THE ROLE OF INCLUSIVE AND EXTRACTIVE INSTITUTIONS IN RURAL DEVELOPMENT

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Abstract
This article aims to explore the relationship between rural development and inclusive/extractive institutions, as defined by the 2024 Nobel Laureates in Economics. Drawing from the New Institutional Economics theory, we assert that institutions and their enforcement are crucial for rural socio-economic development. The research considers 27 European Union countries from 2015 to 2023 to explore the link between development variables – such as people at risk of poverty or social exclusion, severe material deprivation, individuals with income above specified national thresholds, population with tertiary education, high-income population, people having a long-standing illness or health problems and employment rate – and three Worldwide Governance Indicators (regulatory quality, rule of law, and control of corruption), serving as proxies for the institutions at the national level. Additionally, the study highlights similarities and differences between the two sub-groups, EU members before the 2004 enlargement and Central-Eastern European countries that joined the EU in 2004 and later, in terms of the correlation strength between institutional and rural development indicators. The panel data, derived from Eurostat and the World Bank, was examined employing Pearson correlation coefficients. The signs and strength of the correlations for the EU27 suggest that all institutions represented by chosen indicators were generally inclusive, as evidenced by their reinforcement of the rural development dimensions, except for their undesired positive association with the ill-health variable. The more robust correlations between institutional and development variables in post-communist countries compared to the EU14 suggest that institutional strengthening, especially combating corruption, in the former has a greater capacity to promote rural development.
Keywords: new institutional economics, rural development, European Union, worldwide governance indicators.

Introduction
Rural communities in the EU face several significant and specific challenges related to socio-economic development. Problems such as the risk of poverty and social exclusion, material deprivation, inadequate infrastructure, and limited employment opportunities are hurdles that successful development programs must address. National governments and EU bodies support rural development through financial assistance and various initiatives. While many development efforts in the EU are designed similarly, there are varying degrees of success across member states, with some advancements failing. To better understand the reasons behind these disparities, we propose focusing on the role of formal and informal institutions at the national level.

New institutional economics (NIE) has gained prominence in the rural development literature as it seeks to understand how institutions can effectively promote rural development (Meador & Skerratt, 2017). Despite the substantial progress accomplished in the domain of rural development in conjunction with the NIE theory, empirical research concerning the question of whether and how inclusive institutions at national and local levels contribute to rural development remains limited. The current study tries to fill this gap by empirically exploring the relationship between national institutions and rural development dimensions.

The nation's institutional framework involves allocating rights and duties between individuals and groups, and subsequent enforcement of these rights and responsibilities. These rights include the entitlement to assets, employment, wages, social protection, education, health, natural resources, adequate nutrition, access to clean energy, and preserving the natural environment. Additionally, the right to fair justice is recognized. The exercise of the above rights is governed by (1) formal institutions, such as economic rules and contracts, public law and order, regulations and court decisions; (2) self-enforcement by informal institutions, such as trust, confidence, reputation, social and business networks governed by tradition, religion, culture, ideology and ethical and moral norms (North, 1990, 2005).

Empirical development studies have identified the pivotal functions of institutions in establishing conditions conducive to economic growth and development, demonstrating the causative relationship between institutions and cross-country disparities in productivity, economic growth, and development (Acemoglu et al., 2005; Ibañez, 2015). Institutions have also been investigated as factors underlying rural economic and social development (Gardner, 2005; Kraybill & Weber, 1995; Martino, 2024). In this context, the institutions can be generally classified into two categories: inclusive institutions, which are thought to foster progress, and extractive institutions, which are believed to hinder it. The absence of constraints on politicians and bureaucratic elites imposed by political institutions is indicative of a weak institutional environment in a country. Additionally, this weakness is marked by ineffective property rights enforcement, pervasive corruption, and a considerable degree of political instability.

