

Relationship between economic growth and income inequality: a comparative analysis of the United States and the United Kingdom

Ramil I. Hasanov
(corresponding author)
Mingachevir State University,
Azerbaijan
Azerbaijan State University of
Economics (UNEC),
Azerbaijan
Email: ramil.hasanov@mdu.edu.az

László Vasa
Vytautas Magnus University,
Lithuania,
Sumy State University, Ukraine,
Farabi Kazakh National
University, Kazakhstan
Email: vasa.laszlo@ga.sze.hu

Ilhama Mahmudova
Azerbaijan State University of
Economics (UNEC),
Azerbaijan
Email:
ilhama_mahmudova@unec.edu.az

Muslum Mursalov
Azerbaijan State University of
Economics (UNEC),
Azerbaijan
Email:
muslum_mursalov@unec.edu.az

Jeyhun Hajiyev
Azerbaijan Technical Univeristy,
Azerbaijan
State University of Economics
(UNEC),
Azerbaijan
Email: ceyhun.hajiyev@aztu.edu.az

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Income inequality continues to pose a critical challenge in developed economies, with ongoing discussions regarding its association with economic growth. Clarifying whether increased in gross domestic product (GDP) per capita balances income distribution or reinforce existing disparities is essential for shaping effective economic and social policies. Herein, the connection between economic growth and income inequality notably varies between the United States and the United Kingdom in 1990–2021, reflecting their distinct institutional arrangements and policy approaches. Applying the autoregressive distributed lag model, the analysis investigates the long-term relationships between GDP per capita and income inequality. The F-bounds test statistic exceeds the critical upper bound for both countries, confirming a strong cointegration relationship. Reportedly, a 1% rise in GDP per capita in the United States corresponds to a 0.026% increase in income inequality, whereas a similar rise is associated with a 0.138% decrease in income inequality in the United Kingdom. These divergent patterns highlight the influence of national policy design, social welfare systems, and income redistribution mechanisms on the distributional outcomes of economic growth, suggesting the need for context-specific approaches to promote equitable development.

Introduction

Theoretical background

For decades, the complex relationship between economic growth and income inequality has been a central theme in economic research and policy discussions. Since the formation and rapid evolution of modern economic systems, this issue has remained a key scientific debate. Pareto (1896) first introduced the 80/20 principle in his publication “Cours d’économie politique”, in which approximately 80% of Italy’s land was owned by 20% of the population. Building on such foundational research, studies exploring whether economic development intensifies inequality have substantially increased over time. In one of the foundational and most influential analyses of the relationship between economic growth and income inequality, Lewis (1954) posited that although economic growth accelerates substantially, it is often accompanied by widened income inequality in the early stages of development.

The issue of income inequality has been extensively studied yet remains a critical subject in contemporary research. Over the past 3 decades, inequality has remarkably increased in many countries. Ostry et al. (2019) argued that policy decisions, such as the extent of capital mobility across borders, imposition of austerity measures, and deregulation of markets, have considerably shaped the level of inequality. Although these policies may stimulate economic growth, they substantially contributed to increased inequality. Furthermore, heightened inequality weakened economic performance, advocating for alternative policy approaches that foster more inclusive and equitable growth. Arbia (2023) conducted a comprehensive examination of economic inequality, its measurement, and its inter-relationship with economic growth and development. Through an objective presentation of the issue, statistical methodologies were elucidated for measuring the phenomenon, encompassing an international comparison of income inequality levels and economic growth and their intricate dynamics. Furthermore, the study analysed 3 decades of theoretical and empirical evidence to deepen the understanding of this phenomenon and discussed various policy measures for mitigating economic disparities while promoting sustainable economic growth.

Recent research suggests an integrated approach to evaluate the relationship between inequality and growth through sustainability frameworks such as ECON_ESG, which emphasizes the interconnectedness of economic performance, environmental impact, social equity, and governance quality (Işık et al. 2024). This paradigm reflects a holistic understanding of long-term inclusive growth and complements sustainability criteria with traditional economic metrics. Economic growth, frequently assessed through increased gross domestic product (GDP) of the nation, is frequently regarded as a key measure of economic vitality and prosperity. While assessing the relevance of GDP and its function in a time emphasizing sustainable development, determining whether this measure remains valid and how it

continues to apply is crucial (Gajdosova 2023). In addition to economic development, various positive and negative measurement criteria operate along, and these factors must be considered. Social inequality, acceleration of subjugation, and equitable distribution of income are fundamental concerns of sustainable economy today. The Gini index is the most widely recognized metric for assessing inequality worldwide, with nearly all governmental and international agencies employing it to quantify and summarize income or wealth disparities within individual nations and on a global scale (Charles et al. 2022).

