RESEARCH ARTICLE

https://doi.org/10.17059/ekon.reg.2025-4-4
UDC 001, 321, 323, 336, 338
JEL O43, O47, H11, H61

A. Sánchez Andrés [a], *L. D. Ramírez Franco* [b]
[a, b] University of Valencia, Valencia, Spain

Government Effectiveness and Economic Policy in the OECD: Convergence and Divergence (1996–2022)[1]

Abstract. The OECD has long sought to promote the convergence of economic policies among its member states. Yet substantial differences persist in government effectiveness and in the outcomes of key economic policies, raising concerns about the ability of countries with weaker institutional capacities to narrow the gap with more advanced economies. Although the literature highlights the central role of institutional quality in shaping economic performance, less attention has been devoted to whether countries actually converge in government effectiveness, and to how this dimension influences broader patterns of economic convergence. This study examines sigma and beta convergence in government effectiveness and in five core economic policy variables — GDP per capita, inflation, unemployment, public debt, and government expenditure — across 38 OECD countries from 1996 to 2022, using data from the World Bank's Worldwide Governance Indicators and World Development Indicators. The analysis acknowledges that convergence is not a unidimensional phenomenon: reductions in economic disparities may occur without full alignment of policy strategies, and convergence in macroeconomic outcomes does not necessarily imply convergence in the institutional frameworks that support them. Conversely, formal policy alignment does not guarantee comparable administrative capacities for effective implementation. The findings reveal sigma convergence in most economic variables but no evidence of beta convergence, indicating that countries starting from less favourable positions have not systematically caught up with better-performing peers. In contrast, government effectiveness diverges over time, reflecting increasing institutional heterogeneity within the OECD. Overall, the results suggest that while economic disparities have narrowed in some areas, this trend has not been accompanied by a parallel convergence in institutional capacity. Strengthening public administration, improving regulatory quality, and enhancing international coordination remain essential for fostering deeper structural convergence.

Keywords: Government effectiveness, sigma convergence, beta convergence, economic policies, OECD

For citation: Sánchez Andrés, A., & Ramírez Franco, L.D. (2025). Government Effectiveness and Economic Policy in the OECD: Convergence and Divergence (1996–2022). *Ekonomika regiona / Economy of regions, 21(4)*, 963-976. https://doi.org/10.17059/ekon.reg.2025-4-4

[1] © Sánchez Andrés A., Ramírez Franco L. D. Text. 2025.

ИССЛЕДОВАТЕЛЬСКАЯ СТАТЬЯ

А. Санчес Андрес [а], *Л. Д. Рамирес Франко* [б]
[а, б] Университет Валенсии, г. Валенсия, Испания

Эффективность государственного управления и экономическая политика в ОЭСР: конвергенция и дивергенция (1996–2022)

Аннотация. ОЭСР на протяжении многих лет стремится содействовать сближению экономической политики среди стран-членов. Однако, из-за сохраняющихся различий в качестве госуправления и эффективности экономической политики, способность стран со слабыми институтами догнать развитые экономики вызывает сомнения. Несмотря на то, что в научной литературе подчёркивается значимость качества институтов для получения экономических результатов, открытым остается вопрос о том, происходит ли фактическая конвергенция эффективности государственного управления, а также каким образом эта институциональная динамика влияет на более широкие процессы экономической конвергенции. В настоящем исследовании анализируются σ – и β-конвергенция эффективности государственного управления и пяти основных показателей экономической политики — ВВП на душу населения, инфляции, уровня безработицы, государственного долга и государственных расходов — в 38 странах ОЭСР за период 1996–2022 гг., с использованием данных индикаторов Всемирного банка Worldwide Governance Indicators и World Development Indicators. Основополагающим для анализа является представление о конвергенции как о многомерном явлении: сокращение экономического разрыва может происходить и без полного сближения стратегий экономической политики, а совпадение макроэкономических результатов не обязательно означает сходство институциональных рамок, лежащих в их основе. Вместе с тем формальное согласование политических правил не гарантирует наличия у государств сопоставимых административных возможностей для их эффективной реализации. Исследование показало наличие σ-конвергенции по большинству экономических переменных и отсутствие β-конвергенции. Таким образом, страны с первоначально менее благоприятными показателями не демонстрируют систематического сближения со странами-лидерами. Эффективность государственного управления наоборот демонстрирует дивергенцию, что отражает нарастающую институциональную неоднородность внутри ОЭСР. В целом результаты исследования показывают, что процесс сокращения экономических различий не сопровождается соответствующей конвергенцией институционального потенциала. Укрепление государственных институтов, повышение качества регулирования и углубление международной координации остаются ключевыми условиями для достижения более глубокой структурной конвергенции.

Ключевые слова: эффективность государственного управления, sigma-конвергенция, beta-конвергенция, экономическая политика, ОЭСР

Для цитирования: Санчес Андрес, А., Рамирес Франко, Л. Д. (2025). Эффективность государственного управления и экономическая политика в ОЭСР: конвергенция и дивергенция (1996–2022). *Экономика региона, 21(4)*, 963-976. https://doi.org/10.17059/ekon.reg.2025-4-4

Introduction

In recent decades, the relationship between institutional quality and economic performance has been widely recognised as a central pillar of socioeconomic development. A substantial body of research highlights that institutions determine the incentives shaping economic and political behaviour, thereby influencing fiscal stability, administrative efficiency, and long-term growth prospects (Acemoglu et al., 2005). Within this framework, government effectiveness serves as a key indicator of institutional quality because it reflects the state's capacity to design, coordinate, and implement coherent public policies– capacities that directly affect social welfare and national competitiveness (Martín-Legendre, J.I. 2022).

The importance of institutional robustness has become particularly evident during recent episodes of global disruption. During the COVID-19 pandemic, countries with stronger institutional frameworks were able to deploy more effective fiscal and monetary responses and consequently recover more rapidly, whereas those with weaker administrative capacities faced greater difficulties in containing economic and social losses (Pragyan et al., 2021). Similar dynamics have been observed in the context of geopolitical tensions, energy price shocks, and periods of macroeconomic volatility, in which governments' ability to formulate and execute effective policies has proved decisive for maintaining stability.

Within the Organisation for Economic Co-operation and Development (OECD), these issues acquire additional relevance. One of the organisation's long-standing objectives is to promote the harmonisation of economic policies among its members to support more equitable and sustainable development. However, notable differences persist not only in government effectiveness but also in the design and implementation of key policy measures. These disparities raise questions regarding the ability of less institutionally developed countries to narrow the gap with more advanced members. While the literature provides extensive evidence on the role of institutions in shaping economic performance, empirical research remains more limited on whether countries are converging in terms of government effectiveness and on how institutional divergence influences the degree of convergence in economic policy outcomes.

