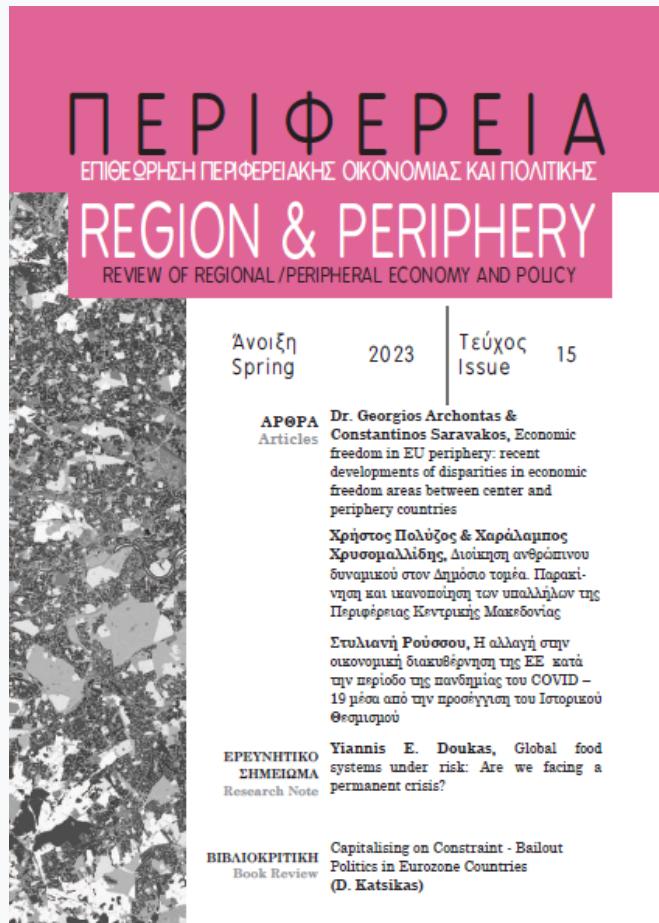


## Περιφέρεια | Regional Integration: Politics, Economics, Governance

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Περιφέρεια | Region & Periphery



Η οικονομική ελευθερία στην περιφέρεια της Ευρωπαϊκής Ένωσης: οι πρόσφατες εξελίξεις στις αποκλίσεις στην οικονομική ελευθερία μεταξύ κρατών στο κέντρο και την περιφέρεια

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## **Economic freedom in EU periphery: recent developments of disparities in economic freedom areas between center and periphery countries**

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### **Abstract**

This paper seeks to explore differences in economic freedom among EU center and periphery countries. We use a sample of the 27 current member states during the 2015-2019 period and we employ a Mann-Whitney test, which yields statistically significant and robust results on disparity in Size of Government and Legal System & Property Rights and less robust results in Regulation among EU center and periphery countries. EU center and periphery countries seem to be closer in the Overall Economic Freedom score, Sound Money, and Freedom to Trade Internationally areas of economic freedom.

**KEY-WORDS:** Economic freedom, center-periphery cleavage, EU integration, EU economic policy.

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## Η οικονομική ελευθερία στην περιφέρεια της Ευρωπαϊκής Ένωσης: οι πρόσφατες εξελίξεις στις αποκλίσεις στην οικονομική ελευθερία μεταξύ κρατών στο κέντρο και την περιφέρεια

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### Περίληψη

Στο άρθρο αυτό επιχειρείται η διερεύνηση διαφορών ανάμεσα στις χώρες του κέντρου και της περιφέρειας της ΕΕ ως προς την οικονομική ελευθερία. Μέσα από ένα δείγμα των 27 σημερινών κρατών-μελών για την περίοδο 2015-2019, ο έλεγχος Mann-Whitney κατέδειξε πως υπάρχει αξιοσημείωτη και στατιστικά σημαντική απόκλιση ανάμεσα στις χώρες του κέντρου και της περιφέρειας της ΕΕ ως προς τους τομείς του Μεγέθους του Κράτους και των Ιδιοκτησιακών Δικαιωμάτων και λιγότερο εμφανής απόκλιση στην Ρυθμιστική Πολιτική. Οι χώρες του κέντρου και της περιφέρειας της ΕΕ φαίνεται να συγκλίνουν περισσότερο ως προς την Συνολική Οικονομική Ελευθερία, την Νομισματική Πολιτική και το Ελεύθερο Εμπόριο.

**ΛΕΞΕΙΣ-ΚΛΕΙΔΙΑ:** Οικονομική ελευθερία, διαιρετική τομή κέντρο-περιφέρεια, ευρωπαϊκή ενοποίηση, οικονομική πολιτική ΕΕ.