This study investigates the relationship between economic growth and inequality through a comparative analysis of the United States (US) and United Kingdom (UK) from 1990 to 2021. As significant actors in the global economy, both countries share similarities in economic structures and historical contexts but exhibit distinct growth and inequality trajectories. This divergence provides a robust foundation for comparative analysis. Therefore, this study seeks to answer the following research questions:

- How does economic growth, as measured by GDP per capita, influence income inequality in the US and UK?

The US economy has been characterized by notable economic growth accompanied by increasing income inequality over the past 3 decades. During this period, the growth rate of the US economy exhibited two notable downward trends, attributable to the repercussions of the 2008 global financial crisis of 2008 (Koser 2016, Dufour–Orhangazi 2014). The widespread impact of the coronavirus pandemic in 2020 was another disruption to economic activity (Li et al. 2022, Nicola et al. 2020). The Gini index figures in the US displayed a parallel trajectory in tandem with these cyclical fluctuations in economic performance. Although the 2008 global financial crisis had similar effects on economic growth and the UK's Gini index, the subsequent period revealed a notable decline in the index, diverging from the trends in economic growth. This shift was a positive development in mitigating income inequality in the UK, highlighting a potential improvement in wealth distribution despite challenges in the overall economic growth. Mumtaz–Theophilopoulou (2017) investigated the impact of monetary policy shocks on inequality, concluding that contractionary monetary policy shocks are associated with heightened inequality in earnings, income, and consumption, in addition to contributing to their fluctuations. In addition, Price (2017) analysed the UK approach of the UK government to wellbeing, contending that it emphasized individual happiness and mental health over essential policy interventions to improve citizens' material conditions. This approach shifted the responsibility for wellbeing onto individuals and critiqued mainstream wellbeing research as insufficient, proposing that critical realism offered a more effective framework for addressing these challenges.

Literature review

The relationship between economic growth and income inequality has been extensively debated, yielding varied results across different countries and regions. Understanding the dynamics between these variables is essential for policymakers promoting growth while ensuring equitable income distribution. Karountzos et al. (2024) investigated the relationship between GDP and income inequality in the US and UK. Their findings revealed a strong positive correlation in the US, but a weaker association in the UK, which the authors attributed to the influence of social policy interventions. This research underscored the role of national institutions and policy frameworks in shaping the dynamics of economic growth and income inequality.

Yang–Greaney (2017) examined the interplay among inequality, economic growth, and redistribution in China, Japan, South Korea, and the US using the Engle–Granger error correction model (ECM) approach. Their analysis supported the existence of an S-shaped relationship between GDP per capita and income inequality, reporting that inequality stimulated economic growth in certain countries, whereas trade openness and fiscal redistribution had a markedly different impact across the four economies. However, the lack of integration with recent global sustainability frameworks, such as the sustainable development goals or environmental, social, and governance (ESG) indicators, which are essential for understanding macroeconomic shifts in inequality, is a limitation of this study.

Dorling (2015) analysed income and wealth inequality among the top 1% in the UK, revealing it as a European outlier with extreme socio-economic polarization compared with Germany, France, Italy, and Spain. The study highlighted the growing division between the richest and the rest of the society in the UK, making it more similar to the US in terms of inequality than any other large western European country.

Bahmani-Oskooee–Motavallizadeh–Ardakani (2017) revisited the relationship between economic growth and income inequality in the US using state-level data and autoregressive distributed lag (ARDL) models. Notably, economic growth intensified inequality only in 20 states. Moreover, their nonlinear ARDL analysis revealed asymmetric effects, showing that increases and decreases in real output differently impacted income distribution in the 28 states. The use of state-level granularity and nonlinear modeling is a methodological strength; however, the research does not consider how long-term environmental and social factors – especially those connected to the SDGs – may influence these asymmetric trends.