Addressing these questions requires recognising that convergence is not a unidimensional phenomenon. Economic outcomes may converge even when countries pursue distinct policy strategies, or in some cases even in the absence of explicit policy coordination. Likewise, convergence in macroeconomic indicators such as inflation, unemployment, or public debt does not necessarily imply convergence in the underlying policy instruments or institutional frameworks. Conversely, formal alignment in policy rules does not guarantee that governments possess comparable administrative capacities to implement them effectively. These conceptual distinctions are essential for evaluating whether observed reductions in economic disparities reflect genuine structural convergence or merely superficial similarities in outcomes.

Against this backdrop, the present study examines whether OECD countries have converged in both government effectiveness and key economic policy variables between 1996 and 2022, and whether divergence in institutional capacity constrains countries' ability to achieve meaningful convergence in economic outcomes. The central hypothesis is that stronger and more coherent institutional capacity facilitates economic convergence by enhancing governments' ability to implement stabilising policies. To assess this hypothesis, the analysis employs sigma and beta convergence techniques, which capture changes in cross-country dispersion as well as differential growth dynamics over time (Barro & Sala-i-Martin, 1992).

The empirical results reveal a complex pattern: sigma convergence is observed in most economic variables, signalling a reduction in disparities, yet beta convergence is absent, suggesting that initially less advanced countries have not grown faster than their counterparts. Moreover, government effectiveness follows a divergent trajectory, indicating increasing heterogeneity in administrative capacity across the OECD. Taken together, these findings suggest that convergence in economic outcomes has neither been accompanied by convergence in institutional frameworks nor supported by a systematic catch-up process. This distinction is critical, as it implies that the observed economic convergence may not reflect deeper structural alignment capable of sustaining long-term policy harmonisation.

Understanding the disconnect between convergence in outcomes and divergence in institutional capacity is essential for informing the design of effective public policies. The study contributes to the literature by clarifying the role of government effectiveness in shaping convergence dynamics and by highlighting the need to strengthen administrative capacity, transparency, and governance mechanisms in order to support more coherent and inclusive economic development across OECD countries.

The article is structured as follows. The next section presents a comprehensive review of the literature, outlining the role of institutions, government effectiveness, and economic convergence. This is followed by a detailed presentation of the data and methodological approach, with particular attention to the use of sigma and beta convergence techniques. The subsequent section analyses the empirical results and discusses them within the theoretical framework introduced earlier. The article concludes with the main findings, policy implications, and avenues for future research aimed at advancing the understanding of how institutional quality shapes convergence dynamics across OECD countries.

Theoretical Review: Institutions, Government Effectiveness, and Economic Convergence

The role of institutions in economic performance has been the subject of extensive debate in economic literature, evolving from classical institutionalist approaches to contemporary theories on institutional quality and its impact on economic convergence. Since the pioneering works of Veblen (1899) and Commons (1931), institutional economics has emphasized that norms, rules, and social structures influence economic relationships and determine market stability. These early approaches led to the

development of Original Institutional Economics (OIE), which underscores the importance of cultural habits and the evolution of institutions in shaping economic behaviour.

In the mid-20th century, New Institutional Economics (NIE) emerged with the works of Coase (1937) and North (1990), who argued that institutions reduce uncertainty and facilitate economic interactions by lowering transaction costs. From this perspective, institutions not only establish the rules of the game in the economy but also determine the incentives that influence investment, innovation, and sustained economic growth. In this context, North (1990) emphasized that institutional quality is a key factor in explaining differences in development between countries, establishing a direct relationship between effective governance and economic performance.

The link between institutions and economic growth has been widely studied in recent decades. La Porta et al. (1999) demonstrated that differences in legal systems affect the protection of property rights and, consequently, economic development. Acemoglu et al. (2001) expanded on this idea with their theory of colonial institutions, arguing that countries that inherited inclusive institutions achieved more sustained economic growth, whereas those with extractive institutions faced persistent development challenges. Later, Rodrik et al. (2004) concluded that institutional quality is the most relevant factor in explaining economic development, surpassing other determinants such as geography and trade integration.

In terms of measurement, Kaufmann et al. (2011) developed the Worldwide Governance Indicators (WGI), which enabled the quantification of government effectiveness and its relationship with economic growth. Through these indicators, it has been demonstrated that countries with high levels of government effectiveness exhibit lower inflation and unemployment rates, as well as greater macroeconomic stability. In contrast, countries with weak institutions face greater challenges in attracting foreign investment and fostering market competitiveness.

Government effectiveness also influences economic convergence processes. Barro and Sala-i-Martin (1992) introduced the concepts of sigma and beta convergence, which have been widely used to assess income evolution across countries and to determine whether less developed economies grow faster than more advanced ones. In this regard, Cohen and Soto (2007) found that institutional quality and human capital accumulation are key factors in reducing economic disparities. However, Acemoglu et al. (2014) pointed out that while institutions can facilitate convergence, initial political and economic structures can generate divergence, limiting the growth potential of countries with weaker institutions.

Within the OECD context, institutional quality has been a determining factor in the economic convergence of its member countries. Since its foundation, the OECD has promoted the harmonization of public policies with the objective of reducing economic disparities among its members. However, empirical evidence indicates that differences in government effectiveness persist, hindering full convergence within the bloc (OECD, 2015)[1]. Rodrik (2018) argues that economies with strong institutions manage to implement more efficient fiscal and monetary policies, enabling them to better handle economic crises and maintain sustained growth. Conversely, countries with weaker institutions face structural barriers that limit their growth capacity and reduce the effectiveness of their public policies.

Recent studies show that institutional transparency, political stability, and public expenditure efficiency are key determinants in convergence processes. Countries with more effective governments have managed to reduce macroeconomic volatility and improve competitiveness, while those with weaker institutions continue to struggle to fully integrate into the global economy (Djankov et al., 2002). In this context, assessing government effectiveness is not only essential for understanding the dynamics of convergence within the OECD but also for identifying which institutional reforms may be most effective in reducing economic inequalities on a global scale.

