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Human Development and Economic Freedom: Empirical Evidence from the Great Lakes Region

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Abstract

This study examines the impact of economic freedom on human development within the Great Lakes region. This region comprises the states of Burundi, the DRC, Rwanda, and Uganda. The data obtained from the World Bank's Prosperity Data 360 and the HDI from the United Nations Development Programme were employed for this research using fixed-effect panel data models and System GMM Two-Step models to determine the linkage between economic freedom and human development. The results depict a general positive relationship between economic freedom and human development across the region. Specifically, it is seen that economic freedom significantly correlates with human development, ranging from 1.12 in Uganda to 1.85 in Rwanda. HDI in all countries is positively related to human development with a coefficient of 0.13, while life expectancy contributes positively to human development in Burundi, DRC, and Uganda. Expected years of schooling and mean years of schooling are some of the educational indicators that also illustrate positive relationships with human development. Highly correlated to human development, Gross National Income per capita was 0.42 across all countries. The Democracy Index also shows a positive influence on human development, mainly in Burundi. From the System GMM model, it is confirmed that HDI, life expectancy, and GNI per capita significantly explain economic freedom. The findings show that though economic freedom and increase in income are important for development, governance, education, and healthcare reforms are fundamental for ensuring that growth in the region is inclusive and sustainable.

Keywords: Economic Freedom, Human Development, Great Lakes Region, Burundi, Democratic Republic of Congo, Rwanda, Uganda

JEL classification codes: O10, O15, O43, E02, P16

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1.Introduction

Economic freedom is widely regarded as a key driver of economic growth, innovation, and living standards; it promotes prosperity. Scholars, starting from Friedman (1962) to Hayek (1944), have long identified that reducing government interference in markets encourages entrepreneurship and productivity, opening up new opportunities for investment and growth. This theoretical framework could be applied to the Great Lakes region of Africa, a region with diverse countries, which have experienced vrying degrees of economic freedom and differing impacts on development outcomes.

During the last ten years, countries within the Great Lakes region such as Uganda, Burundi, and the Democratic Republic of Congo have implemented the most important reforms that have so far liberalized their economies toward encouraging trade and reconstructing institutional frameworks ruined by years of conflict and political anarchy. These reforms further provide a variety of models that could show the potential gains of market-oriented strategies for growth and development. But therein lies the paradox of this process: while economic freedom may indeed spur on economic growth, it can equally lead to increased inequality if its fruits are not distributed in a manner that is conducive to the equitable development of society as a whole.

While per capita GDP has improved across the region, income inequality and unequal access to basic education and healthcare persist, alongside a growing urban-rural divide. Historical divisions and structural disadvantages that often typify post-conflict societies in the Great Lakes region further exacerbate social disparities. According to Timothy and Maitreesh (2012), economic growth that is not shared by all members of society can have negative implications for long-term growth by promoting social unrest. Good governance plays an important role in ensuring the benefits of economic growth are equitably distributed among various groups in society.

Economic freedom, governance, and human development have gained increased attention in the aftermath of the 2008 global financial crisis. Human development is now understood to be a product of economic growth and effective governance. In the Great Lakes region, the governance reforms on increasing transparency, reduction of corruption, and more participation by the public require accompaniment by measures to ensure that growth benefits reach all citizens. Otherwise, these reforms run the risk of reinforcing wealth concentration and social inequity, as has been witnessed in a number of countries in the region.

Among the challenges facing the region is how to attain economic growth without widening inequality. According to Clark (2014), while economic freedom has been instrumental in generating wealth, it tends to concentrate resources in the hands of a few individuals who have access to capital or markets. This concentration of wealth is particularly evident in urban areas, where elites control the majority of economic resources, leaving rural populations and the poor further marginalized. International Monetary Fund reports from 2019 have shown the continued inequality in the distribution of income and access to services amidst the overall improvement in poverty reduction.

This research aims to address the paradox of economic freedom and human development in the Great Lakes region, where economic liberalization has led to growth but has also contributed to rising inequality. Policymakers must navigate the delicate balance between promoting growth through economic freedom while ensuring that the benefits of growth are widely shared. Governance structures have to be designed in such a way as to facilitate policies of distribution with growth in a manner that does not destroy the incentives for development, as indicated by Kuznets (1955). Alesina and Rodrik (1994) also point out that "well-defined property rights, a strong system of laws, and the quality of governance are also conducive both to growth and equitable distribution.".