Wesiah–Onyekwere (2021) used quarterly data from 1963 to 2015 to explore the causal relationship between financial development and economic growth in the UK. Their analysis identified a stable long-run equilibrium between the two variables. The Johansen cointegration and Granger causality tests revealed bidirectional causality, indicating that financial development and economic growth mutually

impacted each other. Despite the robust time series approach, this study does not integrate environmental and climate-related financial risks, which have become central in financial and macroeconomic assessments post-2020.

Numerous studies examining the effects of economic development and macroeconomic factors on income inequality have reported similar findings (Alamanda 2021, Jain–Mohapatra 2024, Abbas et al. 2022, Gulaliyev et al. 2023). Altogether, these studies underscore the complexity of the relationship between economic development and income inequality and highlight the crucial role of national policies and institutional frameworks. This growing body of sustainability-oriented literature reinforces the urgency of incorporating SDGs and economic–environmental, social, and governance (ECON-ESG) into empirical assessments of growth and inequality. However, country-specific research comparing economies such as the US and UK under these lenses remains limited, especially when using modern time series methods such as ARDL with cointegration, asymmetry, and error correction dynamics. Accordingly, this study contributes to filling this gap by offering a comparative econometric analysis of the US and UK from 1990 to 2021, integrating recent theoretical developments and empirical findings in inequality studies and sustainability discourse.

Data and methodology

This study adopts a quantitative, econometric framework to explore the long-term association between economic growth and income inequality in the US and UK from 1990 to 2021. The empirical analysis was conducted using annual time series data, with gross domestic product per capita serving as a proxy for economic growth and the Gini index representing income inequality. All data employed in the study were drawn from the World Bank (2024a, 2024b), ensuring methodological consistency and cross-country comparability throughout the observation period.

Table 1 presents the GDP per capita and Gini index for the US and the UK from 1990 to 2021, providing a comparative overview of the economic output per individual and income inequality in both countries over the study period. Analysing these data enables the identification of trends and contrasts in economic growth and income distribution between the two countries.

Table 1

Economic output and income inequality: US and UK

Year	United States		United Kingdom	
	GDP per capita	Gini index	GDP per capita	Gini index
1990	23,888.60	38.3	19,095.47	35.7
1991	24,342.26	38.0	19,900.73	35.0
1992	25,418.99	38.4	20,487.17	35.0
1993	26,387.29	40.4	18,389.02	35.1
1994	27,694.85	40.0	19,709.24	35.0
1995	28,690.88	39.9	23,168.95	35.5
1996	29,967.71	40.3	24,406.40	35.3
1997	31,459.13	40.5	26,766.01	35.0
1998	32,853.67	40.0	27,241.50	34.5
1999	34,515.38	40.1	28,762.09	36.8
2000	36,329.97	40.1	28,280.93	35.8
2001	37,133.62	40.6	27,906.57	37.1
2002	37,997.74	40.8	30,077.74	35.1
2003	39,490.30	40.8	34,442.69	34.9
2004	41,724.64	40.3	40,368.89	34.8
2005	44,123.40	41.0	40,140.79	35.1
2006	46,301.99	41.4	44,512.46	35.9
2007	48,050.23	40.8	50,397.69	34.4
2008	48,570.06	40.8	47,396.12	35.4
2009	47,194.95	40.6	37,444.13	35.1
2010	48,650.66	40.0	39,598.96	33.7
2011	50,065.98	40.9	42,109.64	33.2
2012	51,784.41	40.9	42,497.34	33.3
2013	53,140.75	40.6	43,426.30	33.2
2014	55,304.32	40.7	47,439.62	33.1
2015	57,040.21	41.2	44,694.39	33.3
2016	58,206.61	41.1	40,985.24	33.1
2017	60,322.26	41.2	40,572.12	32.6
2018	63,201.05	41.4	43,203.81	33.7
2019	65,480.71	41.4	42,662.54	32.8
2020	64,317.64	39.7	40,217.00	31.6
2021	71,055.88	39.7	46,869.76	32.4

Table 2 summarizes the statistical analysis of GDP per capita and the Gini index for the US and UK, highlighting notable disparities in income distribution and economic development between the two nations. The US records a higher average and median GDP per capita, reflecting a comparatively elevated standard of living. Nevertheless, the US Gini index is substantially higher, indicating a greater degree of income inequality than the UK, which suggests a more pronounced disparity between the wealthiest and least affluent individuals in the US. In contrast, the UK demonstrates a more equitable income distribution, as evidenced by its lower Gini index.

