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Democracy and Income Inequality: A Multifaceted Analysis Across Political Regimes

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ABSTRACT: Economic inequality has been a consistent and persistent issue with implications for both the social stability and economic growth of a country. Despite the widespread belief that democratic values and systems inherently reduce inequality, our study reveals a far more complex and nuanced understanding: varying aspects of democracy interact with economic outcomes in juxtaposing and counterintuitive ways. This paper examines the relationship between democracy and income inequality across four different political regimes through cross-national data, linear regression, and Principal Component Analysis (PCA). The paper reveals that while democratic values such as Egalitarian Democracy consistently reduces inequality across all regime types, some democratic elements like Electoral Democracy actually increase inequality in certain regimes. Accordingly, the finding suggests a greater emphasis on the institution and social background hosting these democratic values, highlighting the importance of comprehensive democratic reforms rather than simply pushing for democratic elections. The results hold significant implications for both policymakers and scientists by suggesting directions for future research on the interaction between democracy and economic outcomes.

KEYWORDS: Behavioral and Social Sciences, Other, Political Economics, Economic Inequality, Political Regimes, Democracy.

Introduction

Though it is widely accepted that democracies have a negative correlation with economic inequality,[1-5] this claim could be better understood improved by considering aspects of democracy,[5,6] and the confounding influence of varying political regimes. The widening economic inequality is a problem that plagues even the richest of liberal democracies, considering the fact that the wealthiest families were the only ones to have experienced gains in wealth since the start of the Great Recession in 2007.[7] The tendency for economic inequality to continuously increase within nations (the rich get richer, and the poor get poorer) makes it crucial to understand the institutional systems behind this wage gap before it becomes insurmountable for developing and developed countries.

There are two theoretical frameworks that are the backbones for this study: Douglass North's framework of institutional economics[8] and Langdon Winner's concept of inherent social favoritism within institutions.[9] North's work provides this paper with the basis for critiquing institutional effects on the economy, while Winner's work serves to dissect these institutions by examining how systems of governance may augment or hinder economic inequality. Following these frameworks, with works by other scholars,[10-13] Afonso and Longras[12] found that better institutions lead to a widened wage gap (income inequality) while increasing the country's economic growth.[12] While this does provide an interesting avenue for research, it fails to pinpoint the specific aspects of these institutions that reduces or increases inequality. Accordingly, past research correlating democracy to economic inequality[1-5] directly does provide the empirical evidence to back up all aspects of democracy. To illustrate, Muller found that a country's years of democratic experience correlating negatively to its income inequality may indicate actually be caused by an increase in political stability or distribution of resources (Egalitarian Democracy) rather than its electoral system. Therefore, the paper's diagnostics of individual aspects of democracy allows scholars and policymakers to apply specific solutions that improve economic equality without requiring a complete institutional overhaul of its government. Secondly, because it is unreasonable to assume democratic values operate the same under different political systems, the paper tracks and analyzes distinctive democratic principles across multiple political regimes, the paper analyzes the dynamics of democratic values within four distinct political systems: closed autocracies, electoral autocracies, electoral democracies, and liberal democracies. Through this, the study aims to shed light on how different democratic structures either mitigate or exacerbate economic disparities.

This paper is structured in the following structure: First, the literature review section critiques contemporary papers. Then, the methodology section outlines the research design and data sources. The result and discussion section discusses the findings, highlighting and interpreting key trends. The limitations and future research section examine limitations and suggest improvements. Finally, the conclusion summarizes the main findings and their broader significance, offering both insight for future research and policy developments.

Literature Review:

Many inconsistencies within past studies can be attributed to methodological difference noted by Bollen and Jackman (1985): variations in sample size, measurement reliability, and model specifications. Muller's work uses a longitudinal approach to consider the cumulative experience of democracy

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over time rather than relying on a single point in time. His method captures the dynamic nature of how democracies affect inequality through time, still generalizes democracy across all political regimes without accounting for its varying aspects and its institutional/political context.

Previous studies which examine the impacts of institutions on the economy explored the nuanced interactions between democratic institutions and economic inequality. Mahutga, Roberts, and Kwon's research[14] examined how global production networks and national to suggest that the effects of democracy on inequality are contingent upon broader economic and institutional contexts. Thus, a similar critique against previous analysis between democracies and economic inequality should consider a similar systematic context. Similarly, in Elsässer and Schäfer's[15] examination of how income inequality affects political participation and representation, they noted that democratic institutions can both mitigate and exacerbate inequality depending on how they are structured and function. In fact, research on political regimes beyond advanced democracies (as the scope of past research typically focused solely on these demographics due to the availability of data) challenges democratic values as the only systematic solution for economic inequality. For example, when Panaro and Vaccaro[16] analyzed income inequality in authoritarian regimes, they found that higher state capacity and the presence of political institutions can reduce inequality even in non-democratic contexts. Consequently, successful research on this topic must consider, 1) whether democratic values are beneficial for authoritarian regimes in the first place, and 2) if it is beneficial, which aspects of democracy can be applied, and which cannot be applied.