## 1. Introduction

The market economy, one of the cornerstones of the European Union, seems to have prevailed as the fundamental economic model for the last 30 years in liberal democracies all over the world. The European Union countries seem to enjoy an overall great degree of economic freedom, enhanced by the Single Market and the benefits of free trade in this area, as well as the monetary stability of the Eurozone (EZ). However, the level of economic freedom and the policies implemented vary among EU member states, and can be quite different in that aspect. Member states' governments and domestic institutions, despite their overall alignment given the shared EU *acquis*, can address certain economic issues with different policy tools, resulting in a great disparity in terms of the degree of domestic economic freedom. When it comes to specific policy responses to deepen EU integration and address the disparity between countries, differences in economic freedom are usually not examined, nor is the question of whether institutional differences, such as regional disparities based on the center-periphery dichotomy, are relevant to them.

Examining the economic freedom disparities among EU member states through the lens of the center-periphery dichotomy can reveal several significant differences that shape policies and approaches toward economic freedom as a potential catalyst for growth and prosperity. The existing economic disparities encompass various factors such as variations in achieved growth, infrastructure, social capital, and the degree of integration into the EU market for goods, services, capital, and labor. In this context, these policies can be seen as either promoting excessive economic liberalization or impeding the growth prospects of peripheral member states. These viewpoints are often reinforced by a perception that EU policies and regional development strategies are disproportionately influenced by the needs and interests of the center's member states.

This study aims to examine if there is any difference between center and periphery EU countries in the concept of economic freedom. We suggest that a center-periphery dichotomy can be relevant to economic freedom disparities in EU countries, given both the different economic policies developed to address country-specific institutional challenges, and the findings of the relevant literature, which indicate differences among European countries in other economic indicators. To achieve this, we employ a bivariate methodological approach (a Mann-Whitney nonparametric test) to identify any differences in economic freedom areas, proxied by Fraser's Economic Freedom Index. We proceed as follows: we first unfold the theoretical background of the periphery–center dichotomy in the EU and we highlight the importance of economic freedom

in economic policy, which leads us to address the formulated research question. We then present our empirical method to identify the differences among EU countries in economic freedom in recent years, followed by the results and the discussion. In the last section, we proceed to address some final considerations; we sum up our results and suggest implications for future research.

## 2. Theoretical framework and research question

### 2.1. *The periphery–center dichotomy in the EU*

The scheme of a center-periphery dichotomy is quite common in the literature focusing mainly on EU integration (Del Río-Casasola, 2021; Thomas, 2013). That analytical framework suggests that this dichotomy can help identify structural interdependencies between the groups, which explain unequal exchange or imbalances between the center and the periphery countries (Gräßner et al., 2019: 2). The center-periphery dichotomy shapes both the political and economic institutions of European integration. According to the center-periphery dichotomy in international relations, the countries in the center are seen as powerful states which dominate other weak peripheral states (Katsikas, 2012: 68-69). Besides the aspect of political institutions, a center-periphery economic dichotomy seems to be relevant to the design flaws in the architecture of the Economic and Monetary Union. The very low inflation Germany enjoyed in the late 90s and early 00s was, among other facts, a result of the competitive advantage gained by the German exporters, due to the high exchange rates at which peripheral countries entered the Economic and Monetary Union (Serfati, 2016: 265). Another example of this kind of center–periphery imbalance is the fact that countries in the periphery would not be able to address a drop in demand, due to the high-interest rates determined at a central level by the ECB (Liargovas, 2014: 51). These examples suggest that countries in the periphery would not have access to policy tools needed to deal with country-specific shocks, while countries in the center were less exposed to such economic problems. In line with the findings of economic disparity in the launch of the Economic and Monetary Union is the noted reversal of the trend of convergence between center member states and the old member states of the Southern periphery, which became more evident during the financial crisis (Katsikas, 2020: 6). In this paper, we employ the center-periphery dichotomy in the classical conceptual framework of cleavages, developed by Lipset and Rokkan (1967); in this framework, the center accrues asymmetrically more administrative (economic and political) powers than the periphery. We extend this cleavage framework to the current European

Union structure in terms of a foundational cornerstone: economic freedom. Even though this type of cleavage was initially discussed in the context of nation-states, the EU is characterized by extreme regional disparity.

### *2.2. EU policy outcomes: why economic freedom matters*

Economic freedom is associated with long-run growth, growing income, better living standards, increased levels of happiness, and economic development. Empirical research on this abound. Stroup (2007) has found that economic freedom is positively related to social welfare outcomes, such as better health and education, as well as disease prevention. According to Gwartney et al. (2022: 192), more than half of the empirical research shows that economic freedom is related to “good” outcomes, while only 4% found that economic freedom is associated with “bad” outcomes (i.e. income inequality). Economic freedom boosts foreign capital inflows, and it is conducive to stronger economic performance since investment becomes more productive (Azman-Saini, Baharumshah, & Law, 2010: 1083; de Haan & Sturm, 2000; Sturm & de Haan, 2001). Nevertheless, not all the sub-areas of economic freedom are equally important; Justesen (2008) found that certain aspects of economic freedom are positively related to economic growth and investment. European Union has created a single market, which unambiguously has brought more economic freedom to its member states. The EU membership per se is not found to have any great effect on increasing the economic freedom of the member states (Hall et al., 2011; Tarabar & Young, 2014); nonetheless, it is documented that the accession process is the period during which the requested reforms for joining EU (alignment with EU acquis) lead the acceding economies to greater economic freedom (Schizas et al. 2020). More specifically, the main economic area which drives this relationship is the freedom to trade, as barriers are eliminated early in the accession process and candidate countries can enjoy the benefits of free trade in the single market as the rest of advanced economies.