Table 2

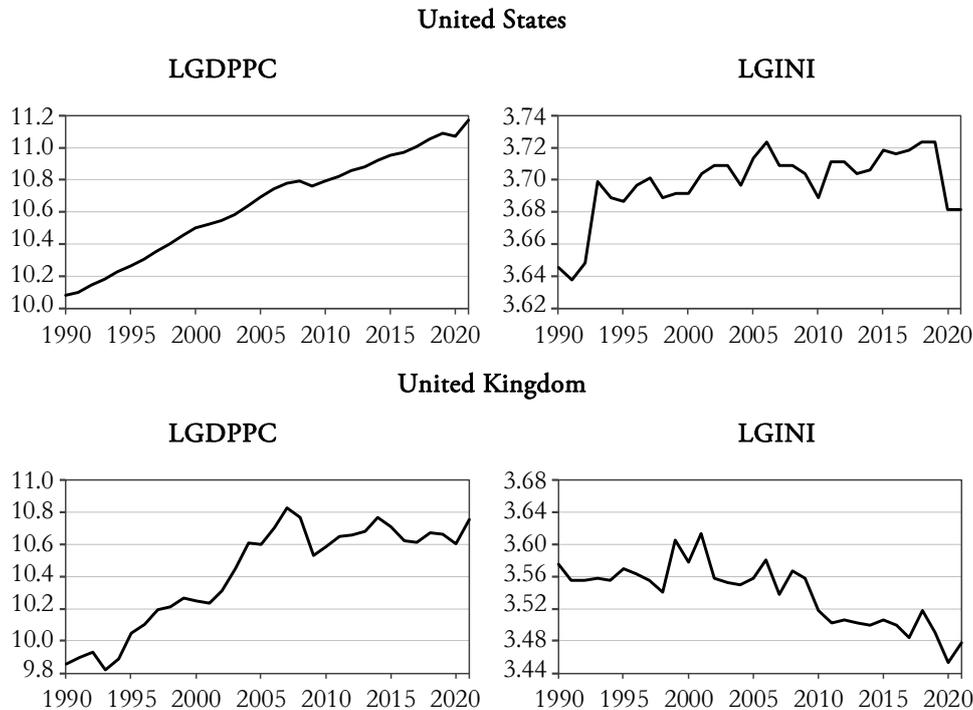
Descriptive statistical analysis

Statistic	GDP per capita	Gini index
	United States	
Mean	44,095.07	40.38438
Median	45,212.69	40.55
Maximum	71,055.88	41.5
Minimum	23,888.6	38
Standard deviation	13,543.79	0.876249
Skewness	0.16843	-1.186328
Kurtosis	1.95167	4.182323
Jarque-Bera	1.616627	9.369848
Probability	0.445609	0.009233
	United Kingdom	
Mean	35,241.76	34.6875
Median	39,907.98	35
Maximum	50,397.69	38.8
Minimum	18,389.02	32.4
Standard deviation	10,019.41	1.547683
Skewness	-0.361414	0.383957
Kurtosis	1.697234	2.814953
Jarque-Bera	2.959571	0.831912
Probability	0.227686	0.659709

Figure 1 illustrates the time series trends of GDP per capita and the Gini index for the US and UK from 1990 to 2020. Throughout this period, both nations have witnessed steady growth in GDP per capita, with the US consistently exhibiting a higher level of economic development than the UK. However, the US Gini index reveals a gradual upward trend, suggesting an increase in income inequality, whereas the UK's Gini index displays greater volatility, characterized by fluctuations between increasing and decreasing inequality. This pattern highlights the need for targeted policies to mitigate these disparities.