While issues surrounding the how democracies relate to economic inequality (one-directional or bi-directional), the issue regarding which aspects of democracy is supported by economic inequality and which part is not has been largely ignored. For instance, Kim, Kim, and Lee's examination on the impact of perceived economic inequality on political participation (Participatory Democracy as it will be measured in this paper)[17] revealed that the perception of income inequality and social mobility significantly influence individuals' engagement in political activities. However, questions remain whether they are likely to apply to different aspects of democracy as well, such as Liberal and Electoral democracy.

Despite the valuable insight gained from these studies, our scope of understanding is still limited as existing studies limit themselves to examining advanced democracies or the generalization of democratic values. This paper serves to provide a comprehensive analysis that considers broad ranges of political regimes and democracy. Furthermore, existing literature often overlooks potential mediating factors within this relationship, which this paper examines with a VIF test.

Methods

Data Sources:

To construct a comprehensive database of countries' income inequality, democracy and political regime, data were sourced from Our World in Data, which processes data from credible sources like the V-Dem Institute and the World Bank Poverty and Inequality Platform. V-Dem Institute makes its evaluations based on 3,500 country experts and supplementary work by its own researchers to assess the political institutions of each country, thus assuring credibility. The usage of Gini coefficients as the measurement of income inequality stands from the investigation by Lecaillon *et al*. (1984, pp.25-35)[18] who concluded the indexes of concentration (e.g., Gini coefficient) are approximately the same as other methods, ensuring data comparability.

The data used in this paper has been processed by Our World in Data to ensure comparability. Political regimes for countries not covered by V-Dem were cross-referenced with historical territories to ensure comparability.[19] For example, V-Dem only provides regime data for Bangladesh starting from 1971, so data prior to 1971 uses regime data for Pakistan and the colony of India, both of which Bangladesh was part of, to create the historical regime data. Similarly, the measure of income inequality uses the Gini coefficient, which is measured by income after taxes and benefits or consumption per capita (including non-market sources such as subsistence farming).[20]

The measurement of democracy includes 5 separate indices that measures different dimensions of the democratic experience. Each index value has a variety of components that derives its value; as seen on V-Dem Institute's own document on the variety of democracy,[21] Electoral Democracy Index's primary components include evaluations of elected officials, free and fair elections, inclusive suffrage, freedom of association, and freedom of expression; Liberal Democracy Index includes the evaluations of rule of law, checks and balances, and civil liberties; Participatory Democracy Index includes the evaluations of civil society participation, direct democracy mechanisms, and local democratic institutions; Deliberative Democracy Index includes the evaluations of reasoned justification, common good orientation, and respectful dialogue; lastly Egalitarian Democracy Index includes the evaluations of equal protection of rights, equal distribution of resources, and equal access to power Each index is scaled from 0 to 1, with higher values indicating greater levels of democracy. Data is compiled by country and year, rather than based on the country itself, to account for changes in political regime. These indices are categorized into four datasets corresponding to the political regime at the time: Closed Autocracy (no election), electoral autocracy (unfair election), electoral democracy (fair election) and liberal democracy (fair election with protection for a person's civil liberty). See Table 1-4 for the summary statistics of the data used in this study. Table 5 identifies all the countries that are used in each sample, which were identified by V-Dem Institute, to be a given political regime at one point or another in the timeframe studied.

Table 1: Summary statistics of closed autocracy with sample size of 96.

	Median	Mean	Std Dev	Min	Max
Electoral Democracy Index	0.153	0.159896	0.066321	0.075	0.477
Participatory Democracy Index	0.088	0.095719	0.052604	0.027	0.351
Liberal Democracy Index	0.1015	0.112208	0.052669	0.024	0.253
Egalitarian Democracy Index	0.1415	0.144635	0.051265	0.041	0.303
Deliberative Democracy Index	0.124	0.127365	0.067274	0.02	0.319
Economic Inequality (Gini Index)	0.383028	0.384751	0.076197	0.2096	0.604547

Table 2: Summary statistics of electoral autocracy with sample size of 373.