### *2.3. The periphery–center dichotomy and economic freedom in the EU: the research question*

The policies of the European Union aim to foster economic and social prosperity and address institutional and political challenges. In the pursuit of effective economic measures, the literature indicates that policies promoting economic freedom are associated with several positive economic outcomes. Therefore, it is crucial to empirically examine factors that can influence economic freedom and, thus, impact economic and social outcomes. We suggest that the cleavage between center and periphery within the European Union may be pertinent

to disparities in economic freedom among member states, and thus warrants exploration, considering that center and periphery cleavage in the EU is relevant to other economic aspects related to economic freedom.

Although there is a big lacuna in academic literature on the impact of center–periphery cleavage on economic freedom, there are some aspects of economic freedom where this dichotomy seems to play a pivotal role. Interestingly, the center-periphery economic dichotomy in the EU has mainly been studied in terms of monetary policy (EMU/EZ). Bayoumi and Eichengreen (1993) were among the pioneers who empirically found that a center-periphery pattern was detrimental to development during the period preceding the establishment of the Economic and Monetary Union (EMU). In a similar vein, and building more in the respective theoretical framework, Campos and Macchiarelli (2021) identify a center-periphery gap that has gradually decreased following the implementation of the currency union, marked by the adoption of the euro and increased competition. Another aspect of economic freedom in which center-periphery economic dichotomy seems to be relevant is trade. According to relevant literature (Petrakos, 2012: 8; Liargovas, 2014: 52), a common argument suggests that the northern European countries consistently maintained trade balance surpluses, while the southern countries experienced deficits on average. This relationship can also be seen as a center–periphery dichotomy of powerful states economically dominating over weak peripheral states. Additionally, Mack and Jacobson (1996) discovered that European Union countries located in the center have a tendency to specialize in high technology, large-scale manufacturing, and services. On the other hand, peripheral countries tend to focus on agriculture, extractive industries, low-technology manufacturing, and standardized production. This specialization pattern can have significant effects both in economic freedom and economic output.

Furthermore, research on economic freedom convergence has shown that  $\beta$ -convergence in economic freedom occurred worldwide during the period 1980-2010. Countries with initially lower levels of economic freedom narrowed the gap and institutionally converged more rapidly compared to others (Hall, 2016). The findings agree with other studies indicating a faster institutional convergence for countries with lower levels of economic freedom at the beginning to the USA (Heckelman, 2015). Geographical attributes seem also to play a role in economic freedom performance since countries with more exitability options (i.e. greater length of their borders in relation to their total geographical area) have greater economic freedom (Brown, 2014; Hall, 2016); in light of these findings of institutional convergence and regional effects, the center-periphery dichotomy could also be relevant to economic freedom differences.

However, economic freedom, as a concrete concept with specific areas of interest, has not been studied given the center-periphery dichotomy. This is the gap this study seeks to fill, at least on a preliminary basis. If the center-periphery dichotomy is relevant to trade and monetary economic aspects, which are areas of economic freedom, and there are regional effects in economic freedom performance, the dichotomy might also be relevant to economic freedom overall or to other sub-areas. If there are differences in economic freedom between EU center and periphery countries, in which areas are they identified, and what factors can help explain them? These questions have not been addressed so far in the relevant literature. Our paper seeks to offer a preliminary investigation of the first of those questions, that is, the differences in EU countries in terms of economic freedom, given the periphery and center cleavage. More specifically, we formulate our research question as follows: In which economic areas there are, on average, differences between EU countries in the periphery and those in the center in terms of economic freedom and its sub-areas? Since the EU is fundamentally based on the concepts of freedom and market economy, insights on disparities in economic freedom can prove useful in designing policies that aim for deeper integration and better policy outcomes.

### **3. Empirical strategy: Data, operationalization, and methods**

In our analysis, we argue that the center and periphery cleavage is to a certain degree relevant in explaining institutional differences between EU countries in economic freedom. We consider a statistically significant difference in an area as a sign of disparity in economic freedom between the EU center and periphery countries. Despite certain limitations of such an operationalization (which we discuss later), this approach could indicate preliminary results on the topic, which remain to be further explored as suggested in the conclusion. To explore our research question, we use the dataset underpinning the Fraser Institute's Economic Freedom Index Annual Report 2020 (Gwartney et al., 2022). We employ a sample of the current 27 EU member states for the last five years available in the dataset (2015-2019) excluding 2020, which measures economic freedom during the covid-19 pandemic. We have chosen to exclude the year 2020 from our analysis because the economic activity of countries has been significantly affected by multiple factors, including the severity of the COVID-19 pandemic. Therefore, including this year's data could distort the trends of economic freedom that we are examining.