Figure 1

Logarithmic trends of GDP per capita (LGDPPC) and Gini index (LGINI)



To examine the dynamic interaction between GDP per capita and the Gini index, the ARDL model, created by Pesaran et al. (2001), was employed. This methodology is well-suited for time series analysis involving variables of different orders – specifically $I(0)$ and $I(1)$, but not of order $I(2)$. Before estimation, the Augmented Dickey–Fuller (1979) (ADF) test was used to evaluate the stationarity characteristics of the variables to confirm the appropriateness of the ARDL approach. The long-run coefficients of the ARDL model were estimated separately for the US and the UK to identify the equilibrium relationship between the variables under consideration.

Conducting diagnostic tests to assess the reliability and validity of the estimated model is essential. The following diagnostic procedures were implemented herein:

- The Breusch–Godfrey Serial Correlation LM test was applied to identify any autocorrelation within the model residuals.
- The Breusch–Pagan–Godfrey test was designed to assess the assumption of homoscedasticity and detect heteroscedasticity in the error terms.
- The cumulative sum of recursive residuals (CUSUM) test was used to examine the structural stability of the estimated parameters throughout the sample period.

All diagnostic evaluations were conducted using lag lengths selected based on the Akaike information criterion, thereby promoting optimal model specification and efficiency. Altogether, these diagnostic measures provide a robust empirical foundation for validating the long-run dynamics between income inequality and economic growth in the US and the UK.

Results and discussion

The ADF (1979) test is a statistical technique used to identify the existence of a unit root in univariate time series data, a vital step in determining stationarity before implementing the ARDL model. By evaluating the null hypothesis of a unit root in comparison to the alternative hypothesis of stationarity, the ADF test assists in discerning nonstationary series that, when established as stationary, can be effectively analysed within the ARDL framework.

Table 3 presents the results of the ADF unit root test, conducted with a trend and intercept, indicating that all variables are nonstationary at their level but achieve stationarity after the first differencing. This outcome suggests that the variables are of order 1 (I(1)). The identification of I(1) integration across all variables is essential for applying the ARDL model because it indicates the presence of a long-run relationship among the variables.

Table 3

ADF unit root test

Variable	Level/1st difference	t-statistic	p-value	Result
LGINI_USA	Level	-2.536	0.309	Nonstationary
	1 st difference	-6.879	0.000*	Stationary
LGINI_UK	Level	-2.473	0.337	Nonstationary
	1 st difference	-5.760	0.000*	Stationary
LGDPPC_USA	Level	-1.779	0.690	Nonstationary
	1 st difference	-4.711	0.004*	Stationary
LGDPPC_UK	Level	-1.426	0.832	Nonstationary
	1 st difference	-3.650	0.045*	Stationary

* Statistically significant at the 5% level.

Exploring the US through the ARDL approach

Table 4 presents the outcomes of the levels equation, demonstrating that LGDPPC_USA exerts a significant long-term effect on LGINI_USA, with a coefficient of 0.026 ($p = 0.016$). Therefore, a 1% increase in GDP per capita corresponds to a 0.026% increase in income inequality over the long-run, implying that economic growth is associated with rising inequality. The positive coefficient further indicates that economic expansion in the US is linked to a sustained increase

in income inequality; this supports the perspective that although economic growth elevates overall wealth, it may not be distributed equitably, potentially leading to greater income disparities.

Furthermore, the F-bounds test statistic of 6.811 exceeds the critical upper bound at the 5% significance level (I(1)), providing evidence of a long-run integrating relationship between GDP per capita and income inequality. This result rejects the null hypothesis of no long-term relationship, confirming that the variables are cointegrated and move together over the long-term.

Table 4

ARDL (1,3) model long run form and bounds test

Variable	Panel 1. levels equation				Panel 2. F-bounds test				
	coefficient	standard error	t-statistic	p	test statistic	value	significance, %	1(0)	1(1)
LGDPPC_USA	0.026	0.010	2.577	0.016	F-statistic	6.811	10	3.02	3.51
C	3.415	0.112	30.346	0.000	k	1	5	3.62	4.16

The equation represents the error correction term, capturing the divergence of income inequality from its long-run equilibrium relationship with GDP per capita:

$$EC = LGINI_USA - (0.0264 \times LGDPPC_USA + 3.4153)$$

Frank (2009) and Rubin–Segal (2015) focused solely on the US and found a strong positive relationship between economic growth and income inequality: economic expansion disproportionately benefits higher-income groups, thereby widening the income gap.