According to Daron Acemoglu and James Robinson, the cornerstone of economic prosperity is establishing inclusive economic institutions, which engender widespread incentives and opportunities within society. In contrast, extractive economic institutions lacking such characteristics have been shown to engender poverty. The variation in economic institutions observed across different regions or

societies is a consequence of the dissimilarity in their respective political institutions. Inclusive economic institutions emerge from political choices cultivated within an inclusive political framework, characterized by a strong state and wide distribution of power throughout society. Conversely, the absence of either of these conditions gives rise to extractive political institutions, which, in turn, engender extractive economic institutions (Acemoglu & Robinson, 2019). As shown in the literature, many researchers argue that establishing sound institutions is crucial for the development of rural regions, including the reduction of inequalities and the alleviation of poverty.

To verify the existence of the 'institutions-development' nexus, the present study examines the correlation between national institutions and selected dimensions of rural development, utilizing a sample of developed countries represented by the entire population (twenty-seven) of the European Union's member states, thereby ensuring a comprehensive and representative dataset for analysis.

Materials and Methods

As the variables representing institutions, we exploit the Worldwide Governance Indicators, WGI (Kaufmann et al., 2011), obtained from the World Bank's database (World Bank, 2024). The study considers three out of the six WGI's dimensions: regulatory quality (RQ), rule of law (RL), and control of corruption (CC). This choice was based on two main reasons: first, these dimensions effectively reflect the characteristics of inclusive versus extractive institutions within the context of EU countries; second, they provide a sufficiently comprehensive picture of these institutions. WGI scores range from -2.5 to +2.5, with higher ones implying better institutional performance.

Regulatory quality is a multifaceted concept comprising various elements, such as price controls, discriminatory tariffs or taxes, the intensity of market competition, and consumer protection. It also encompasses the government regulatory burdens, the ease of starting a business, the effectiveness of antitrust policies, investment and financial freedoms, and the stringency of legislation and policy. The rule of law includes such formal institutions as the enforceability of contracts and property rights, private property, the security of goods and persons, and the fairness and speediness of the judicial process. The control of corruption measure looks at how corrupt public officials are, how much trust the public has in politicians, whether public funds are misused or any irregular payments are made (for example, in public utilities, tax collection, public contracts, and the legal system), corruption between different government administrations and local businesses or foreign companies. The institutions proxied by the selected indices, when inclusive, are vital for fostering socio-economic development. Conversely, if these institutions are extractive, they are believed to hinder progress. For example, compliance with a legal framework and ongoing efforts to combat corruption can play a key role in eradicating poverty and social inequalities within rural society.

The selected variables describing rural development, derived from the Eurostat database (Eurostat, 2024a), generally reflect the European pillar of social rights indicators. They comprise income and living conditions indicators, such as people-at-risk-of-poverty and social exclusion (AROPE), severe material deprivation (SMD), share of people with an income above or equal to specific national thresholds (130% of median income or more); educational attainment of the rural population measured as the percentage of the population (aged 15-64) with a tertiary qualification; employment rate and health conditions (people with a longstanding illness or health problem (% of people aged 16 or over).

AROPE is defined as the sum of persons who are either at risk of poverty or severely materially and socially deprived, or living in a household with a very low work intensity. The threshold at which individuals are regarded to be threatened by poverty is set at 60% of the national median equivalised disposable income, counting social transfers. It is important to note that individuals are included in the category only once, even in cases where they may be experiencing multiple situations. The AROPE rate is calculated as the proportion of the total population. In the EU, it serves as the primary metric for evaluating the EU 2030 target concerning poverty and social exclusion.

SMD indicates a severe lack of necessary and desirable items to live a decent or dignified life. The indicator differentiates between individuals who cannot afford specific goods, services, or social activities. It is defined as the percentage of the population experiencing an enforced lack of at least 7 out of 13 deprivation items, including the capacity to face unexpected expenses, afford a week-long annual holiday away from home, face payment arrears (such as mortgage or rent payments, utility bills, and loan payments), the ability to maintain a comfortably warm house, and access to a car or van for personal use.