In our analysis, we employ a bivariate approach to examine the relationship between the center-periphery cleavage and economic freedom in EU countries. We focus on determining whether there are statistically significant differences in economic freedom between center and periphery countries without controlling for other confounding factors. The continuous variable we use is the Economic Freedom overall score and its 5 sub-areas, namely, Size of Government, Legal System & Property Rights, Sound Money, Freedom to Trade Internationally, and Regulation for each year of the period 2015-2019. According to Fraser's conceptualization, economic freedom encompasses several factors, including a small and efficient government, secure property rights, the ability to engage in voluntary transactions, access to stable monetary policies, freedom to engage in international trade, the ability to compete, and personal choice. (Schizas et al., 2020: 18). Although composite indicators have documented disadvantages, such as the elaboration of quite complex concepts (Kešeljević, 2007) and challenges in regard to aggregation and calibration methods (Kešeljević & Spruk, 2013), this dataset is the best available as a proxy for our analysis. The first reason we opted for this measurement of economic freedom over other alternatives is that Fraser Institute's Economic Freedom Index Annual Report has been widely used for research purposes in 1,303 papers (Gwartney et al., 2022: 188). Furthermore, Fraser's measurement is considered to be more precise and more transparent in terms of process and methodology (Hall & Lawson, 2013: 406). Moreover, the fact that Fraser Institute's Economic Freedom has no special weighting scheme in its sub-areas, allows us to better address our research question on disparity in sub-areas of economic freedom. Our factor is the center–periphery dichotomy, following the Simonazzi et al. (2013) and Becker et al. (2015) fundamental classification framework.<sup>1</sup> The main criteria for this classification are the level of trade integration, GDP, level of industrialization, power, size, and productivity (Gräßner & Hafele, 2020, p. 4). EU countries can be classified into several other distinct groups, depending on their institutional, geographic, regime type or other attributes, such as the year of accession to the European Union. However, the purpose of this paper is to identify if the classical center–periphery cleavage is relevant to the economic freedom concept, therefore, we employ this fundamental dichotomous classification framework. Table 1 presents the classification we opted for in our analysis.

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<sup>1</sup> Gräßner and Hafele (2020) and Gräßner et al. (2019) also follow this fundamental taxonomy of center and periphery classification to create four distinctive groups of core, periphery, financial hubs, and catch-up economies, which cannot operate in the purpose of this study due to its limited sample.

**Table 1. European Union countries are classified as center and periphery**

Center	Periphery
Austria	Bulgaria
Belgium	Croatia
Denmark	Cyprus
Finland	Czech Republic
France	Estonia
Germany	Greece
Ireland	Hungary
Luxembourg	Italy
Malta	Latvia
Netherlands	Lithuania
Sweden	Poland

To identify any relationships between our variables, we employed the Mann-Whitney test as a nonparametric alternative equivalent of the t-test, since our data do not follow the normal distribution (see Table 2), a prerequisite for the t-test. Thus, the scores are first ordered from lowest to highest value and then the tied values are given the average rank. Therefore, we formulate the two following research hypotheses:

$H_0$ : *There is no statistically significant difference in the average rank in economic freedom between the countries of the EU periphery and those in the EU center*

$H_1$ : *There is a statistically significant difference in the average rank of economic freedom between the countries of the periphery and those in the EU center.*

In our analysis, we compare the average rank in economic freedom in each year for the last five years (2015-2019) and we observe statistically significant differences, over a single year and over years, which we interpret as a sign of disparity in economic freedom between EU center and periphery countries.