In the contemporary literature on economic growth and public policy, numerous authors highlight that economic convergence is not a unidimensional process but may take different forms depending on the domain under consideration. Following the conceptual distinction established by Barro and Sala-i-Martin (1992), convergence in economic outcomes refers to the reduction of disparities in indicators such as inflation, unemployment, or public debt. However, as noted by Rodrik (2018), an approximation of these outcomes does not necessarily imply a homogenisation of economic policy instruments, since countries may achieve similar levels of performance through different

[1] Organisation for Economic Co-operation and Development (OECD). (2015). The future of productivity. OECD Publishing. https://www.oecd.org/en/publications/the-future-of-productivity_9789264248533-en.html (Date of access: 15.03.2025).

combinations of fiscal rules, expenditure structures, or stabilisation mechanisms. At the same time, institutional convergence constitutes an analytically independent dimension related to the state's capacity to design and implement effective public policies– a factor that organisations such as the OECD have identified as essential for understanding persistent cross-country differences (OECD, 2015). Empirical evidence shows that these distinct forms of convergence do not necessarily progress in parallel: it is possible to observe a reduction in economic disparities despite divergences in institutional frameworks, or even to find an improvement in economic indicators coexisting with a relative deterioration in institutional quality (Djankov et al., 2002). This conceptual framework is fundamental for interpreting convergence patterns within the OECD, as it allows for assessing whether the reduction of economic gaps reflects a deeper structural alignment or, alternatively, conceals significant divergences in government effectiveness and in countries' capacity to implement coherent public policies. Consequently, this perspective justifies the joint analysis of institutions, policy instruments, and economic outcomes undertaken in the present study.

Data and Methodology

Data

The data used in this study are drawn from the World Bank databases, specifically the Worldwide Governance Indicators (WGI) 1 and the World Development Indicators (WDI) 2. The WGI, developed by Kaufmann, Kraay, and Mastruzzi (2011), provide aggregated measures of governance based on more than thirty international data sources, including large-scale surveys and expert assessments from institutions such as the World Bank, the International Monetary Fund (IMF), the Organisation for Economic Co-operation and Development (OECD), and various non-governmental organizations. The indicator of Government Effectiveness (GE), which serves as the dependent variable in this study, is reported on a continuous scale from –2.5 to 2.5 and summarises perceptions of the quality of public services, the professionalism and autonomy of the civil service, the quality of policy formulation and implementation, and the credibility of the government's commitment to its stated policies.

The empirical analysis is conducted on a balanced panel of 38 OECD countries over the period 1996–2022, which allows for the joint examination of cross-country and time variation in institutional quality and economic performance. The explanatory variables related to economic policy are obtained from the World Development Indicators (WDI) and are employed according to their official definitions, thereby ensuring conceptual consistency and international comparability. Per capita GDP growth is taken from indicator NY.GDP.PCAP.KD.ZG, which measures the annual percentage growth rate of GDP per capita based on constant prices; in the WDI database, the underlying GDP per capita series are expressed in constant 2015 US dollars, so that this variable captures real economic growth rather than movements driven by current exchange rates or price levels. Inflation is sourced from FP.CPI.TOTL.ZG, reporting the annual percentage change in the consumer price index, computed using the standard Laspeyres methodology. The unemployment rate corresponds to indicator SL.UEM.TOTL.ZS, an internationally harmonised estimate of the share of the labour force without work but available for and actively seeking employment, as produced by the International Labour Organization 3. Fiscal variables are expressed relative to the size of the economy: public debt is drawn from GC.DOD.TOTL.GD.ZS, which measures central government gross debt as a percentage of GDP, and government expenditure from GC.XPN.TOTL.GD.ZS, which records government expense as a percentage of GDP, including compensation of employees, interest payments, transfers, subsidies, social benefits, and other operating outlays. The use of these standardised indicators ensures methodological coherence and supports robust cross-country comparisons throughout the period under analysis.

These variables collectively provide a robust empirical foundation for analysing the relationship between institutional quality, as they have been widely used in previous studies to examine governance effectiveness and economic performance (Kaufmann ey al., 2010), (Reinhart & Rogoff, 2010) (Kaufmann, Kray, & Mastruzzi, 2010); (Reinhart & Rogoff, 2010). Their relevance has been demonstrated in cross-country analyses assessing the role of institutional strength in fostering economic stability and growth,

[1] World Bank. (2023). Worldwide Governance Indicators (WGI). https://info.worldbank.org/governance/wgi/Home/Reports (Date of access: 04.02.2025).

[2] World Bank. (2023). World Development Indicators (WDI). https://databank.worldbank.org/ (Date of access: 21.02.2025).

[3] International Labour Organization (ILO). (2023). ILO Stat database. https://ilostat.ilo.org/ (Date of access: 21.02.2025).

reinforcing their applicability in this research. measured through government effectiveness, and key economic outcomes. Moreover, previous studies have extensively used these variables to assess governance and economic performance, reinforcing their relevance in this context.

Likewise, it is necessary to clearly delineate the scope of the indicators included in the analysis. The literature shows that government effectiveness is shaped by a wide range of structural factors, such as legal origin, geography, regulatory quality, or corruption, but also, and most consistently, by countries' economic performance, particularly per capita GDP growth (La Porta et al., 1999; Treisman, 2000; Barro, 1996; Kaufmann et al., 2011). In line with this evidence, the present study focuses on fiscal and macroeconomic outcome variables that directly reflect the state's capacity to design and implement public policies, such as public debt and government expenditure, whose internationally standardised definitions allow for robust comparisons across OECD countries. By contrast, monetary policy instruments, such as policy interest rates or monetary base growth, are not included due to their limited cross-country comparability. A substantial number of countries in the sample, particularly those belonging to the euro area, do not possess national monetary policy instruments, as interest rate decisions and monetary conditions are jointly determined by the European Central Bank. This institutional reality, widely documented in the literature on monetary unions (De Grauwe, 2020; Blanchard & Johnson, 2013), eliminates the variation required for coherent panel analysis and introduces conceptual asymmetries between countries with different monetary regimes. For these reasons, and following the literature that links institutional quality to the effectiveness of fiscal instruments and economic performance, the empirical specification focuses exclusively on fiscal and macroeconomic outcome variables that are fully observable and comparable across the entire sample.

Table 1 presents a detailed analysis of the relationship between key economic variables and government effectiveness, summarizing

Table 1.