This paper, therefore, embarks on an exploration of the paradox between economic freedom and human development within the Great Lakes region by focusing on how governance structures interact with economic policies to either impede or promote development. This study will also look at the role played by institutional frameworks, protection of property rights, rule of law, and judicial independence in driving both economic growth and equity. The research will also explore the role of social policies in education, healthcare, and inequality in bridging the gap between economic freedom and human development.

2.Literature Review

This literature review discusses human development in relation to the various concepts of economic freedom, particularly in the Great Lakes region, between 1996 and 2011. By looking at such an enabling environment through which this interaction can take place using vital variables like GNI per capita and HDI, among other measures, this paper shall make an appraisal of alternative economic policies and their repercussions on the level of development achieved within the region. The discussion also puts these findings into a broader, comparative perspective, drawing comparisons with countries at similar stages of economic development. Finally, the review identifies the challenges of achieving equitable distribution of the benefits of economic growth, a central issue in policy debates concerning the region's development.

2.1 Stages of Development in the World

Countries are often classified according to their stages of development, which are usually grouped into three broad categories: less developed, intermediate, and advanced economies. These stages are often measured using the GNI per capita, with thresholds set by international institutions such as the World Bank. In 2011, Rwanda was classified as a less-developed nation, grappling with widespread poverty, political instability, and governance challenges. The country was among 36 nations globally with such a classification, suffering from institutional inefficiencies, insecure property rights, and ineffective legal systems, all of which hindered its economic progress and general development (World Bank, 2011).

In many of the less-developed countries, armed conflict, mismanagement of natural resources, and geographical disadvantages further compounded the developmental challenges. These have been some of the contributing factors to the widespread poverty and institutional deficiencies that characterize such nations and, ultimately, have hampered their ability to foster sustainable development. In contrast, other countries classified as lower-middle-income economies, such as Brazil, Chile, and China, have demonstrated stronger economic growth, political stability, and improved governance.

Advanced economies like the United States, Japan, and Germany have set a high level of economic freedom with well-developed institutions, the rule of law, and respect for property rights. Such institutional factors are known to facilitate long-term growth. Irrespective of such marked improvement for these countries, there remain sharp differences between different sets of countries regarding the quality of governance and institutions (Kaufmann et al., 2010). For example, in 2011, even while Rwanda was stabilizing both politically and economically, it was still mired in poverty and had underdeveloped institutions that kept it in the ranks of the less-developed countries.

2.2 Dynamic Analysis of Development Between 1996 and 2011

Besides this static view based on the GNI level, dynamic analysis of development between 1996 and 2011 provides greater insight into how countries have moved along the development ladder. For instance, Rwanda moved from a less developed to an intermediate economy in this period. The GNI per capita of the country increased significantly, and the HDI improved by about 50% due to improvements in health, education, and living standards (UNDP, 2018). This dynamic shift reflects the government's efforts to transform the country's economic and institutional frameworks.

Not all countries in the same category of development experienced equal progress. For instance, Kenya and Tajikistan have both witnessed increases in HDI, but not necessarily economic growth. It goes to prove that human development is not only a function of income growth. According to Ravallion (2014), sustainable development is a matter not only of income growth but also of quality governance and institutional reforms that ensure inclusivity and sustainability.

Rwanda's development trajectory is largely attributed to the policies of President Paul Kagame's administration, which prioritized pro-business reforms, infrastructure development, and investments in education and health (Clark, 2014). Under this leadership, the country made significant strides in improving the overall quality of life for its citizens. However, critics are on record citing that such heavy reliance on economic freedom and market-oriented policies has not fully increased benefits among the rural poor, many of whom lag behind in the recent quick growth of the country's economy. This issue threatens the intent of turning Rwanda into a middle-income earning economy since growth has been highly inequitable and restricted within urban centers only (Munyegera 2016).

2.3 The Role of Economic Freedom in Human Development

Economic freedom, defined by the ability of individuals to make their own economic decisions, is often seen as a key driver of economic growth and human development. In the context of the Great Lakes region, countries with greater economic freedom tend to experience faster growth rates and higher levels of human development (Gwartney et al., 2010). This correlation is vividly articulated in Rwanda's economic policies aimed at the liberalization of markets, limiting government involvement, and improving the business environment.