Table 2. Tests of Normality 2015-2019

Year	Center or Periphery (Periphery=1)	Kolmogorov-Smirnova				Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.	
2015	Economic Freedom Summary	Center 0,17	11	,200*	0,924	11	0,355	
	Size of Government	Periphery 0,103	16	,200*	0,936	16	0,307	
	Legal System & Property Rights	Center 0,177	11	,200*	0,883	11	0,113	
	Sound Money	Periphery 0,13	16	,200*	0,958	16	0,634	
	Freedom to trade internationally	Center 0,249	11	,055	0,866	11	0,07	
	Regulation	Periphery 0,161	16	,200*	0,959	16	0,651	
	Economic Freedom Summary	Center 0,142	11	,200*	0,976	11	0,939	
	Size of Government	Periphery 0,296	16	,001	0,662	16	0	
	Legal System & Property Rights	Center 0,119	16	,200*	0,969	16	0,821	
	Sound Money	Center 0,138	11	,200*	0,975	11	0,93	
2016	Freedom to trade internationally	Periphery 0,158	16	,200*	0,949	16	0,478	
	Economic Freedom Summary	Center 0,172	11	,200*	0,957	11	0,738	
	Size of Government	Periphery 0,177	16	,196	0,895	16	0,067	
	Legal System & Property Rights	Center 0,188	11	,200*	0,895	11	0,161	
	Sound Money	Periphery 0,153	16	,200*	0,949	16	0,479	
	Freedom to trade internationally	Center 0,185	11	,200*	0,906	11	0,218	
	Regulation	Periphery 0,156	16	,200*	0,944	16	0,4	
	Economic Freedom Summary	Center 0,264	11	,031	0,884	11	0,117	
	Size of Government	Periphery 0,354	16	0	0,688	16	0	
	Legal System & Property Rights	Center 0,241	11	,073	0,939	11	0,507	
2017	Sound Money	Periphery 0,133	16	,200*	0,95	16	0,492	
	Freedom to trade internationally	Center 0,146	11	,200*	0,955	11	0,705	
	Economic Freedom Summary	Periphery 0,187	16	,14	0,936	16	0,303	
	Size of Government	Center 0,222	11	,137	0,92	11	0,32	
	Legal System & Property Rights	Periphery 0,152	16	,200*	0,876	16	0,033	
	Sound Money	Center 0,161	11	,200*	0,919	11	0,306	
	Freedom to trade internationally	Periphery 0,142	16	,200*	0,938	16	0,326	
	Regulation	Center 0,153	11	,200*	0,921	11	0,324	
	Economic Freedom Summary	Periphery 0,133	16	,200*	0,961	16	0,687	
	Size of Government	Center 0,321	11	,002	0,725	11	0,001	
2018	Sound Money	Periphery 0,253	16	,007	0,814	16	0,004	
	Freedom to trade internationally	Center 0,233	11	,099	0,925	11	0,36	
	Economic Freedom Summary	Periphery 0,139	16	,200*	0,94	16	0,344	
	Size of Government	Center 0,173	11	,200*	0,953	11	0,687	
	Legal System & Property Rights	Periphery 0,144	16	,200*	0,951	16	0,509	
	Sound Money	Center 0,271	11	,024	0,772	11	0,004	
	Freedom to trade internationally	Periphery 0,243	16	,013	0,761	16	0,001	
	Regulation	Center 0,225	11	,124	0,903	11	0,201	
	Economic Freedom Summary	Periphery 0,163	16	,200*	0,932	16	0,267	
	Size of Government	Center 0,136	11	,200*	0,959	11	0,764	
2019	Regulation	Periphery 0,131	16	,200*	0,962	16	0,697	
	Economic Freedom Summary	Center 0,164	11	,200*	0,956	11	0,721	
	Size of Government	Periphery 0,134	16	,200*	0,964	16	0,729	
	Legal System & Property Rights	Center 0,191	11	,200*	0,9	11	0,184	
	Sound Money	Periphery 0,13	16	,200*	0,945	16	0,414	
	Freedom to trade internationally	Center 0,138	11	,200*	0,927	11	0,383	
	Regulation	Periphery 0,166	16	,200*	0,928	16	0,226	
	Economic Freedom Summary	Center 0,243	11	,07	0,852	11	0,045	
	Size of Government	Periphery 0,352	16	0	0,655	16	0	
	Legal System & Property Rights	Center 0,145	11	,200*	0,972	11	0,902	

This is a lower bound of the true significance.

Lilliefors Significance Correction

## 4. Findings

Table 3 shows the mean rank in economic freedom for each group of EU countries. The Mann-Whitney test yielded a significant association in Size of Government ( $p<0.044$ ) and Legal System & Property Rights ( $p<0.00$ ) for the examined period, and Regulation ( $p<0.044$ ) for most of the examined period.

**Table 3. Mean ranks of each Economic Freedom area for EU periphery and center countries**

<b>Economic freedom overall score</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Periphery (Mean Rank)	11,44	12,62	12	11,88	11,94
Center (Mean Rank)	17,73	16	16,91	17,09	17
Difference	-6,29	-3,38	-4,91	-5,21	-5,06
Significance	<b>0,044*</b>	29,42	0,121	0,099	0,11
<b>Size of Government</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Periphery (Mean Rank)	16,56	17,31	17,25	17,19	17,44
Center (Mean Rank)	10,27	9,18	9,27	9,36	9
Difference	6,29	8,13	7,98	7,83	8,44
Significance	<b>0,044*</b>	<b>0,008*</b>	<b>0,009*</b>	<b>0,011*</b>	<b>0,006*</b>
<b>Legal System &amp; Property Rights</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Periphery (Mean Rank)	9,06	9	9,06	9,31	9,38
Center (Mean Rank)	21,18	21,27	21,18	20,82	20,73
Difference	-12,12	-12,27	-12,12	-11,51	-11,35
Significance	<b>0,00*</b>	<b>0,00*</b>	<b>0,00*</b>	<b>0,00*</b>	<b>0,00*</b>
<b>Sound Money</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Periphery (Mean Rank)	13,44	14,12	12,56	12,04	13,06
Center (Mean Rank)	14,82	13,82	16,09	16,82	15,36
Difference	-1,38	0,3	-3,53	-4,78	-2,3
Significance	0,68	0,942	0,272	0,134	0,481
<b>Freedom to trade internationally</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Periphery (Mean Rank)	12,81	12,56	12,88	13	12,88
Center (Mean Rank)	15,73	16,09	15,64	15,45	15,64
Difference	-2,92	-3,53	-2,76	-2,45	-2,76
Significance	0,368	0,272	0,394	0,451	0,394
<b>Regulation</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Periphery (Mean Rank)	11,88	11,38	11,06	11,44	11,38
Center (Mean Rank)	17,09	17,82	18,27	17,73	17,82
Difference	-5,21	-6,44	-7,21	-6,29	-6,44
Significance	0,099	<b>0,039*</b>	<b>0,02*</b>	<b>0,044*</b>	<b>0,039*</b>