The study encompasses the set of twenty-seven member states of the European Union (EU27) from 2015 to 2023. Additionally, two subgroups were distinguished: EU14, which consists of the 'old' members (before the 2004 enlargement, excluding the United Kingdom), and EU-CEE, which comprises eleven countries from Central and Eastern Europe.

We assess the statistical reliability of the relationships between institutional and rural development variables by Pearson correlation analysis, thereby ensuring the robustness of the results.

The complete panel data set under consideration consists of 243 observations (N = 9 × 27 = 243). Where Eurostat data were incomplete, the number of observations in the panels decreased due to missing values, for either the country or the year. Statistical analyses were conducted utilizing Statistica version 13 software.

Results and Discussion

The analysis of the performance of EU countries from 2015 to 2023 regarding domestic regulatory quality reveals that, as anticipated, the WGI RQ scores were predominantly higher in the older member states – except for Greece, Portugal, and Spain – compared to the countries in Central and Eastern Europe. Within the CEE group, the Nordic-Baltic trio of Estonia, Lithuania, and Latvia consistently dominated in the RQ rankings, with the Czech Republic ranking closely behind. The Nordic countries (Sweden, Finland, and Denmark) were also among the old EU's leading RQ performers. A parallel tendency was for institutional performance, evidenced by the rule of law. This phenomenon is probably attributable to the high correlation between this variable and regulatory quality. Finland, Denmark, and Sweden achieved the highest RL scores, while two countries in southeast Europe – Bulgaria and Romania – had the lowest scores, showing no noticeable progress. Among the EU14, Greece was found to have the poorest RL.

Between 2015 and 2023, Denmark, Finland, Sweden, and the Netherlands emerged as the leading EU27 countries in anti-corruption efforts. Conversely, Bulgaria, Romania, and Hungary displayed a less effective approach to combating corruption. The EU's older member states, known collectively as the EU14, demonstrated a higher level of performance in this area than the CEE countries.

Some scholars suggest that post-communist countries exhibit considerable ʻinstitutional asymmetryʼ between formal and informal institutions. While formal regulations have substantially improved, informal norms, such as culture and values, have developed considerably more slowly (Todorov, 2023; Williams & Vorley, 2015). We hypothesize, however, that the core of the institutional dilemma lies in the challenge of conceptualizing informal institutions.

When considering rural development aspects, it is essential to underline that the EU social model is based on supporting the most vulnerable members of society. Although variations persist among countries, EU nations implement social protection to safeguard individuals against various challenges. These challenges include the costs of raising a family or securing housing, threats associated with unemployment, sub-optimal health, poverty, and social exclusion. Nevertheless, in 2023, it was estimated that 94.6 million people, representing 21.4% of the EU's population, lived at risk of poverty or social exclusion, and 29.2 million (6.8%) faced severe material and social deprivation (European Commission, 2024; Eurostat, 2024b).

Our analysis of EU countries has revealed that, during 2015-2023, Romania and Bulgaria experienced the highest risk of poverty or social exclusion among their rural populations, with rates reaching approximately 60% at the inception and about 40% at the end of the period under consideration. In the EU14, the highest concentrations of individuals threatened with poverty or social exclusion were in rural areas of predominantly southern EU countries – Greece, Spain, and Portugal. However, these rates were almost half those observed in the most disadvantaged CEE countries. The lowest AROPE rates, by country sub-groups, were found in Czechia, Slovenia, and Slovakia (CEE region) alongside the Netherlands and Austria (EU14).

The prevalence of severe material and social deprivation in rural areas also varied considerably across the EU countries. During the 2015-2023 period, Romania and Bulgaria demonstrated the highest SMSD rates. Despite a downward trend, in 2023, approximately one in five Romani and Bulgarian rural inhabitants experienced severe deprivation. In contrast, SMSD rates were frequently below 2% in the Netherlands, Luxembourg, Austria, Malta, Sweden, and Finland. However, Greece, which led the old EU countries with the highest rate, had this at 15-20%. Among the EU members of the CEE region, Slovenia, Estonia, and the Czech Republic were the best performers. In summary, the most pronounced levels of severe material and social deprivation have been recorded in rural regions of the South Eastern EU.