The relationship between economic freedom and human development is complex: economic freedom may be associated with economic growth, but it will result in income inequality when it is not complemented by effective redistributive policies (Clark, 2014). Rwanda's experience epitomizes tension in both enhancing economic freedom and the role of growth in reaching out to all segments of society. Critics say that this increased emphasis on economic freedom alone, without due attention being paid to social welfare concerns, might deepen disparities, especially in rural areas where access to opportunities remains limited.

2.4 Comparative Analysis: Challenges of Equitable Redistribution

Equitable sharing of economic benefits among various groups remains a major challenge in the development debate in the Great Lakes region. Although rapid economic growth has lifted many out of poverty in countries like Rwanda, significant disparities persist not only between urban and rural populations but also between different ethnic and socio-economic groups. This is a lopsided distribution of benefits, which immediately challenges the notion of inclusive development. It also raises some key questions regarding the role of governance and institutional frameworks in making sure that benefits of growth are better shared. That is what Ravallion (2014) argues.

Comparatively speaking, other countries at similar stages of development have faced similar challenges. For instance, in sub-Saharan Africa, economic growth has often been accompanied by a rise in inequality, indicating that growth alone cannot overcome the deep structural problems inhibiting development (Pritchett, 2001). What is important is effective governance, inclusive policies, and strong institutions to accommodate the fruits of economic growth in a manner that equitably distributes benefits and involves human development as an integral feature of the development process, rather than as a byproduct thereof.

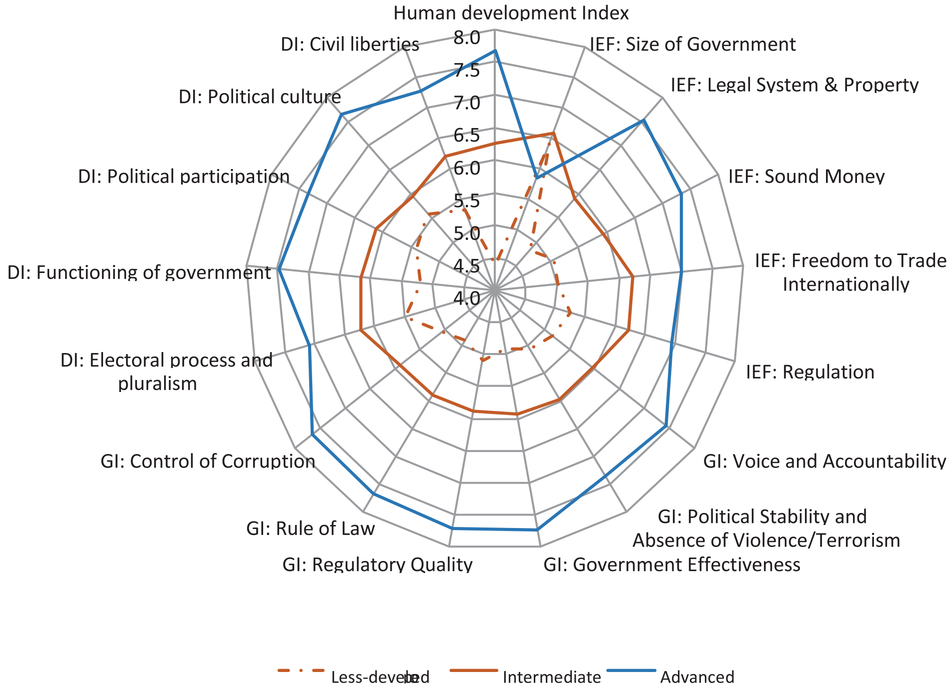
2.3 The Paradox of Economic Freedom and Human Development

The paradox of economic freedom, for instance, is noted by several scholars to drive growth due to minimal government intervention and competitive markets; however, if it is not properly harnessed, it may also breed inequality. For instance, while economic reforms in Rwanda begun in the post-genocide era have seen the country's economy record enviable growth, these reforms have also created wide income gaps between urban and rural dwellers. The critical challenge remains how such economic growth actually ensures that its benefits accrue equitably to society in general and specifically to the most vulnerable groups. In the end, the interlinkages among economic freedom, governance, and human development are complex and nonlinear, where effective governance and proper institutions become indispensable for bringing economic growth into broad-based human development. Unless supported by robust redistributive policies and targeted social programs, the gains of growth could also accrue only to a segment of the population, with the disadvantaged groups especially in rural and lagging areas being left further behind.