Report on the Relationship Between Variables and Government Effectiveness

Variable	Definition	Expected Relationship with Government Effectiveness	Economic Theory
Gross Domestic Product per Capita	The total value of all goods and services produced by a country in a year, divided by its population.	Positive. Higher per capita GDP is associated with greater government capacity to implement effective policies due to increased resource availability.	Higher per capita GDP reflects a higher level of economic development and an improved ability to implement public policies.
Inflation	The sustained increase in the general price level of goods and services in an economy.	Negative. High levels of inflation are often related to inefficiencies in economic management and ineffective policies.	High inflation reduces purchasing power and economic stability, negatively affecting confidence in the government.
Unemployment Rate	The percentage of the labour force that is unemployed.	Negative. A high level of unemployment indicates failures in the implementation of economic policies that generate employment and development.	A high unemployment rate is an indicator of inefficiency in the implementation of labour and economic policies.
Public Debt	The total financial liabilities accumulated by the government and owed to creditors.	Negative. A high level of public debt can impact the government's ability to implement effective policies by increasing debt servicing costs.	Excessive debt can limit the government's ability to invest in effective public policies and divert resources toward debt servicing (interest payments).
Public Expenditure	The level of government spending on public goods and services.	Ambiguous. If public spending is efficient and well-targeted, it can improve government effectiveness. If inefficient, it may reduce it.	Efficient public spending can promote economic growth, but if excessive or misallocated, it can generate inefficiencies.

Source: Compiled by the authors

the expected theoretical relationships and empirical patterns identified in previous research. The findings indicate that higher government effectiveness is generally associated with stronger economic performance, particularly in terms of GDP growth and fiscal stability. However, the degree of influence varies among countries, highlighting the role of institutional capacity in shaping economic outcomes (Serrano-Pérez 2025). highlighting their definitions, expected relationships based on the literature, and theoretical support. Variables such as per capita GDP, inflation, unemployment, debt, and public expenditure are directly related to the institutional capacity of governments to formulate and implement effective policies. This table provides a conceptual framework that justifies the selection of explanatory variables in the empirical analysis. Furthermore, it illustrates the impact of each variable on institutional quality and governance dynamics, facilitating an evaluation of the interactions between these economic dimensions and government effectiveness. A key takeaway from Table 1 is that while higher government effectiveness is generally associated with better economic outcomes, disparities remain significant across countries, underscoring the need for institutional reforms.

By integrating both theoretical approaches and empirical evidence, the table supports the model specification and contributes to a better understanding of the results in the context of OECD countries.

Instruments and Outcomes in Economic Policy: A Theoretical Approach

Within the framework of economic theory, it is essential to differentiate between the outcomes and instruments of economic policy. Variables such as per capita GDP, inflation, and unemployment represent economic and social performance indicators that directly result from the implementation of government policies. Per capita GDP, for instance, measures the level of production and population well-being, as highlighted by Romer (1990) in his endogenous growth model and Solow (1956), who emphasized the role of physical and human capital in productivity growth. Inflation, in line with monetarist principles, is closely linked to monetary and fiscal policies, as Friedman (1968) asserted when stating that "inflation is always and everywhere a monetary phenomenon." However, this assertion primarily applies to the long-term perspective, as short-term inflation dynamics can also be influenced by supply shocks, cost-push factors, and unexpected external disturbances, as highlighted by Blanchard (1986) and Bernanke (2007). Unemployment, on the other hand, reflects labour market efficiency, a concept developed in the Phillips curve (1958), which establishes an inverse relationship between inflation and unemployment in the short run.

These outcomes are not independent but are determined by the use of economic policy instruments such as public debt, government expenditure, and fiscal deficit. As Auerbach and Gale (2009) highlight, these instruments are fundamental in managing aggregate demand and supply. Public debt enables the financing of expansionary policies, while government expenditure can stimulate growth through investments in infrastructure and human capital, as argued by Barro (1990) and Keynes (1936). However, a prolonged fiscal deficit, reflecting an imbalance between revenues and expenditures, may generate adverse effects. Reinhart and Rogoff (2009) warn that an unsustainable accumulation of debt could lead to economic crises, undermining financial stability and restricting governments' policy space. However, subsequent studies (e.g., Herndon et al., 2014) have challenged their conclusions about the debt threshold and its influence on economic growth, noting that the results were affected by data selection, coding errors, and methodological limitations.

Consequently, the effectiveness with which these instruments are employed determines the success of economic policies in achieving objectives such as sustainable growth, price stability, and unemployment reduction. Efficient management can yield positive outcomes, whereas inadequate use may exacerbate macroeconomic imbalances, increase inflation, and constrain long-term economic growth potential.

From a theoretical standpoint, it is essential to distinguish between convergence in economic policy instruments, convergence in macroeconomic outcomes, and institutional convergence, as each of these dimensions is driven by distinct mechanisms. As established in the convergence literature (Barro & Sala-i-Martin, 1992), a reduction in disparities in indicators such as GDP per capita, inflation, or unemployment does not necessarily imply that countries have adopted similar fiscal or expenditure strategies. In fact, different policy designs — regarding the size and composition of public expenditure, tax structures, or fiscal rules — may lead to comparable levels of stability and growth (Klein, 1994; Tanzi & Schuknecht, 2000; Rodrik, 2018). At the same time, the effective impact of these instruments depends on the quality of the institutions responsible for

implementing them: differences in transparency, administrative capacity, or regulatory quality can generate markedly different outcomes from policies that are formally similar, as shown in comparative OECD analyses (OECD, 2015) and studies on regulatory frameworks and incentive systems (Djankov et al., 2002). Clearly distinguishing these three forms of convergence is therefore crucial for interpreting the experience of OECD countries and for assessing whether the reduction of economic disparities reflects a genuine structural alignment in policy instruments and institutional capacities or, alternatively, masks divergent trajectories in government effectiveness. This perspective motivates the joint analysis of institutions, policy instruments, and economic outcomes undertaken in the present study.

Methodology

The methodology employed in this study is based on the analysis of sigma and beta convergence, two widely used tools in economics to assess whether economies tend to converge in terms of key variables. Sigma convergence, introduced by Barro and Sala-i-Martin (1992), measures the evolution of the dispersion of a variable, such as government effectiveness, over time. A reduction in this dispersion would indicate that countries are converging toward a common level of institutional quality. Conversely, beta convergence evaluates the relationship between the growth rate of a variable and its initial level, allowing the determination of whether countries with lower initial levels experience higher growth rates, thus implying a catch-up process (Barro & Sala I Martin, 1992).

This approach is particularly suitable for this study as it enables an examination of whether the economic policies implemented by OECD countries within their institutional frameworks tend to promote convergence in governance quality.

