth in the EU (that was interrupted by the COVID-19 pandemic in 2020) shows that Ireland and the Eastern peripheral countries have outperformed the EU average while the Mediterranean country group have continued to exhibit low growth, even in this general upswing period, which is not preferable in terms of the EU’s integrity, and especially not favourable for the Eurozone (as these countries are all members of the currency union).

All in all, path dependence co-exists with path creation among the EU member states in terms of economic prospects and prosperity in the examined dimensions and time period. Much of the eventual outcomes at country level depend on the various capitalism models, also co-existing in the EU.

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## Appendix 1. Cluster membership for different cluster numbers

Country	2 clusters	3 clusters	4 clusters	5 clusters	6 clusters
Belgium	1	1	1	1	1
Denmark	1	1	1	1	1
Germany	1	1	1	1	1
France	1	1	1	1	1
Netherlands	1	1	1	1	1
Austria	1	1	1	1	1
Finland	1	1	1	1	1
Sweden	1	1	1	1	1
United Kingdom	1	1	1	1	1
Bulgaria	1	2	2	2	2
Croatia	1	2	2	2	2
Latvia	1	2	2	2	2
Lithuania	1	2	2	2	2
Poland	1	2	2	2	2
Romania	1	2	2	2	2
Slovakia	1	2	2	2	2
Czechia	1	2	2	2	3
Estonia	1	2	2	2	3
Hungary	1	2	2	2	3
Ireland	1	1	3	3	4
Greece	1	2	2	4	5
Spain	1	2	2	4	5
Italy	1	2	2	4	5
Cyprus	1	2	2	4	5
Malta	1	2	2	4	5
Portugal	1	2	2	4	5
Slovenia	1	2	2	4	5
Luxembourg	2	3	4	5	6

Source: Own edition.



# Appendix 2. EU member states' VoC-based clustering\*

Source	VoC groups	EU Member States																											
		LU	IE	DK	SE	NL	AT	FI	BE	DE	FR	UK	IT	ES	CY	MT	SI	PT	CZ	EL	SK	EE	LT	HU	PL	LV	HR	RO	BG
Amable (2003)	Market-based					X						X																	
	Social-democratic			X	X			X																					
	Continental European		X			X	X		X	X	X																		
	Mediterranean												X	X				X		X									
Sapir (2006)	Anglo-Saxon		X									X																	
	Nordic			X	X	X		X																					
	Continental	X					X		X	X	X																		
	Mediterranean												X	X				X		X									
Nölke – Vliegenthart (2009)	Dependent market economies																X		X		X	X	X	X	X	X		X	X
Myant – Drahokoupil (2011, 2012)	FDI-based (second rank) market economies																X		X				X	X					
	Peripheral market economies																				X	X			X	X	X	X	X
Bohle – Greskovits (2007, 2012)	Neoliberal																				X	X							
	Embedded neoliberal																	X	X				X	X					
	Neocorporatist																X												
Farkas (2016)**	Stable North-Western Europe			X	X	X	X	X	X	X							X												
	Unstable Mediterranean										X	X	X	X	X			X											
	Stable East Central Europe																		X		X				X				
	Unstable Eastern and Southern Europe																X				X	X	X		X	X	X	X	X
	Lucky offshore financial haven	X																											
	Victim of the banking system	X																											
Eurofound (2018)***	Social partnership	X				X	X		X																				
	Organised corporatism			X	X			X		X																			
	State-centred associational governance									X		X	X				X	X		X									
	Company-centred governance																				X			X			X		
	Voluntarist associational governance		X											X	X			X	X				X			X		X	X
	Market-oriented governance										X											X			X				
Our clusters	Extreme upward outlier	X																											
	Eastern periphery																			X			X		X	X	X	X	X
	New tigers of Europe																		X			X		X					
	Mediterranean 2.0											X	X	X	X	X	X	X		X									
	Unexpected shooting star		X																										
	Old Core			X	X	X	X	X	X	X	X	X																	

**Notes:** \* For indicating the countries, the Eurostat abbreviations are used. Countries are ranked according to their GDP/capita (in descending order). EU-28 average is between the United Kingdom and Italy (marked with a double line). \*\* Interestingly, France and the UK fall in the Mediterranean category due to above-average GDP losses during the crisis and high post-crisis debt levels. \*\*\* Greece belonged to the State-centred associational governance cluster in 2008–2012 and to the Voluntarist associational governance group in 2013–2017. **Source:** Own edition.

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