\* The significance level is 0,05

Furthermore, regardless of the statistical significance observed, the mean rank of five out of six variables suggests that countries in the center of the European Union demonstrate greater economic freedom (higher mean rank) in most of the sub-areas and the overall performance, with the exemption of the size of government. In this sub-area, countries in the periphery of the European Union seem to demonstrate greater economic freedom, namely smaller size of government. Figure 1 visualizes the results yielded by the Mann-Whitney test.

**Figure 1. Mean ranks of each Economic Freedom area for EU periphery and center countries, 2015-2019.**



\* Denotes statistically significant difference in that year (level is 0,05)

## 5. Discussion

The Mann-Whitney test yields statistically significant results in the areas of Size of Government, Legal System & Property Rights, and Regulation. That means that there is a significant disparity between the EU center and periphery countries in recent years and that we should reject the  $H_0$  and accept the  $H_1$  that there is a statistically significant difference in the average rank in economic freedom sub-areas between EU periphery and center countries. On the other hand, there is no significant difference between the EU center and periphery countries in the Overall Economic Freedom score, Sound Money, and Freedom to Trade Internationally areas. Therefore, for these three economic areas, we should retain the  $H_0$  that there is no statistically significant difference in the average rank of EU periphery and center countries.

More specifically, in the Size of Government area for all the years of the examined period (2015-2019), countries in the periphery of the European Union tend to have governments of a smaller size, namely greater economic freedom. The smaller size of government in the periphery countries could be partly attributed to the fact that this group includes 11 out of 17 (69%) former socialist regimes, which during the period 1989-1991 transitioned from a socialist to a market economy. This transition was accompanied by severe deregulation and liberalization of the economy and a set of new institutions aligned with the overall market democracy; however, it should be highlighted that not all post-socialist countries were liberalized to the same extent and at the same time, a fact that influences the within-group variation (Havrylyshyn et al., 2016). In the Legal System & Property Rights area for all the years of the examined period (2015-2019), countries in the center of the European Union tend to protect property and enforce the rule of law more efficiently. This disparity is in line with several rule of law measured scores, in which the best-scoring countries are the ones in central and northern Europe, while the countries in Eastern and Southern Europe have lower scores (The World Justice Project, 2022: 24). The long tradition of liberal democratic institutions in countries of the EU center, compared to the legacy of socialist regimes and dictatorships in the eastern and southern EU respectively may affect this relationship. In the Regulation area for 4 out of the 5 years examined, we observe that countries in the center of the European Union tend to have less extensive regulations regarding credit market (e.g. private sector credit), labor market (e.g. hiring regulations and minimum wage) and business barriers (e.g. administrative requirements). This result seems to be in line with the finding that countries in the EU center gained from the new low-wage labor markets in Eastern Europe since the collapse of

the socialist regimes, while countries in the EU periphery witnessed a severe increase in competition (Gräßner et al., 2019: 10). It is important to highlight that the relationships identified in the above three areas may have several confound factors, which affect the differences between EU center and periphery countries. However, the scope of this study is to identify disparity in the first place, and not explain it.

In overall economic freedom, there are no statistically significant differences, except in 2015. This year's difference may be partly a result of the economic situation at the time, when several periphery countries in Southern Europe, such as Greece, Italy, Spain, and Cyprus, were dealing with a severe fiscal and financial crisis. Still, there is relative alignment among center and periphery EU countries in overall economic freedom. In addition, both in Sound Money and Freedom to Trade Internationally, EU countries seem to have aligned as well. The control of monetary policy by the ECB in the Eurozone may be a significant factor for overall monetary stability in the Sound Money area since 81% of the countries in the center group and 69% of the countries in the periphery group are EZ members and the fundamental functions of their monetary policies are carried out by the European Central Bank (Schizas et al., 2020: 26). In addition, the overall alignment in Sound Money and Freedom to Trade Internationally areas is an expected outcome. The former can be attributed up to an extent to the successful policies implemented centrally by the European Central Bank. The latter can be seen as a benefit of unrestricted access to the single market, which offers a free trade zone in-between the EU countries, despite the Union's documented difficulty to conclude free trade agreements with other areas of the world, widening its free trade zones (Kamall et al., 2021).