The application of this methodology is directly linked to the study's hypothesis. The analysis is based on the premise that government effectiveness, as an indicator of institutional quality, significantly influences economic outcomes and convergence dynamics among countries. Through sigma convergence analysis, it is possible to determine whether disparities in institutional quality among OECD countries have decreased over time, which would align with the economic cohesion objectives pursued by this organization. Furthermore, beta convergence allows an assessment of whether countries with lower initial levels of government effectiveness have achieved faster improvement rates, thus testing the hypothesis that institutional quality can evolve differentially depending on its initial conditions.

The primary advantages of these methods lie in their ability to capture both the reduction of disparities across countries and differential growth dynamics — key elements for understanding how institutional reforms may foster convergence in public policy quality. In the context of government effectiveness, sigma convergence provides insights into the trend toward greater homogeneity among countries, while beta convergence addresses the dynamic component, assessing whether institutionally less developed countries are closing the gap with more advanced ones.

However, this methodological approach presents certain limitations. Sigma convergence does not necessarily imply structural convergence, as it may merely reflect a reduction in dispersion without substantive changes in underlying determinants. Likewise, beta convergence can be sensitive to model specification and the selected time period, necessitating a careful methodological design to avoid biases in result interpretation. Despite these limitations, the literature has validated the use of this methodology in prior studies. Quah (1996) examined income convergence in Europe, while Barro and Sala-i-Martin (1992) applied beta convergence analysis to regional economic growth in the United States and Europe, establishing a robust framework for evaluating convergence dynamics across different economies.

The relevance of this analysis in the OECD context stems from the fact that one of the organization's primary objectives is to promote greater economic cohesion among its member states. The OECD provides an institutional framework designed to facilitate the implementation of homogeneous economic policies and the development of comparable institutional capacities. By employing sigma and beta convergence analysis, this study rigorously evaluates whether institutional efforts and policies adopted by OECD countries are leading to convergence in institutional quality, thereby allowing for an empirical verification of the extent of these processes in an international context.

Empirical Analysis

Sigma Convergence

To measure sigma convergence, a dispersion-based approach is employed to assess the evolution of cross-country variability in a specific

variable of interest, such as GDP per capita or government effectiveness. First, the standard deviation of the selected variable is computed for a group of countries in an initial year (in this case, 1996). This measure quantifies the dispersion of individual values relative to the mean, applying the standard formula:

$$\sqrt{\frac{1}{N}\sum_{i=1}^{N}\left(x_i-\mu\right)} \quad (1)$$

Where σ represents the standard deviation, N denotes the number of observations (countries), ∑ indicates summation, X_i refers to each individual value of the variable, and μ represents the mean of the values.

This procedure is repeated for a subsequent year (in this case, 2022), and the standard deviation is compared across the two periods. If the standard deviation in 2022 is lower than in 1996, sigma convergence can be inferred, indicating that cross-country disparities in the variable of interest have diminished over time.

The results of the sigma convergence analysis, presented in Table 1, demonstrate that variables such as GDP per capita, inflation, unemployment, public debt, and government expenditure have exhibited a reduction in dispersion among OECD countries over the period 1996–2022. This is evidenced by the decline in their standard deviations in 2022 relative to 1996, signalling a convergence process in these areas. This trend suggests that countries have progressed toward greater homogeneity in terms of economic growth, price stability, labour market conditions, debt management, and public expenditure.

By contrast, government effectiveness (GOV_EFF) exhibits a divergent trend, as evidenced by the increase in its standard deviation from 0.573 in 1996 to 1.00 in 2022. This rise indicates growing heterogeneity in governance quality among OECD countries, suggesting that differences in institutional capacities have widened rather than diminished. This finding is particularly significant, as government effectiveness is a key determinant in the efficient formulation and implementation of economic and social policies.

Overall, the results suggest that while progress has been made in the homogenization of core economic indicators, disparities in government effectiveness remain a significant structural challenge. The divergence in institutional quality may constrain the ability of countries with lower government effectiveness to design and implement economic reforms and public policies effectively, which, in turn, could hinder their macroeconomic and social performance. In this context, strengthening public institutions in countries with lower levels of government effectiveness becomes imperative through the adoption of reforms aimed at narrowing these gaps and fostering greater institutional cohesion within the OECD.

This analysis underscores the need to address both economic convergence progress and persistent governance challenges to develop more balanced and sustainable public policy strategies.

The comparison of cross-country dispersion between two points in time is the standard procedure for assessing sigma convergence and does not imply a methodological omission of intermediate dynamics. According to the classical definition by Barro and Sala-i-Martin (1992, 1995), sigma convergence is identified through the change in cross-sectional dispersion between an initial and a final year, as its purpose is to capture the long-term structural evolution of differences across countries. In this framework, the standard deviation computed at the endpoints of the period constitutes a sufficient and widely used statistic to determine whether cross-country

Table 2.

Sigma Convergence Analysis: OECD Countries, 1996–2022

Variable	SD 1996	SD 2022	Convergence
GOV_EFF	0.573975	1.004624	No
GDPpc	1.337422	0.587409	Yes
CPI	1.349552	0.565887	Yes
UNEM	0.525600	0.460069	Yes
DEBT	0.775196	0.554920	Yes
EXPENSE	0.545628	0.253303	Yes

Source: Prepared by the authors with data from the World Bank, 2023

heterogeneity has increased or decreased over time (Sala-i-Martin, 1996; Quah, 1996). Although certain macroeconomic indicators, such as inflation or the unemployment rate, may exhibit short-term volatility driven by transitory shocks, cyclical fluctuations, or external disturbances, this variability does not undermine the conceptual validity of sigma convergence, whose aim is not to describe annual fluctuations but to identify the net change in dispersion across the period. Consequently, the comparison between the initial and final years offers an appropriate and methodologically consistent measure aligned with established practices in empirical convergence research, as temporary oscillations do not alter the interpretation of the long-term structural trend in the cross-country distribution (Blanchard, 1986; OECD, 2022)[1].

Beta convergence

To complement the findings of the sigma convergence analysis, it is essential to estimate beta convergence. While sigma convergence assesses the reduction in the dispersion of variables over time, it does not indicate whether countries with lower initial levels have successfully narrowed the gap with those that had higher initial levels. Beta convergence analysis addresses this limitation by examining whether countries with lower initial values in specific economic policy variables experience higher rates of improvement compared to those with higher initial values. This approach is crucial in determining whether the reduction in variability observed in sigma convergence is accompanied by an economic catch-up process, in which less developed countries progressively converge toward more advanced ones.