The researchers acknowledge the pivotal role of income distribution in societal advancement because it substantially influences various dimensions of social cohesion, the prevalence of poverty, human capital formation, and the effectiveness with which economic growth mitigates poverty. Moreover, it exerts an indirect influence on the education and health status of the population. The extant literature suggests that a more equitable income distribution is desirable and conducive to promoting growth and development (Acemoglu & Robinson, 2002; Kuźmar, 2023; Stewart, 2003).

The subsequent developmental metric examined in this study pertains to the national high-income thresholds, which denote the proportion of the rural population whose incomes surpass or equal specific national thresholds. Over the nine years observed, Luxembourg had the highest percentage of its rural population whose income was 130% of the median income, or larger. The proportion of rural Luxembourgers whose income was at this level ranged between 30 and 33%, depending on the year. Austria and Germany, from the EU14, along with Estonia, Latvia, and Lithuania, from CEE, topped the EU countries with high-income rural residents. In the CEE region, with Bulgaria and Romania as notable examples, this proportion was nearly half of the highest recorded in the EU27. A similar finding was also noted in Poland.

The study also considers rural educational attainment, which, as demonstrated in the extant literature, exerts a considerable impact on the labour market, individual citizens, and society. In general, higher education levels are associated with higher employment rates, foster innovation, greater productivity, superior lifetime earnings, reduced poverty rates, and enhanced life satisfaction (Janka et al., 2021; Kampelmann et al.,

2018; Krpan et al., 2024). In 2023, 22.6% of the rural population aged 15 to 64 years in the EU27 had a tertiary education level, which includes education provided by universities and other higher education institutions. However, from 2015 to 2023, the distribution of high educational attainment levels varied across EU rural areas. Ireland, Luxembourg, and Belgium have recorded the highest proportions of rural residents with tertiary education, approximately 40% in recent years, whereas Romania (about 5%) and Bulgaria (about 9%) have been found to have the lowest percentages. In the context of CEE rural populations, the highest rates were predominantly attained by Lithuania, Estonia, Slovenia, and Latvia (25-30% in 2023).

Another essential aspect is the long-term health status of the rural population, as it can impact their families, work, finances, and well-being. The health conditions and patterns of illness and injury in rural territories are affected by several factors. First, rural areas generally experience higher rates of preventable deaths compared to urban areas. Second, work-related injuries in rural settings are more likely to be severe. Third, access to health protection and care services in rural communities is often inadequate, as numerous studies demonstrate (Hassler & Ceccato, 2021; Russell et al., 2013; Strasser, 2003; Wong Shee et al., 2024). Concerning the issue of health inequalities between EU rural areas, Eurostat estimates derived from the EU-SILC show that in 2023, more than half of the rural population in Finland reported long-standing illness or health problems, compared with only 16% in Italy. Other EU14 countries with high proportions (over 40%) of such persons include Portugal, Germany, Sweden, and France. In the CEE, Estonia, Latvia, and Lithuania reported the worst health status for rural people (over 40%, in 2023), in contrast to Romania and Bulgaria (under 30%).

Among the EU countries for which Eurostat data on the rural employment rate (% of the people aged 15-64) were available, Slovenia, Czechia, Sweden, the Netherlands, and Ireland had the highest rates, exceeding 83%, in contrast to Greece (EU14) with only 54% and Croatia (CEE) with 61% of working age rural population employed in 2023. It is important to note that a paucity of connectivity, inadequate infrastructure, a lack of diversified job opportunities, poverty leading to the outflow of rural youth, the aging problem, and limited access to services and resources all have the potential to combine and render rural areas in some EU countries less appealing as places of employment (Grodzicki & Jankiewicz, 2022; Marino & Tebala, 2022).