The relationships identified indicate interesting differences in economic freedom areas between EU countries, classified by the given taxonomy of center and periphery cleavage. Nevertheless, we should also take into account that the current methodological approach and its results should be interpreted with caution since there are limitations that we have to note. The most important is the lack of a given official classification of EU center and periphery countries. Even though the variation between alternate classifications is rather limited, a different classification would probably yield different results; to address this limitation, we have also employed an alternate classification, suggested by Palier et al. (2017: 7-9). In this classification, the countries in the center are the geographically proximate ones to Germany, while the periphery countries are the ones on the borders of the continent. The main difference in this classification compared to the one opted for earlier, is that the Czech Republic, Estonia, Slovak Republic, and Slovenia moved to the group of the center EU countries.

Under this classification, the Mann-Whitney test still yields quite similar results in terms of the direction of the relationship. However, statistically significant differences are the ones in the Size of Government and Legal System & Property Rights; the differences in Regulation are not statistically significant (though in the same direction of greater economic freedom for center countries) and therefore this relationship identified earlier seems to be less robust. Another interesting result is that in the Freedom to Trade Internationally area, countries in the periphery have a greater mean rank, while with the first classification countries in the periphery have a smaller mean rank. Overall, in this area, there seem to be small differences in both cases.

## 6. Conclusion

In this study, we attempted to examine if there are differences between the EU periphery and center countries in the context of economic freedom and identify the specific economic areas of disparity. Despite the significant steps of economic alignment already taken, the EU countries still seem to differ in terms of economic freedom, which is one the cornerstones of the EU *acquis*.

In our analysis, the Mann-Whitney test suggests that there are significant differences between countries in the EU periphery and center in the areas of Size of Government, Legal System & Property Rights, and while in Regulation the disparity is documented, it seems to be less robust. In the first area, countries in the periphery of the EU tend to be more free (smaller size of government), while in the subsequent two areas countries in the center of the EU tend to protect property rights more efficiently and have fewer regulatory restrictions. Even though the results in the Overall Economic Freedom Score, Sound Money, and Freedom to Trade Internationally also point to the same direction of greater economic freedom for the countries in the EU center, the differences compared to the periphery countries are not statistically significant. In particular, when it comes to monetary policy and free trade, proxied by the Sound Money and Freedom to Trade Internationally areas respectively, the results indicate that European integration has been achieved to a great extent, despite the design flaws of the Eurozone discussed earlier. These results are somewhat expected, given the competencies that member-states have granted to the EU institutions to centrally coordinate policies in these areas.

As the results of our study indicate, the center-periphery cleavage seems to be relevant to certain aspects of economic freedom, possibly related to the long tradition of government intervention and rule of law enforcement in established liberal democracies of the continent. Even though there are certain limitations

in this study, these preliminary results are still useful in identifying areas of differences in the countries of the EU periphery and its center in terms of economic freedom. Future research could focus on identifying and explaining the causes of these disparities through a more detailed econometric analysis; this kind of analysis could enable new policies, aiming to strengthen the European Union's economic and political convergence.

## List of References

Azman-Saini, W. N., Baharumshah, A. Z., & Law, S. H. (2010). 'Foreign direct investment, economic freedom, and economic growth: international evidence', *Economic Modeling*, 27: 1079-89.

Bayoumi, T., & Eichengreen, B. (1993). 'Shocking aspects of European monetary integration' In Giavazzi, F., Torres, F. (Eds.), *Adjustment and Growth in the European Monetary Union*. Cambridge: Cambridge University Press.

Brown, M. (2014). "The Geography of Economic Freedom," in *The Annual Proceeding of the Wealth and Well-Being of Nations*, Vol. 1. Beloit, WI: Beloit College Press, 105– 22.

Campos, N. F. & Macchiarelli, C. (2021). 'The dynamics of core and periphery in the European monetary union: a new approach', *Journal of International Money and Finance*, 112.

Del Río-Casasola, A. (2021). 'Centre–Periphery in the EU-20: a classification based on factor analysis and cluster analysis', *Cambridge Journal of Economics*, 45:1337–60.

de Haan, J., & Sturm, J.-E. (2000). 'On the relationship between economic freedom and economic growth', *European Journal of Political Economy*, 16(2).

Gräßner, C., & Hafele, J. (2020). 'The Emergence of Core-Periphery Structures in the European Union: A Complexity Perspective', *Institut für zukunfts-fähige Ökonomien*.

Gräßner, C., Heimberger, P., & Kapell, J. (2019). 'Structural change in times of increasing openness: assessing path dependency in European economic integration' *Journal of Evolutionary Economics*, 30: 1467–95.