The estimation of beta convergence involves analysing the inverse relationship between the initial level of a variable and its growth rate over the study period. This is typically conducted using a linear regression model, where the dependent variable represents the rate of change of the analysed variable (e.g., government effectiveness or GDP per capita), and the independent variable corresponds to its initial value in a baseline year — 1996 in this case. The general specification of the beta convergence regression is expressed through the following equation:

$$g_i = \propto + \beta \log\left(x_{i0}\right) + \in_i$$

Where g_i represents the change in the variable between the baseline year and the final year, $\propto$, is the regression intercept, β, is the coefficient that indicates convergence if negative, $\log(x_{i0})$ denotes the initial value of the variable in the baseline year (natural logarithm), $\in_i$ is the error term.

Second, the coefficient β will be evaluated. A negative value of this coefficient would indicate that countries with lower initial values have exhibited higher growth rates, providing evidence of a convergence process. Conversely, a positive coefficient would suggest that countries with higher initial values have sustained relatively higher growth rates, reflecting a divergence pattern.

Third, the statistical significance of β will be assessed. Specifically, for the results to be considered statistically significant, the p-values associated with the t-statistic must be below the 5 % threshold.

Figure 1 presents the results of the beta convergence regressions, which analyse the relationship between the growth rate of the dependent variables — government effectiveness (GOV_EFF), GDP per capita (GDPpc), inflation (CPI), unemployment (UNEM), public debt (DEBT), and government expenditure (EXP) — and their initial values in 1996, the first year of the study period. The results indicate that the relationship between the growth rate of each variable and its initial value is positive, suggesting the absence of beta convergence. Specifically, the positive coefficient observed across all six cases analysed implies that countries with higher initial values have maintained relatively higher growth rates, contradicting the beta convergence hypothesis. Under this hypothesis, countries with lower initial levels would be expected to exhibit higher growth rates, thereby reducing disparities and fostering convergence toward more homogeneous values in the examined variables.

Table 2 complements the previously presented graphical analysis by providing quantitative estimates from the β-convergence regressions. The results indicate no empirical evidence of β-convergence for any of the analysed variables (LNG96, LNGDPPC1996, LNCPI1996, LNUNEM1996, LNDEBT1996, and LNEXP1996). Although the β coefficients are statistically significant in most cases (except for LNG96), all exhibit positive values, suggesting that countries with higher initial levels have maintained relatively higher growth rates.

The coefficient of determination (R^2) further supports these findings, as it captures the proportion of the variation in the growth rate

[1] Organisation for Economic Co-operation and Development (OECD). (2022). Consumer Price Index methodology. https://www.oecd.org/ (Date of access: 05.02.2025).

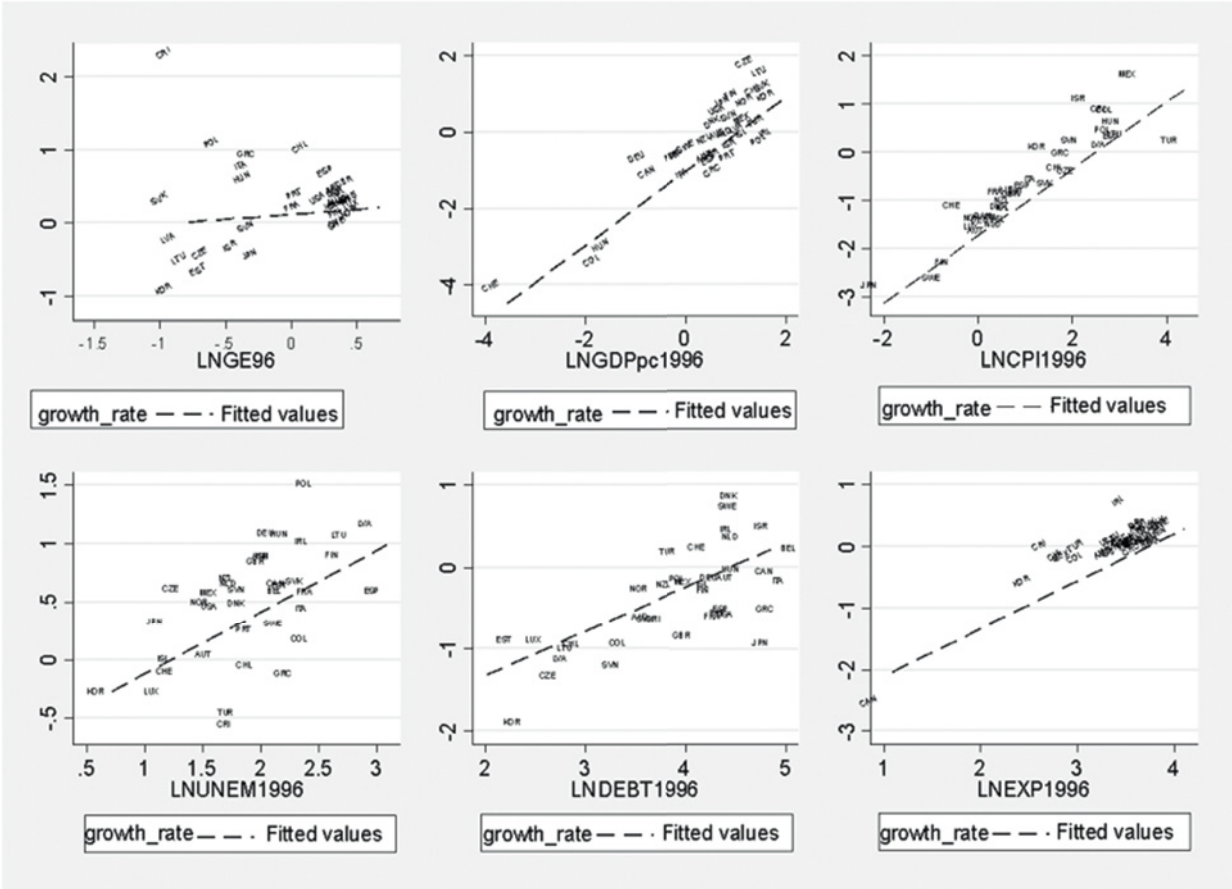

Fig. 1. *Beta convergence analysis: OECD countries 1996–2022*
Source: Prepared by the authors using Stata with data from the World Bank, 2023.

Table 3.