	Median	Mean	Std Dev	Min	Max
Electoral Democracy Index	0.354	0.344579	0.10088	0.123	0.535
Participatory Democracy Index	0.202	0.194311	0.078928	0.046	0.348
Liberal Democracy Index	0.206	0.205625	0.093767	0.033	0.426
Egalitarian Democracy Index	0.22	0.230952	0.073614	0.058	0.435
Deliberative Democracy Index	0.226	0.222107	0.099034	0.031	0.451
Economic Inequality (Gini Index)	0.37459	0.386174	0.089855	0.240254	0.632404

Table 3: Summary statistics of electoral democracy with sample size of 591.

	Median	Mean	Std Dev	Min	Max
Electoral Democracy Index	0.656	0.658809	0.101096	0.5	0.88
Participatory Democracy Index	0.424	0.432176	0.091421	0.237	0.67
Liberal Democracy Index	0.487	0.499746	0.12585	0.266	0.807
Egalitarian Democracy Index	0.429	0.440521	0.128209	0.172	0.766
Deliberative Democracy Index	0.496	0.506129	0.126294	0.21	0.817
Economic Inequality (Gini Index)	0.415598	0.427489	0.094306	0.242823	0.657556

Table 4: Summary statistics of liberal democracy with sample size of 797.

	Median	Mean	Std Dev	Min	Max
Electoral Democracy Index	0.875	0.86393	0.044119	0.553	0.922
Participatory Democracy Index	0.633	0.627814	0.061104	0.248	0.81
Liberal Democracy Index	0.806	0.798266	0.057703	0.465	0.897
Egalitarian Democracy Index	0.783	0.764768	0.073539	0.456	0.886
Deliberative Democracy Index	0.794	0.780363	0.070292	0.487	0.886
Economic Inequality (Gini Index)	0.327681	0.334567	0.061934	0.221714	0.647625

Table 5: Countries included in each dataset.

Closed Autocracies	Electoral Autocracies	Electoral Democracies	Liberal Democracies
Algeria, Angola, Bangladesh, Bhutan, Bolivia, Burundi, Chad, Chile, China, Eswatini, Fiji, Ghana, Guinea, Guinea-Bissau, Hungary, Jordan, Lesotho, Madagascar, Mali, Mauritania, Morocco, Nepal, Nigeria, Pakistan, Poland, Romania, Rwanda, Slovenia, South Africa, Thailand, Turkmenistan, Uganda, United Arab Emirates, Uzbekistan, Vietnam.	Algeria, Angola, Armenia, Azerbaijan, Bangladesh, Belarus, Benin, Bolivia, Brazil, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Djibouti, Dominican Republic, El Salvador, Ethiopia, Fiji, Gabon, Georgia, Guatemala, Guinea, Guinea-Bissau, Haiti, Honduras, Hungary, India, Indonesia, Iraq, Kazakhstan, Kenya, Lebanon, Lesotho, Madagascar, Malawi, Malaysia, Maldives, Mali, Mauritania, Mexico, Moldova, Mozambique, Myanmar, Nepal, Nicaragua, Niger, Nigeria, North Macedonia, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Rwanda, Serbia, Seychelles, Sri Lanka, Sudan, Tajikistan, Tanzania, Thailand, Togo, Tunisia, Uganda, Ukraine, Uzbekistan, Vietnam, Zambia, Zimbabwe.	Albania, Armenia, Austria, Bangladesh, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, Burkina Faso, Canada, Cape Verde, Chile, Colombia, Comoros, Costa Rica, Croatia, Dominican Republic, Ecuador, El Salvador, Estonia, Georgia, Ghana, Guatemala, Guinea-Bissau, Guyana, Honduras, Hungary, India, Indonesia, Jamaica, Kenya, Latvia, Lesotho, Liberia, Lithuania, Madagascar, Malawi, Maldives, Mali, Malta, Mauritius, Mexico, Moldova, Mongolia, Namibia, Nepal, Nicaragua, Niger, Nigeria, North Macedonia, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Romania, Senegal, Serbia, Sierra Leone, Slovenia, Solomon Islands, South Africa, Spain, Sri Lanka, Suriname, Thailand, Trinidad and Tobago, Tunisia, Ukraine, United States, Vanuatu, Zambia.	Australia, Austria, Belgium, Bhutan, Botswana, Canada, Chile, Costa Rica, Cyprus, Denmark, Estonia, Finland, France, Germany, Ghana, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mauritius, Netherlands, Norway, Poland, Portugal, Serbia, Seychelles, Slovenia, South Africa, Spain, Sweden, Switzerland, United Kingdom, United States, Uruguay.

Research Design:

This paper uses two forms of data analysis to interpret the dataset: linear regression and PCA. The purpose of the linear regression is to create a direct test of the relationship between democracy indices and income inequality. This method provides clear, interpretable results that show how each democratic elements influence income inequality differently across different regimes. By including five separate independent variables (the democracy indices), the model can assess the unique contributions of each aspect of democracy to economic outcomes.