Table 5 outlines the diagnostic tests used to evaluate the reliability and stability of the ARDL model. The Breusch–Godfrey LM test was used to assess the presence of serial correlation in the regression residuals. $p > 0.05$ indicates a failure to reject the null hypothesis, suggesting that there is no evidence of serial correlation – confirming the model suitability in addressing temporal dependencies. Furthermore, the Breusch–Pagan–Godfrey test was used to evaluate the homoscedasticity of the residuals. $p > 0.05$ indicated the absence of heteroscedasticity, implying that the residuals maintain constant variance. In addition, the Jarque–Bera test was used to examine the normality of the distribution of residuals; $p > 0.05$ implies that the residuals are approximately normally distributed. Altogether, these diagnostic tests substantiate the robustness of the ARDL model specifications.

Table 5

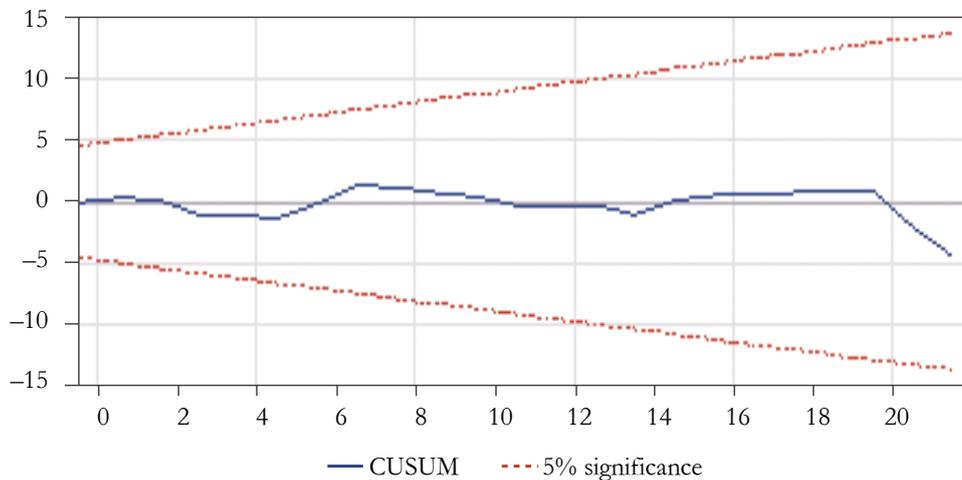
Diagnostic test results for the ARDL model specification

Panel 1. ECM regression				
variable	coefficient	standard error	t-statistic	p
CointEq(-1)	-0.844	0.179	-4.712	0.0001
Panel 2. Breusch–Godfrey serial correlation LM test				
F-statistic	0.726	Probability F(2,21)		0.495
Obs*R-squared	1.876	Probability chi-square (2)		0.391
Panel 3. Breusch–Pagan–Godfrey heteroskedasticity test				
F-statistic	1.484	Probability F(5,23)		0.233
Obs*R-squared	7.074	Probability chi-square (5)		0.215
Scaled explained SS	8.123	Probability chi-square (5)		0.149

Figure 2 presents a cumulative sum (CUSUM) test, a widely used statistical method for evaluating the stability of model parameters over time, particularly within the ARDL model framework. The blue line in the graph represents the cumulative sum of the recursive residuals, whereas the dotted lines denote the 5% significance bands. Reportedly, the model exhibits stability because the CUSUM line remains within the significance bands, indicating that the model coefficients remain constant throughout the sample period and providing insights into the robustness of the estimated relationships.

Figure 2

Evaluation of model stability via CUSUM test



Exploring the UK through the ARDL approach

Table 6 summarizes the findings from the levels equation, demonstrating that LGDPPC_UK has a statistically significant long-term impact on LGINI_UK, with a

coefficient of -0.138 ($p = 0.001$). This indicates that a 1% increase in GDP per capita is associated with a 0.138% decrease in income inequality over the long-term. The negative coefficient suggests that economic growth in the UK is linked to a reduction in income inequality, possibly reflecting a more equitable distribution of economic benefits or the implementation of effective policies that alleviate inequality as the economy expands.