Since our approach to rural development emphasizes the role of national institutions, the next research stage identifies the interrelationships between selected institutional and developmental variables. We point out that correlation analysis does not establish cause-and-effect relations between time series – causation requires correlation, but correlation does not imply causation. The role of institutions in development is multifaceted; however, it is essential to recognize the reciprocal relationship between development and institutions, where development can also shape the nature of institutions. In other words, the causality can run from development to institutions (Chang, 2011).

The correlation coefficients for the EU27, depicted in Table 1, suggest that institutions, proxied by regulatory quality, rule of law, and control of corruption indicators, generally had an inclusive character, as evidenced by their enhancement of rural development dimensions. All tested correlations between development and institutions are statistically significant. From 2015 through 2023, higher regulatory quality, rule of law, and efforts to combat corruption were strongly associated with lower proportions of rural populations at risk of poverty or social exclusion and experiencing severe material deprivation. We also found a strong to moderate direct relationship between these institutions and the percentage of rural residents with tertiary education. Additionally, there was a similar correlation of RL and RQ with the share of individuals earning at least 130% of the median income, as well as the employment rate in rural areas. A weak yet positive correlation was identified between CC and income and employment variables. Public corruption, i.e., the abuse of public office for personal gain, is a widespread problem that often exacerbates poverty-related conditions such as low income, poor health, and inadequate education.

Chronic poverty, which affects numerous countries, engenders an environment conducive to systemic corruption due to social and income inequalities in addition to negative economic incentives. Much empirical evidence (Zang et al., 2023; Crombach & Smits, 2024) shows a strong negative correlation between corruption and socio-economic outcomes, including poverty, substandard education, and health. A puzzle arises from the unexpected positive (moderate or weak) link between the institutional variables and the rural people experiencing long-standing illness or health problems. The findings of earlier cross-country research (Knowles & Owen, 2010) indicate that, for the majority of countries, enhancements in informal institutions seem to exert a more substantial positive influence on health status in comparison to improvements in formal institutions. Moreover, the benefits derived from improving informal institutions are most extensive for countries that exhibit the weakest institutions. The WGI dimensions used in our study are indicative of mainly formal institutions.

To account for the potential heterogeneity between countries that differ in the length of their EU membership and political legacies, the potential impact of domestic institutions on rural development was examined for two sub-groups of countries. The correlation analysis carried out separately for the EU14 and the EU-CEE states, incorporating institutional and development variables, over the

period 2015-2023, yields highly plausible results (Table 2). The correlation signs for all variable pairs demonstrate consistency across both sub-groups.

However, the strength of association and the level of statistical significance vary between them.

Table 1

Pearson correlation coefficients between countries' institutional and rural development metrics for the EU27, 2015-2023

Variables	N	RQ	RL	CC
RQ	243	1.00	0.92	0.62
AROPE	239	-0.58	-0.67	-0.50
SMD	239	-0.63	-0.72	-0.54
INCOME	239	0.39	0.37	0.28
EDU	239	0.68	0.69	0.52
HEALTH	235	0.32	0.37	0.21
EMPL	166	0.52	0.52	0.20

Notes: N—number of observations; RQ—regulatory quality; RL—rule of law; CC—control of corruption; AROPE—persons at risk of poverty or social exclusion; SMD—severe material deprivation rate; INCOME—share of people having income greater or equal to specific national thresholds; EDU—share of people with tertiary education attainment; HEALTH—share of people having a long-standing illness or health problem; EMPL—rural employment rate. All Pearson correlation coefficients are statistically significant at the 0.01 level ($p < 0.01$), except for EMPL/CC, which is significant at the 0.05 level ($p < 0.05$). Source: authors' research.