Multicollinearity and model specification errors are potential limitations that could bias the results. A VIF test will assess multicollinearity across political—values above 5 indicate some multicollinearity, while 10 indicates significant multicollinearity. Following the VIF test, a Principal Component Analysis is employed as a complementary approach to address multicollinearity. The principal component as well as the eigenvalues and the proportion of the variance are in Table 5 with satisfactory results. The limitations of PCA, such as interpretability, are mitigated by linear regression. To address potential specification errors,[4,5] the model includes five distinct democracy indices that capture various dimensions of democracy, providing a more nuanced and holistic understanding of the concept democracy. The use of large, cross-national samples spanning 60 years also reduces specification errors linked to local factors (such as wars or fiscal policies). Finally, comparing results from both linear regression and PCA provides a robustness check, with consistent findings suggesting that the model is well-specified.

Results

Table 6 reports the coefficients for the linear regressions of each political regime as illustrated in Figure 1 and Table 7 presents the VIF values for each index, which assesses multicollinearity. Notably, Liberal Democracy and Electoral Democracy both show significant multicollinearity.

Table 6: Coefficients of the linear regression.

	Gini Income Inequality, 1963-2023			
	Closed Autocracy	Electoral Autocracy	Electoral Democracy	Liberal Democracy
Intercept	+0.4563***	+0.2228***	+0.4294***	+0.1371***
Electoral Democracy Index	-0.2349	-0.107	+0.7597***	+1.0757***
Participatory Democracy Index	+0.7240***	+0.2012*	+0.1335	+0.0448
Liberal Democracy Index	+0.2572	+0.2619**	-0.0704	-0.2794**
Egalitarian Democracy Index	-0.9186***	-0.6175***	-0.8570***	-1.1085***
Deliberative Democracy Index	+0.0058	+0.1949*	+0.1171**	+0.3981***
Adj. R^2	0.382	0.212	0.447	0.418

*p≤.1, two-tailed
**p≤.05, two-tailed
*** p≤.001, two-tailed

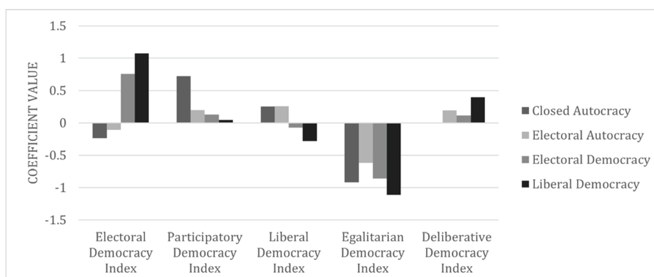

Figure 1: Coefficients of the linear regression.

Based on the results from Table 6, the Egalitarian Democracy Index shows a strong negative relationship with income inequality across all regimes, especially in Closed Autocracies (-0.9186) and Liberal Democracies (-1.1085). This suggests that policies emphasizing equality are crucial for reducing income inequality in both democratic and autocratic contexts. Conversely, the Electoral Democracy Index positively correlates with inequality in Electoral Democracies (+0.7597) and Liberal Democracies (+1.0757), suggesting electoral processes alone may exacerbate inequality without broader democratic reforms. Participatory and Deliberative Democracy Indices positively correlate with inequality in more autocratic regimes, such as Closed Autocracies (+0.7240) and Electoral Autocracies (+0.1949), indicating that limited citizen participation can worsen inequality if not supported by comprehensive reforms.

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Table 7: Variance inflation factors test for the linear regression.

	Variance Inflation Factor Values			
	Closed Autocracy	Electoral Autocracy	Electoral Democracy	Liberal Democracy
Electoral Democracy Index	3.19	5.62	16.35	14.07
Participatory Democracy Index	1.99	4.64	8.38	2.81
Liberal Democracy Index	2.6	8.84	7.45	14.07
Egalitarian Democracy Index	1.51	1.86	3.57	4.7
Deliberative Democracy Index	1.35	5.77	4.55	5.27

VIF results indicate a higher multicollinearity in more democratic regimes. In Liberal Democracies, the Electoral Democracy Index (14.07) is closely tied to the Liberal Democracy Index (14.07), while in Electoral Democracies, the Electoral Democracy Index (16.35) correlates with both Participatory (8.38) and Liberal Democracy Index (7.45), suggesting potential synergies among democratic practices. The high multicollinearity in Liberal and Electoral Democracies suggests that democratic dimensions are more interconnected under these political structures, complicating the isolation of their effects on inequality within this study. The positive relationship between the Electoral Democracy Index and inequality may suggest that electoral systems may increase inequality if strong egalitarian policies do not accompany it. On the other hand, the high VIF values in more democratic regimes indicate that electoral processes, civil liberties, and participatory mechanisms are closely linked, complicating the determination of their independent effects on inequality. This interconnectedness illustrated in this study calls for comprehensive reforms for democracies wishing to implement democratic values on others—the instillment of democratic values should not be limited to its electoral system. PCA helps disentangle these effects by transforming correlated indices into uncorrelated components, providing a clearer understanding of how combined democratic elements impact inequality.