Table 6

ARDL (1, 4) model long run form and bounds test

Variable	Panel 1. levels equation				Panel 2. F-bounds test				
	coefficient	standard error	t-statistic	p	test statistic	value	significante, %	1(0)	1(1)
LGDPPC_UK	-0.138	0.037	-3.701	0.001	F-statistic	4.465	10	3.02	3.51
C	4.984	0.394	12.640	0.000	k	1	5	3.62	4.16

The equation reflects the error correction term, accounting for the divergence of income inequality from its long-run equilibrium relationship with GDP per capita:

$$EC = LGINI_UK - (-0.1389 * LGDPPC_UK + 4.9842)$$

Bourquin et al. (2024) revealed that although the UK's Gini coefficient has remained relatively stable since the early 1990s, structural inequalities have deepened owing to widening generational wealth gaps, capital gains accruing mainly to the wealthy, and stagnating income mobility. The study emphasized that younger cohorts, especially those born in the 1980s and beyond, are facing declining prospects for homeownership and diminished living standards compared with earlier generations, warning that these trends could further entrench inequality and erode social mobility over time without targeted policy interventions.

Table 7 provides the results of diagnostic tests demonstrating a significantly long-run relationship between the variables in the model, as indicated by the coefficient of the lagged cointegration equation (CointEq(-1)). This coefficient is statistically significant at the 5% level, suggesting a robust, long-term negative association among the variables. Furthermore, the Breusch–Godfrey serial correlation LM test and the Breusch–Pagan–Godfrey heteroskedasticity test failed to reject the null hypothesis of no serial correlation and no heteroskedasticity, respectively. Therefore, the model is well-specified, free from these prevalent econometric issues, and effectively encapsulates the underlying relationship between the variables and is appropriate for further analysis and forecasting.

Table 7

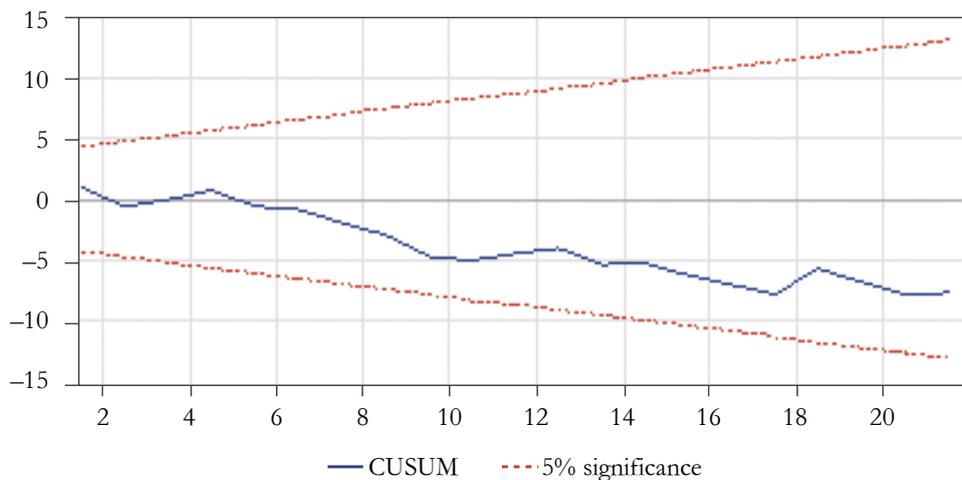
Diagnostic test results for the ARDL model specification

Panel 1. ECM regression				
variable	coefficient	standard error	t-statistic	p
CointEq(-1)	-0.448	0.117	-3.830	0.0010
Panel 2. Breusch–Godfrey serial correlation LM test				
F-statistic	2.153	Probability F(2,19)	0.143	
Obs*R-squared	5.175	Probability chi-square (2)	0.075	
Panel 3. Breusch–Pagan–Godfrey heteroskedasticity test				
F-statistic	0.173	Probability F(6,21)	0.981	
Obs*R-squared	1.325	Probability chi-square (6)	0.970	
Scaled explained SS	8.123	Probability chi-square (6)	0.975	

Figure 3 presents the results of the CUSUM test, indicating that the model parameters are stable over time, as the CUSUM line consistently remains within the 5% significance bands; this suggests that there is insufficient evidence to support the existence of a structural break in the underlying relationship between the variables.