Beta convergence analysis: OECD countries 1996–2022

Variable	Beta Value	t-Statistic	p-Value	R-squared	Beta Convergence
LNG96	0.1313	0.68	0.501	0.0138	No
LNGDPPC1996	0.9692	10.75	0.000	0.7778	No
LNCPI1996	0.6946	14.50	0.000	0.8539	No
LNUNEM1996	0.5310	4.31	0.000	0.3405	No
LNDEBT1996	0.5418	5.91	0.000	0.4925	No
LNEXP1996	0.7691	11.46	0.000	0.7848	No

Source: Prepared by the authors using Stata with data from the World Bank, 2023.

explained by the initial levels of the variables. The high R^2 values observed in several regressions (e.g., LNCPI1996 with 0.8539 and LNEXP1996 with 0.7848) indicate substantial explanatory power of initial conditions over subsequent growth trajectories. These results reinforce the absence of β-convergence, as the persistent positive relationship between initial values and growth is robust and well-supported by the data.

Discussion

The findings reveal distinct patterns between the two types of convergence examined. While there is evidence of σ-convergence for most variables (except for GOV_EFF), no evidence of β-convergence is found for any of the analysed variables. σ-convergence occurs when the dispersion of a variable's values decreases over time. In this case, the reduction in the standard deviation of variables such as GDPpc, CPI, UNEM, DEBT, and EXPENSE between 1996 and 2022 suggests that OECD countries have progressively narrowed disparities in these indicators. This implies that, despite initial differences in levels across countries, the gaps have diminished over time, leading to greater homogeneity within the group.

Conversely, the absence of β-convergence indicates that countries with higher initial values for the analysed variables (such as GDPpc and CPI, among others) have maintained similar or even higher growth rates compared to those with lower initial values, thereby confirming the Matthew effect. This finding contradicts the hypothesis that less developed countries should experience faster growth rates to catch up with more advanced economies.

The coexistence of σ-convergence alongside the absence of β-convergence suggests a phenomenon in which overall dispersion has declined without a systematic catch-up process between less developed and more advanced countries. This implies that the internal dynamics within the group of countries are driven by structural factors or specific policies that reduce disparities in terms of dispersion but do not fulfil the conditions for β-convergence. Differences in growth rates may be influenced by structural characteristics, levels of economic development, or national policies that shape a country's capacity for convergence in relative growth terms but not necessarily in terms of dispersion.

In summary, the observed σ-convergence suggests increasing homogeneity in key economic indicators among OECD countries. However, the absence of β-convergence indicates that this process has not been driven by differential growth that allows less developed countries to catch up with more advanced economies. These findings underscore the importance of analysing both dispersion and growth dynamics to fully comprehend economic convergence processes.

Taken together, the empirical findings reveal a configuration in which σ-convergence in most economic variables coexists with the absence of β-convergence and with increasing divergence in government effectiveness. This pattern indicates that the reduction in dispersion among OECD countries has not been driven by a catch-up process whereby initially less advanced economies grow faster than their more developed counterparts. Rather, it points to the influence of common external forces — such as deeper economic integration, shared macroeconomic frameworks, or global financial conditions — that narrow cross-country gaps in inflation, unemployment, debt, or public expenditure without necessarily producing greater alignment in domestic policy frameworks or institutional capacities.

The widening dispersion in government effectiveness is particularly relevant in this regard: differences in administrative capability, regulatory quality, and policy implementation can prevent countries with weaker institutional environments from translating macroeconomic improvements into sustained convergence in growth dynamics. Consequently, similar macroeconomic outcomes may emerge from markedly different fiscal and regulatory strategies, while analogous policy instruments may yield heterogeneous effects depending on the strength of underlying institutions. Overall, these results suggest that the observed convergence in macroeconomic indicators has not been accompanied by convergence in either institutional quality or policy instruments, underscoring the need to incorporate institutional capacity and government effectiveness into any assessment of economic convergence and policy coordination within the OECD.

Conclusions

The findings of this study indicate that, between 1996 and 2022, OECD countries experienced sigma convergence in several key economic policy variables — GDP per capita, inflation, unemployment, public debt, and government expenditure — reflecting a gradual reduction in cross-country dispersion. However, the absence of beta convergence shows that countries starting from less favourable initial conditions did not systematically improve at a faster rate than those with more advantageous initial positions. This pattern suggests that the observed reduction in disparities is driven not by a catch-up process, but rather by common structural forces or shared external constraints that have narrowed differences without altering the relative trajectories of individual countries.

Our key finding is the persistent divergence in government effectiveness, which becomes increasingly heterogeneous over time. This result highlights a critical insight: convergence is not a unidimensional phenomenon. Countries may converge in economic outcomes even when their institutional capacities, administrative structures, and policy instruments evolve in divergent ways. Likewise, formal alignment of policy rules does not ensure that governments possess comparable capabilities to implement them effectively. The coexistence of sigma convergence in economic indicators and divergence in government effectiveness indicates that the reduction in economic disparities does not necessarily correspond to deeper structural or institutional convergence.

Overall, the results suggest that although OECD countries have drawn closer in certain economic dimensions, they have not converged in the institutional foundations required to design, coordinate, and implement effective public policies. Persistent gaps in government

effectiveness may therefore limit the extent to which economic convergence can translate into more robust and sustainable convergence in broader development outcomes. Strengthening administrative capacity, improving regulatory quality, and enhancing international policy coordination emerge as essential priorities for supporting a more profound and resilient process of structural convergence.

Finally, the study opens several avenues for further research, including the identification of factors that inhibit beta convergence, the assessment of institutional reforms that may enhance government effectiveness, and the extension of the analysis to non-OECD countries to better understand the global dynamics linking institutional quality and economic convergence.

References

Acemoglu, D. (2008). *Introduction to modern economic growth.* Princeton university press.

Acemoglu, D., Gallego, F.A., & Robinson, J.A. (2014). Institutions, human capital, and development. *Annual Review of Economics, 6,* 875–912. https://doi.org/10.1146/annurev-economics-080213–041119

Acemoglu, D., Johnson, S., & Robinson, J.A. (2001). The colonial origins of comparative development: An empirical investigation. *American Economic Review, 91*(5), 1369–1401. https://doi.org/10.1257/aer.91.5.1369

Acemoglu, D., Johnson, S., & Robinson, J.A. (2005). Institutions as a Fundamental Cause of Long-Run Growth. *Handbook of Economics Growth, 1,* 385–472. https://doi.org/10.1016/S1574–0684(05)01006-3

Auerbach, A.J., & Gale, W.G. (2009). *Activist fiscal policy to stabilize economic activity* (No. w15407). National Bureau of Economic Research.

Barro, R.J. (1990). Government spending in a simple model of endogenous growth. *Journal of Political Economy, 98*(5, Part 2), S103–S125. https://doi.org/10.1086/261726

Barro, R.J., & Sala-i-Martin, X. (1992). Convergence. *Journal of Political Economy, 100*(2), 223–251. https://doi.org/10.1086/261816

Bernanke, B.S. (2007). *Inflation expectations and inflation policy.* National Bureau of Economic Research, 76.