Table 8 reports the variance explained by each principal component and Table 9 shows the significant loadings (absolute value greater than 0.4) for each PCA analysis. Generally, PC1 captures a broad democratic dimension, explaining roughly 80% of the variance apart from Closed Autocracy (60.90% variance explained) due to the non-significance of the deliberate and egalitarian loadings. PC2 reveals contrasting effects between indices, especially between Egalitarian and Deliberative Democracy Indices. For example, in Electoral Democracies, PC2 has a strong negative loading on the Egalitarian Democracy Index (-0.828), indicating potential tensions between different democratic principles influencing inequality. As a result, the results seem to suggest that certain democratic elements can promote equality, while others may inadvertently create or maintain disparities. PC3 further refines these contrasts, particularly in regimes with less entrenched democratic practices like closed and electoral autocracies. In such regimes, PC3 highlights competing influences of participatory and egalitarian elements, suggesting that these elements might counterbalance each other or that their impacts are context-dependent, reflecting the complexity of democratic governance in these settings.

Table 10 compares the adj. R^2 values of linear regression and PCA, which are similar across models. Electoral Autocracies exhibit lower explanatory power in both models (Adj. R^2 of 0.212 and 0.217), suggesting a unique mediating variable, like political stability[5] or corruption.

Table 8: Variance explained by each principal component.

	Variance Explained (%)			
	Closed Autocracy	Electoral Autocracy	Electoral Democracy	Liberal Democracy
PC1	60.8964179	79.94777847	87.52603332	86.52234043
PC2	14.63786801	12.08884729	5.145345643	6.247996668
PC3	12.15840849	3.377046403	3.984857339	3.582731657
PC4	8.196074558	N/A	N/A	N/A
Total Variance Explained	95.88876896	95.41367216	96.6562363	96.35306875
Adj. R^2	0.341	0.217	0.436	0.375

N/A, not applicable to the regression because cumulative variance explained already surpasses 95%

Table 9: Significant loadings of each principal component by political regime.

Political Regime	Principal Component	Direction of PC	Significant Loadings
Closed Autocracy	PC1	Positive	'Electoral Democracy Index': 0.510 'Participatory Democracy Index': 0.448 'Liberal Democracy Index': 0.493
	PC2***	Positive	'Egalitarian Democracy Index': -0.640 'Deliberative Democracy Index': 0.710
	PC3***	Positive	'Participatory Democracy Index': 0.593 'Egalitarian Democracy Index': -0.447 'Deliberative Democracy Index': -0.585
	PC4	Positive	'Participatory Democracy Index': 0.511 'Liberal Democracy Index': -0.662 'Egalitarian Democracy Index': 0.481
Electoral Autocracy	PC1***	Positive	'Electoral Democracy Index': 0.469 'Participatory Democracy Index': 0.454 'Liberal Democracy Index': 0.482 'Deliberative Democracy Index': 0.465
	PC2***	Positive	'Egalitarian Democracy Index': -0.907
	PC3*	Positive	'Electoral Democracy Index': -0.410 'Participatory Democracy Index': -0.507 'Deliberative Democracy Index': 0.717
	PC4	N/A	N/A
Electoral Democracy	PC1**	Negative	'Electoral Democracy Index': 0.466 'Participatory Democracy Index': 0.449 'Liberal Democracy Index': 0.455 'Egalitarian Democracy Index': 0.428 'Deliberative Democracy Index': 0.437
	PC2***	Strongly Negative	'Egalitarian Democracy Index': 0.828 'Deliberative Democracy Index': -0.512
	PC3***	Positive	'Participatory Democracy Index': 0.660 'Deliberative Democracy Index': -0.662
	PC4	N/A	N/A
Liberal Democracy	PC1***	Positive	'Electoral Democracy Index': -0.464 'Participatory Democracy Index': -0.415 'Liberal Democracy Index': -0.463 'Egalitarian Democracy Index': -0.445 'Deliberative Democracy Index': -0.446
	PC2*	Negative	'Participatory Democracy Index': -0.897
	PC3***	Positive	'Egalitarian Democracy Index': -0.839 'Deliberative Democracy Index': 0.485
	PC4	N/A	N/A

* p≤.1, two-tailed ** p≤.05, two-tailed *** p≤.001, two-tailed

Table 10: Comparison of R^2 values between linear regression and PCA models.