Gwartney, J., Lawson, R., Hall, J., & Murphy, R. (2022). *Economic Freedom of the World: 2022 Annual Report*. Fraser Institute.

Hall, J. C., & Lawson, R. A. (2013). 'Economic Freedom of the World: An Accounting of the Literature', *Contemporary Economic Policy*, 32: 1-19.

Hall, J. C., Lawson, R. A., & Wogslan, R. (2011). 'The European Union and economic freedom', *Global Economy Journal*, 11:3.

Hall, J. C. (2016). 'Institutional convergence: exit or voice?' *Journal of Economics and Finance*, 40:4, 829–40.

Havrylyshyn, O., Meng, X., & Tupy, M. L. (2016). '25 Years of Reforms in Ex-Communist Countries. Fast and Extensive Reforms Led to Higher Growth and More Political Freedom', *Policy Analysis*, 795.

Heckelman, J.C. (2015). 'Economic freedom convergence clubs', In: Cebula, R.J., Hall, J.C., Mixon, F.G. & Payne, J.E. (Eds.) *Economic behavior, economic freedom, and entrepreneurship*. Cheltenham: Edward Elgar Publishing, pp. 102–114.

Justesen, M. K. (2008). 'The effect of economic freedom on growth revisited: new evidence on causality from a panel of countries 1970–1999', *European Journal of Political Economy*, 24, 642-660.

Kamall, S., Saravakos, C., Hammond, A., Hernández, A. G., Hewson, V., Stagnaro, C., O'Mullony, A., Turillazzi, A. (2021). *Raising Barriers: Transforming attitudes to trade in Southern Europe*. Brussels: EPICENTER.

Katsikas, D. (2012). 'Redefining Periphery: Offshore Finance, Peripheral States and the World Economy', *Region & Periphery*, 2, 50-77.

Katsikas, D. (2020). 'EU's Economic Governance in Transition', *Region & Periphery*, 9:5-8.

Kešeljević, A. (2007). 'Indexes of economic freedom – An outline and open issues', *Zbornik Radova Ekonomskog Fakultet au Rijeci*, 25:223-43.

Kešeljević, A., & Spruk, R. (2013). 'Endogenous economic freedom and the wealth of nations: evidence from a panel of countries, 1996–2011', *Applied Economics*, 45(28): 3592-62.

Liargovas, P. (2014). 'Session 1: Economic Aspects' In *European Commission, The political implications of European economic integration — towards a political Union*, pp. 50-56. Luxembourg: European Commission.

Lipset, S. M., & Rokkan, S. (1967). *Party Systems and Voter Alignments: Cross-National Perspectives*. Free Press.

Mack, R. S., & Jacobson, D. S. (1996). "Core Periphery Analysis of the European Union: A Location Quotient Approach", *Journal of Regional Analysis & Policy* 26 (1): 3–21.

Palier, B., Rovny, E. A., & Rovny, J. (2017). 'European Disunion? Social and Economic Disparity Europe, and their Political Consequences', *Sciences Po LIEPP Working Paper n°71*.

Petrakos, G. (2012). 'Integration, spatial dynamics and regional policy dilemmas in the European Union', *Region & Periphery*, 2:7-20.

Schizas, E., Vidalı, M., & Saravakos, C. (2020). 'Does accession process to European Union lead to more economic freedom? Empirical evidence on the EU enlargement between 2000 and 2017', In C. Saravakos (Ed.), *EU Accession and Economic Freedom: An empirical analysis of the effect of EU membership and its antecedents on economic freedom*, pp. 15-39. Athens: European Liberal Forum (ELF) and Center for Liberal Studies.

Serfati, C. (2016). 'EU Integration as Uneven and Combined Development' In R. Desai (eds), *Analytical Gains of Geopolitical Economy*, pp. 255-294. Emerald Group Publishing Limited.

Stroup, M. D. (2007). 'Economic Freedom, Democracy, and the Quality of Life' *World Development*, 35(1):52-66.

Sturm, E. E., & de Haan, J. (2001). 'How Robust Is the Relationship between Economic Freedom and Economic Growth?', *Applied Economics*, 33:839-44.

Tarabar, D., & Young, A. T. (2014). 'Does the European Union Promote Convergence in Economic Freedoms?', In J. Cantalou , & C. M. Haury (Eds.), *The European Union – Catalyst for Economic Freedom*, pp. 25-33. Bruxelles: Friedrich Naumann Foundation for Freedom.

The World Justice Project. (2022). *Rule of Law Index 2022*. Washington, D.C: The World Justice Project.

Thomas, B. (2013). 'Core–Periphery Relations in the European Union and the Role of Central Places in Europe with a Focus on Regional Policy in Britain and Germany', *European Review*, 21(3):435-447.

TIMBRO. (2019). *Timbro Authoritarian Populism Index*. Stockholm: TIMBRO