Figure 3

Evaluation of model stability via CUSUM test



Although ARDL models do not require external instrumental variables, the reliability of the inferred relationships depends on the strength and validity of the underlying data. The F-bounds test results for both countries confirm considerable cointegration, indicating a stable long-term relationship. Complementary diagnostic tests further validate the specification and stability of the model, bolstering confidence in the estimated parameters. Although the ARDL results quantify the link between GDP per capita and income inequality, further examination of the drivers

behind these patterns is necessary. In the US, the observed positive correlation may reflect factors such as stagnant wages among lower and middle-income groups, unequal access to education and skills, and uneven labour market participation. Moreover, fiscal and redistribution policies may be insufficient to counterbalance wealth concentration. In contrast, the negative relationship in the UK suggests that economic growth coincides with more effective social welfare programs, inclusive labour policies, and targeted taxation, thereby reducing inequality. These effects are inherently dependent on institutional and policy contexts. Moreover, other determinants – such as education, financial sector development, and demographic trends – possibly influence income distribution alongside economic growth, interacting with policy environments in nuanced ways. Accounting for these conditional factors is vital for understanding the divergent impacts of growth on inequality and emphasizes the need for context-specific policy interventions.

The relationship between economic growth and income inequality has long been a contentious and multifaceted issue in economics, as echoed by classical and contemporary research. Kuznets' (2019) hypothesis, proposing an inverted U-shaped relationship in which inequality initially rises with economic development before eventually declining, remains a foundational reference point. However, empirical evidence on this theory is mixed, with studies revealing divergent patterns depending on country-specific institutional, political, and economic contexts. Our findings for the US and the UK align with this ambiguity. In the US, the positive long-run relationship between GDP per capita and income inequality suggests that economic growth has not yet translated into an equitable income distribution. This is consistent with observations in various emerging and advanced economies wherein growth disproportionately benefits higher-income groups, worsening disparities (Zaremba 2024, Taresh et al. 2020). The US case mirrors the experiences documented in Asian contexts, such as China and Indonesia, where growth phases often coincide with rising inequality because of structural factors, including labour market segmentation and limited redistributive policies (Zhang–Chen 2015). Conversely, the UK exhibits a remarkably negative relationship between growth and inequality, indicating that economic expansion is associated with improvements in income distribution. This contrasts with the US and supports the notion that robust social policies, welfare mechanisms, and institutional frameworks can alter the traditional growth-inequality trajectory, mitigating inequality even as the economy grows. This finding resonates with Binatli's (2012) observation of temporal shifts in the inequality-growth relationship, suggesting that policy environments and socio-economic conditions critically influence whether growth translates into inclusive benefits. In summary, the contrasting trajectories in the US and UK reaffirm that the growth-inequality nexus is not universal but is shaped by complex socio-political and economic factors, inviting further research to explore these mechanisms in greater depth.

Conclusion

This study uses the ARDL approach to investigate the long-term relationship between economic growth and income inequality in the US and UK. The results reveal contrasting patterns shaped by the socio-economic and institutional contexts of both countries. In the US, GDP per capita has a positive and notable impact on income inequality, with the F-bounds test confirming a stable cointegrating relationship. Thus, economic growth intensifies income disparities, possibly because of wealth concentration among higher-income groups and limited progressivity of fiscal policies. Conversely, the UK has a significant negative relationship between GDP per capita and income inequality, indicating that economic growth is associated with reduced inequality. This outcome is potentially driven by more effective social welfare programs and redistributive policies that promote a fairer distribution of economic gains. These divergent findings highlight the critical role of institutional frameworks and social protection mechanisms in mediating the growth–inequality nexus.

Therefore, policy responses must be tailored to specific national contexts. The UK experience underscores the relevance of maintaining robust social protection and equitable labour market policies to sustain reductions in inequality along with economic expansion. Moreover, policy design must incorporate the uncertainties posed by climate change, geopolitical tensions, pandemics, monetary fluctuations, and rapid technological advances. Tools such as the economic policy uncertainty index and ESG-based sustainability uncertainty indices can anticipate and mitigate risks to vulnerable sectors such as tourism and exports. Future research and policymaking should focus on developing adaptive governance models grounded in the ECON-ESG principles and aligned with the SDGs to foster inclusive, equitable, and sustainable growth amid a complex and uncertain global landscape.

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