	Adj. R^2 Values	
	Linear Regression	Principal Component Analysis
Closed Autocracy	0.382	0.341
Electoral Autocracy	0.212	0.217
Electoral Democracy	0.447	0.436
Liberal Democracy	0.418	0.375

To summarize, the Egalitarian Democracy Index consistently emerges as a significant factor in directly reducing inequality across all models. In contrast, the Electoral Democracy Index is associated with increased inequality in more democratic contexts and associating with the Liberal Democracy Index and Participatory Democracy Index highlights the complex roles of elections in addressing economic disparities. Liberal Democracies display the most notable divergences, whereby both the strongest negative (-1.1085) and positive (+1.0757) relationships is recorded, showing significant variability between the implications of democratic values. On the other hand, Autocratic regimes sometimes show the opposite relationship with democratic values (while better election reforms lead to decreased inequality for Closed Autocracies, it correlates positively with in Liberal Democracies) Democratic regimes, regardless of the analytical model used.

Discussion

Synthesizing Findings:

In both analysis models, Egalitarian Democracy consistently correlates to reducing income inequality. This indicates that the most efficient method of reducing inequality is direct policy interventions no matter its political institution. This conclusion is supported by studies by Atkinson and Piketty (2007),[22] who's seminal work illustrates how egalitarian policies (measured by proxy of progressive tax policies and social welfare programs) effectively mitigate income disparities in developed democracies, and Gupta, Davoodi, and Alonso-Terme (2002),[23] who used a Diff-in-Diff approach to show that the impact of social spending (a proxy for egalitarian policies) consistently reduces income inequality across several Latin American countries. Economic equality is not a mere by-product of a successful system of governance, but something that needs to be actively achieved and pushed for by members of its government. In fact, this paper's finding that Electoral Democracy may be positively associated with income inequality within democratic regimes refutes against the actions of many developed democracies—continuous improvements on preexisting electoral systems without (or overshadowing) providing the additional monetary, military or other means necessary to facilitate a holistic implementation of democracy. The result, therefore, is seen in this research as Electoral Autocracies where the existence of a democratic election is hampered by issues such as corruption. This result seem plausible as it connects to past research on similar issues: Ross (2006)[24] and Milanovic (2016).[25] Particularly though, Milanovic (2016)'s exploration of democratic transition and inequality using cross-country data finds that democratization (measured primarily by electoral processes or Electoral Democracy as it is identified in this research paper) does not automatically reduce inequality unless it is paired with strong redistributive policies. Combining past literature and the findings of this paper (Electoral Democracy's positive correlation with income inequality, particularly in Democratic regimes), it suggests that pre-existing democracies do not necessarily need more or better election systems but improvements in other fields like job security and distribution of resources. Perhaps this correlation is the result of democratic governments' focus on overt democracy (as illustrated by the high multicollinearity between Electoral Democracy, Liberal Democracy and Deliberate Democracy). As suggested by the PCA results, electoral processes without robust democratic institutions may not suffice to address inequality and may in fact perpetuate it.

Broader Implications of Democracy:

The findings from this study support the rejection of a uniform understanding of democracy, suggesting that some aspects democratization may not inherently reduce inequality. Instead, the paper proposes that not all democratic values are effective depending on the nation's political system. Implementations of any democratic values, therefore, should be scrutinized before its implementation. Implementation failures of democracies should be carefully examined for why it failed—which specific aspect of democracy was ineffective in the context of its implementation. Ironically, while traditionally democratic values such as elections improve economic equality in autocracies, it may perpetuate inequality within democracies (perhaps indicative of how the democratic processes might be co-opted by powerful elites). For example, Fung and Wright (2003)'s case study on the participatory budgeting of Brazil finds that citizen participation without substantial government support has a minimal impact on inequality.[26] Its prevalence in autocratic or unstable political environments is evident by He and Warren (2011)'s study on China and India, finding a similar conclusion.[27] Likewise, Deliberate Democracy encounters a similar issue to Participatory Democracy, having either no effect (in Closed Autocracies) or increasing economic inequality. As Dryzek (2000)[28] and Gutmann and Thompson (2004)[29] illustrates in their study, deliberative discourse does not significantly impact inequality in the absence of actionable measures. Similar to how there is a cap on how much improving an already functioning electoral yields little to no gain (as evident by the fact that its increased implementation decreases inequality in Autocracies but increases it in Democracies), we may be seeing a similar effect for Participatory and Deliberate values, where its inability to directly cause systemic change limits its ability to actually decrease economic inequality. Perhaps this positive correlation is the result of the situation being so bad in the country that citizens are forced to speak up.