Table 2

Pearson correlation coefficients between countries' institutional and rural development metrics for the EU14 and CEE countries, 2015-2023

Variables	EU14 (N=124)			EU-CEE (N=98)[1]		
	RQ	RL	CC	RQ	RL	CC
RQ	1.00	0.93***	0.36***	1.00	0.82***	0.68***
AROPE	-0.76***	-0.80***	-0.38***	-0.38***	-0.59***	-0.45***
SMD	-0.74***	-0.77***	-0.20**	-0.50***	-0.70***	-0.63***
INCOME	0.23***	0.13	0.09	0.64***	0.67***	0.36***
EDU	0.61***	0.58***	0.24***	0.69***	0.79***	0.67***
HEALTH	0.28***	0.46***	0.17*	0.67***	0.67***	0.56***
EMPL	0.72***	0.76***	0.38***	0.47***	0.39***	0.10

Notes: EU14—the old EU member states (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, and Sweden); EU-CEE—the EU member states from the Central and Eastern Europe (Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia); other abbreviations as in Table 1; [1]—for EMPL variable N=30; *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.1. Source: authors' research.

In the old EU member states, control of corruption was the least or not statistically significantly correlated with all development-related variables. In contrast, in the post-communist countries of the EU, an inverse, ranging from strong to moderate, association between the CC and the risk of poverty or social exclusion, as well as the severe material deprivation rate, existed. Additionally, in these countries, the CC was strongly positively correlated with health and education variables.

In the EU14, as opposed to the CEE region, a stronger correlation was present between RL and RQ on the one hand, and AROPE, SMD, and rural employment rates on the other hand. In contrast, correlations between RL and RQ, on the one hand, and education, income, and health variables, on the other hand, were found to be weaker than those observed in the new member states. A small and statistically insignificant correlation coefficient was found between income and the rule of law in the EU-14 (as opposed to the EU-CEE). This suggests, among other things, that factors like improving judicial fairness and efficiency, reinforcing contracts and property rights, safeguarding private property, and enhancing safety measures for goods and persons are of negligible importance for income distribution in the older member states.

As discussed earlier in the paper, between 2015 and 2023, the older member states of the EU demonstrated better institutional performance compared to those from Central and Eastern Europe. As a result, marginal improvements in the institutions of these two groups are likely to yield different degrees of impacts on the development indicators.

Conclusions

1. Current research supports the prevailing consensus among institutional economists that stronger institutions are linked to better development outcomes and vice versa. The findings for the group of 27 EU countries from 2015 to 2023 indicate an interconnectedness between rural development and national-level institutions, embodied in regulatory quality, the rule of law, and control of corruption. The relationship nature is further substantiated by small differences in the degree, though not the direction, of the observed correlations between the EU14 and CEE countries.

2. The correlation signs and strengths for the entire EU and the two country subgroups reveal that institutions proxied by the Worldwide Governance Indicators – rule of law, regulatory quality, and control of corruption demonstrated an inclusive character. Their improvement was concomitant with positive rural development outcomes, including an increase in tertiary education, a lower risk of poverty and social exclusion, a reduction in severe material deprivation, and higher employment ratios.

3. An exception to the inclusivity exhibited by institutions, proven by their direct association with the subjective health status (long-standing illness or health problem) reported by rural individuals, suggests that domestic institutions in the EU may possess an extractive nature. This unanticipated finding requires further examination.

4. Several higher and more statistically significant correlations between development indicators and institutional proxies in the CEE countries suggest that institutional improvements, especially anti-corruption measures, may have a greater capacity to promote rural development in new member states than in the old ones.

5. Strengthening formal institutions would be most beneficial for countries with lower institutional ratings and less developed rural areas, such as those located in the CEE region, especially Bulgaria and Romania.

6. As this paper focuses primarily on national-level formal institutions, future studies could explore the role of local and informal institutions in shaping rural development. Additionally, rather than relying on aggregated indices of national institutional quality, future researchers might consider using narrower indicators (such as scores for regulatory burden, contract enforceability, conditions for the development of rural financial services, investment climate for rural businesses, access to agricultural input and product markets) to conduct a more in-depth analysis.

7. A potential shortcoming of the present study is the assumption of linear relationships between institutional and developmental variables. We suggest that future researchers employ more sophisticated methods.

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