Blanchard, O.J. (1986). The wage price spiral. The Quarterly *Journal of Economics, 101*(3), 543–565.

Coase, R.H. (1937). The nature of the firm. *Economica, 4*(16), 386–405.

Cohen, D., & Soto, M. (2007). Growth and human capital: Good data, good results. *Journal of Economic Growth, 12*(1), 51–76. https://doi.org/10.1007/s10887-007-9011-5

Commons, J.R. (1931). Institutional economics. *The American Economic Review, 21*(4), 648–657.

Deb, P., Furceri, D., Ostry, J.D., Tawk, N., & Yang, N. (2025). The effects of fiscal measures during COVID-19. *Journal of Money, Credit and Banking, 57*(6), 1597–1621. https://doi.org/10.1111/jmcb.13154

Djankov, S., La Porta, R., López-de-Silanes, F., & Shleifer, A. (2002). The regulation of entry. *The Quarterly Journal of Economics, 117*(1), 1–37.

Friedman, M. (1968). The role of monetary policy. *The American Economic Review, 58*(1), 1–17.

Herndon, T., Ash, M., & Pollin, R. (2014). Does high public debt consistently stifle economic growth? A critique of Reinhart and Rogoff. *Cambridge Journal of Economics, 38*(2), 257–279. https://doi.org/10.1093/cje/bet075

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2011). The Worldwide Governance Indicators: Methodology and Analytical Issues.*Hague Journal on the Rule of Law,*3(2), 220–246. https://doi.org/10.1017/S1876404511200046

Keynes, J.M. (1936). *The General Theory of Employment, Interest and Money.* London: Macmillan and Company, 403.

Klein, P.A. (1994). Role of the public sector. In G.M. Hodgson (Ed.), *The Elgar companion to institutional and evolutionary economics* (p. 200). Edward Elgar Publishing.

La Porta, R., López-de-Silanes, F., Shleifer, A., & Vishny, R. (1999). The quality of government. *Journal of Law, Economics, and Organization, 15*(1), 222–279.

Martín-Legendre, J.I. (2022). Reducción de la desigualdad y gasto social: Evidencia empírica para 35 países europeos, 2004–2018. *International Review of Economic Policy – Revista Internacional de Política Económica, 5*(1), 81–102. https://turia.uv.es/index.php/IREP/article/view/25797

North, D.C. (1990). *Institutions, institutional change and economic performance.* Cambridge: Cambridge University Press, 159.

Phillips, A.W. (1958). The relation between unemployment and the rate of change of money wages in the United Kingdom, 1861–1957. *Economica, 25*(100), 283–299.

Quah, T.D. (1996). Regional convergence clusters across Europe. European Economic Review, 40(3–5), 951–958. https://doi.org/10.1016/0014–2921(95)00105-0

Reinhart, C.M., & Rogoff, K.S. (2009). *This time is different: Eight centuries of financial folly.* Princeton: Princeton University Press, 463. https://doi.org/10.2307/j.ctvcm4gqx

Reinhart, C.M., & Rogoff, K.S. (2010). Growth in a time of debt. *American Economic Review, 100*(2), 573–578. https://doi.org/10.1257/aer.100.2.573

Rodrik, D. (2018). *Straight talk on trade: Ideas for a sane world economy.* Princeton: Princeton University Press, 336.

Rodrik, D., & Wacziarg, R. (2005). Do democratic transitions produce bad economic outcomes?. *American Economic Review, 95*(2), 50–55. https://doi.org/10.1257/000282805774670059

Rodrik, D., Subramanian, A., & Trebbi, F. (2004). Institutions rule: The primacy of institutions over geography and integration in economic development. *Journal of Economic Growth, 9*(2), 131–165.

Romer, P. M. (1990). Endogenous technological change. *Journal of Political Economy, 98*(5, Part 2), S71–S102. https://doi.org/10.1086/261725

Serrano-Pérez, F. (2025). Teoría del equilibrio, economía institucional y política económica. *International Review of Economic Policy – Revista Internacional de Política Económica, 7*(1), 1–31. https://turia.uv.es/index.php/IREP/article/view/31255

Solow, R. M. (1956). A contribution to the theory of economic growth. *The Quarterly Journal of Economics, 70*(1), 65–94. https://doi.org/10.2307/1884513

Tanzi, V., & Schuknecht, L. (2000). *Public spending in the 20th century: A global perspective.* Cambridge: Cambridge University Press, 278.

Treisman, D. (2000). The causes of corruption: a cross-national study. *Journal of Public Economics, 76*(3), 399–457. https://doi.org/10.1016/s0047-2727(99)00092-4

Veblen, T. (1899). *The theory of the leisure class.* Nueva York: Macmillan, 400.

About the authors

Antonio Sánchez Andrés — Dr. Sci. (Econ.), Professor, University of Valencia; Scopus ID: 6603623813; https://orcid.org/0000-0001-7303-5624 (Valencia, Spain; e-mail: tono.sanchez@uv.es).

Luz Dary Ramírez Franco — Dr. Sci. (Econ.), Department of Applied Economics, Professor, University of Valencia; Scopus ID: 57200788528; https://orcid.org/0000-0001-6886-4938 (Valencia, Spain; e-mail: luz.ramirez@uv.es).

Информация об авторах

Санчес Андрес Антонио — доктор экономических наук, профессор, Университет Валенсии; Scopus ID: 6603623813; https://orcid.org/0000-0001-7303-5624 (Испания, г. Валенсия; e-mail: tono.sanchez@uv.es).

Рамирес Франко Лус Дари — доктор экономических наук, кафедра прикладной экономики, Университет Валенсии; Scopus ID: 57200788528; https://orcid.org/0000-0001-6886-4938 (Испания, г. Валенсия; e-mail: luz.ramirez@uv.es).

Использование средств ИИ

Авторы заявляют о том, что при написании этой статьи не применялись средства генеративного искусственного интеллекта.

Use of AI tools declaration

The authors declare that they have not used Artificial Intelligence (AI) tools for the creation of this article.

Конфликт интересов

Авторы заявляют об отсутствии конфликта интересов.

Conflict of interests

The authors declare no conflicts of interest.

Дата поступления рукописи: 01.04.2025.
Прошла рецензирование: 21.09.2025.
Принято решение о публикации: 01.10.2025.

Received: 01 Apr 2025.
Reviewed: 21 Sep 2025.
Accepted: 01 Oct 2025.