To explain why Participatory, Deliberate and even Electoral Democracies' inability to curb economic inequality, we can allude to the concept of the elite theory (where a small group of elites dominates the political decision-making landscape of a country).[30] which were also suggested by Ross (2006)[24] as the

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cause of exacerbating income inequality despite the presence of electoral systems in oil-rich democracies. A study by Gilen and Page (2014)[31] found that within America's political system, economic elites and organized groups representing business interests have substantial independent impacts on the U.S. government policy, the average citizens and mass-based interest groups show little to no independent influence, as evident by the low Participatory Democracy Index in Liberal Democracies (0.0448). Consequently, this explains why Participatory, Deliberate and Electoral Democracy Indices fail to illustrate a negative correlation with economic inequality because citizen votes and participation simply do not influence policy making in Liberal Democracies (and for that matter, other political regimes as well). Indeed, the Electoral Democracy index does seem to fair better than the other two in this regard (as it negatively associates with economic inequality in Autocracies), yet the potential benefit is still limited (as seen by its positive correlation with economic inequality in Democracies). Conversely, this also explains why only direct actions (Egalitarian Democracy Index) towards solving economic inequality seem to show consistent negative correlation towards income inequality. The Liberal Democracy Index also presents a valid approach for reducing economic inequality. However, as Liberal Democracies' ability to curb economic inequality also seems to be contingent upon direct actions (Egalitarian Democracy Index) towards solving economic inequality—as illustrated by Acemoglu, Johnson, and Robinson (2005)'s analysis of historical data of liberal democratic institutions.[32] In fact, Deaton (2013)'s work on health and wealth inequality discusses how liberal democracies with civil liberties (Liberal Democracy Index) can inadvertently widen gaps in wealth if egalitarian policies are not implemented with it.[33] Thus, this paper stresses that economic inequality requires direct policies and actions to be made—it is not a problem that could be solved indirectly through participation or deliberation.

Our study opposes the findings of Muller (1988), who suggested that similar patterns to the Kuznets Curve—where democracy may initially lead to inequality but eventually lead to more equitable outcomes—can be observed within a country's process of democratization. Instead, we find that the mean Gini coefficients increase as a country progresses from a democracy where elites hold significant power (Closed Autocracies has a mean Gini coefficient of 0.386) into a democracy where elites hold relatively less power as the citizens gain increased ability to vote (Electoral Democracies has a mean Gini coefficient of 0.427). Accordingly, we suggest that Muller falsely attributed decreased economic inequality to general democratic values when it is likely that this observation is the result of specific (Egalitarian) values present within Liberal Democracies (with a mean Gini coefficient of 0.335).

This complexity illustrated by this paper suggests that democratization is not a one-size-fits-all solution to economic inequality. The effectiveness of democratic reforms in reducing inequality is dependent on how these reforms are implemented and integrated with existing political structures and cultural context. Blindly chasing after things which are overtly democratic (Participatory Democracy, Deliberate Democracy and Electoral Democracy) may even lead to negative consequences for the economic inequality of the country. Accordingly, this paper illustrates the effectiveness of Coppedge (2011)'s study by illustrating the benefits of contextualizing democracies as multidimensional. This study also reveals the unique interaction between political regimes and dimensions of democracy, addressing the research question behind this investigation. The paper highlights other avenues of potential research whereby economic inequality could be replaced with other variables, like education or economic development.

Policy Implications:

Given that Egalitarian Democracy values consistently reduce economic inequality, policymakers should prioritize reforms that directly enhance equality rather than relying on theoretical proxies that may reduce inequality—even if elections were fair, it does not necessitate a fair distribution of resources since minorities within a democracy can still be oppressed.

The varied impact of democratic elements across different regimes illustrates not only an avenue for further research but the need for policymakers to create tailored solutions specific to their own region if they wish to reduce economic inequality by proxies of other policy changes. Efforts to reduce inequality should involve comprehensive reforms, and the lack of a comprehensive reform may lead to exacerbating the problem. Particularly in autocratic regimes, policy changes should take additional caution to consider potential mediating factors like political stability, corruption, and cultural norms.

Theoretical Implications:

The study calls for a rethinking of democratization by challenging the linear views of democratization as a straightforward path toward reducing inequality. The analysis also calls for a separation of elements of democracy in future research and discussions of democracies within policy proposals by illustrating how different elements may reinforce or contradict each other in influencing economic outcomes (and other potential outcomes). The high multicollinearity within democratic regimes highlights the interconnected nature of democratic elements. Accordingly, by illustrating both how elements of democracy interact with one another and how they are interconnected, the research illustrates the complexities of political regimes as systems that (because of their political environment or inborn characteristics of the system themselves) mediates the relationship between democratic elements and economic inequality in unique ways that cannot be generalized.

Limitations & Future Research:

Although the study utilizes credible sources like the V-Dem Institute and the World Bank, the measurement of democracy and income inequality can still be inaccurate. The indices used to measure democracy are based on expert assessments from V-Dem Institute, thus involving subjective judgment. Additionally, the Gini coefficient, while widely accepted as a measure of income inequality, can still mis-quantify a country's economic inequality where non-monetary income sources are significant. Another measurement challenge with the Gini coefficient is that some countries use historical data on political regimes and income inequality as proxies (e.g., using data from Pakistan and India to infer the historical regime of Bangladesh). This method, while necessary for compatibility between a country's current and historical data, introduces a degree of uncertainty and potential bias into the analysis.

The study primarily uses linear regression models, which assume a linear relationship between democracy indices and income inequality. While this assumption simplifies the analysis and provides sufficient grounds for correlations and analysis on the overall direction of the data (as illustrated by the VIF test results), it makes finding a causational relationship difficult, particularly for Democracies. Moreover, while the paper does include a comprehensive set of democracy indices, potential mediating factors and other indices have either been missed during the research phase of this paper or omitted due to the lack of data availability. Although these limitations are somewhat remedied within this paper by alluding to other research to clarify relationships, future research could improve by directly implementing approaches such as Diff-in-Diff or Synthetic Control into the methodology of their analysis. Moreover, while the paper does include a comprehensive set of democracy indices, potential mediating factors and other indices have either been missed during the research phase of this paper or omitted due to the lack of data availability.

Based on the limitations and results of this paper, a few notable research directions stand out: 1) the study recommends for future research on the causal mechanisms linking specific democratic practices to economic outcomes, 2) the paper suggests that future research should investigate both short and long-term implications of implementing policies that are categorized into different dimensions of democracies through longitudinal studies, 3) the research advocates for case studies and research into successful cases of democratization that reduces inequality to identify the best practices, 4) this paper recommends case studies be used to examine the role of cultures and speed of economic development on economic inequality, as countries such as India (often hailed as the world's largest democracy, with regular, free, and fair elections) faces significant income inequality, with a small elite holding a disproportionate share of wealth, and 5) the study proposes investigations into more nuanced elements of democratic experiences on economic inequality (such as different electoral systems within democracies).

Conclusion

This study successfully investigated the intricate relationship between various dimensions of democracy and income inequality across different political regimes. The findings challenge typical portrayals of democracies as a uniform concept, finding that the impact of democracy depends significantly on the specific democratic elements at play and the broader political institution in place. Through the integration of linear regression and Principal Component Analysis (PCA), the research offers a unique view of how different democratic practices influence economic disparities.

The paper began by outlining the existing debate on democracy and income inequality—the gaps in the literature where democracies were considered as a monolithic concept and its implementation were considered independent from the influence of the political regime. To analyze these, the study employed linear regression to test the relationship between democracy indices and inequality, and PCA to address multicollinearity and uncover deeper patterns in the data.

The results and discussion section illustrated the universal applicability of egalitarian principles while providing a more nuanced interpretation of how democratic elections relate to economic disparity. The PCA analysis gave additional nuance, revealing the interconnectedness of democratic values within democratic regimes. By weaving together past literature under this paper's unique lens of analysis, the paper emphasizes the necessity of direct policy and actions towards curbing economic inequality rather than indirect solutions. The research also contributes to the Elite Theory and the treatment of democracy as a multifaceted system composed of different compartments.

Although the study has some limitations (e.g. endogeneity, omitted variable bias), the research still contributes to our understanding of political regimes and democracy in four ways. First, this paper illustrates the complexity of democracy and its influence on inequality that will provide a clear direction for future research. Second, the study reveals the interconnectedness between different dimensions of democracies. Third, the study shed light on regime-specific dynamics that illustrate how political systems interact with their policies and citizens. Lastly, the research highlights key areas of examination that improve economic equality and areas which are detrimental to economic equality within democratic ideology. For example, some unresolved questions for future research to identify are "how do various democracy indices interact with one another across different political regimes"; "are some policies outliers to the trends identified in this research paper (e.g., egalitarian policies which increase economic inequality)"; and "what role do foreign aid and international intervention play in shaping the democratic transition of developing nations?”

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