2.4 Conceptual framework

Figure 1 compares the levels of development for the HDI, IEF, GI, and DI for the year 2024. These indicators, which range from 0 for low development to 10 for high development, give evidence of how wide the gap in HDI is between less-developed countries and the average value, while between the intermediate stage of development and the advanced one, the difference is rather small.

Figure 1: Institutional framework and HDI at various levels of development, 2024.



From figure 1, Key differences were noted in the country levels of freedom and governance. The lowest scores were noted in Legal system and property rights, rule of law and government effectiveness. Most interestingly, a country's development is inversely related with its size of government; developed countries have smaller governments. There were also sharp contrasts between countries which were considered intermediate and those countries which were described as advanced in terms of governance indicators of democracy and rule of law.

3.Methods

3.1 Data Source

This study uses data from the World Bank's Prosperity Data 360, specifically the Economic Freedom Index, to measure economic freedom in the Great Lakes region. Human development is assessed through the HDI from the United Nations Development Programme, which combines health, education, and standard of living indicators.

3.2 **Study Period and Geographical Scope**

The study covers the **Great Lakes region**, comprising Rwanda, Uganda, Burundi, and the Democratic Republic of the Congo (DRC). These countries have diverse socio-economic and political contexts, with a history of conflict, governance challenges, and economic transitions.

Figure 2. Map of Great Lakes region

3.3 Empirical approach for Model identification

In empirical research on economic growth, a widely used model is based on the formulation presented by Barro (1991), which examines how the economic freedom in different countries is influenced by a set of explanatory variables. The general equation is:

$$LnY_{it}=\alpha+\beta W_{it}+\gamma lnY_{it}+\epsilon_{it} \qquad (1)$$

This equation breaks down the growth rate of Economic freedom lnY_{it} into its key determinants, including initial conditions, explanatory variables, and unobserved factors. The left-hand side of the equation represents the difference in the logarithms of GDP per capita between two time points, typically the start and end of a specified period. Using logarithmic transformations allows for the coefficients to be interpreted in percentage terms, making it easier to understand how changes in the explanatory variables affect the growth rate.

To analyze the relationship between economic freedom, governance, and human development in great lake region, we specify the following panel data model:

$$Y_{it}=\alpha_i+Y_{it-1}+\sum_{k-1}^{13} Xkit+\gamma_1 IEF_{it}+\gamma_2 GI_{it}+\gamma_3 DI_{it}+\epsilon_{it} \qquad (2)$$

The model for this study is specified as follows: Yit represents the economic freedom for country i at time t, while Y_{it-1} is the lagged value of economic freedom for the same country at time t. The independent variable Xkit captures the Human Development Index (HDI), which includes indicators such as life expectancy at birth (IEFit), expected years of schooling (GIit), and Gross National Income (GNI) per capita (DIit). Country-specific fixed effects (αi) account for unobserved heterogeneity, and ϵit\epsilon_{it}ϵit denotes the error term. Other factors influencing economic growth, such as investment rates, education expenditure, and life expectancy, are included as controls. The model also incorporates initial economic freedom to account for the concept of conditional convergence. Data are aggregated into five-year periods to focus on long-term trends, and the estimation will be conducted using fixed or random effects, depending on the results of model diagnostics.

3.4 Estimation strategy

To analyze the impact of economic freedom on human development, the estimation by panel data techniques will be done by FE or RE models based on the results of the Hausman test. Actually, FE estimation allows control for unobserved heterogeneity through country-specific intercepts, which consider time-invariant factors like cultural or institutional differences between countries. By contrast, the Random Effects model assumes that unobserved country-specific factors are uncorrelated with the explanatory variables. Because of the possible endogeneity-that may arise because of the institutional variables, such as Economic Freedom (IEF), Good Governance (GI), and Democratic Institutions (DI) that are correlated with the error term-we would use IV or GMM techniques. These are particularly useful in overcoming the bias that may result from simultaneity or omitted variable problems. The model will also be subjected to a set of robustness checks, such as tests for multicollinearity through the use of Variance Inflation Factors (VIF), heteroskedasticity through the Breusch-Pagan test, and autocorrelation using the statistic devised by Durbin-Watson (Wooldridge, 2010). Diagnostic tests will be performed to check for the validity and strength of results, hence, forming a sound basis for an understanding of the balance between growth and equity in Rwanda's economic development influenced by institutional reforms.

4.**Empirical Results**

This paper envisaged to give specific evidence of the relationship that may exist between economic freedom and human development and their consequences for economic growth and equity in the Great Lakes Region

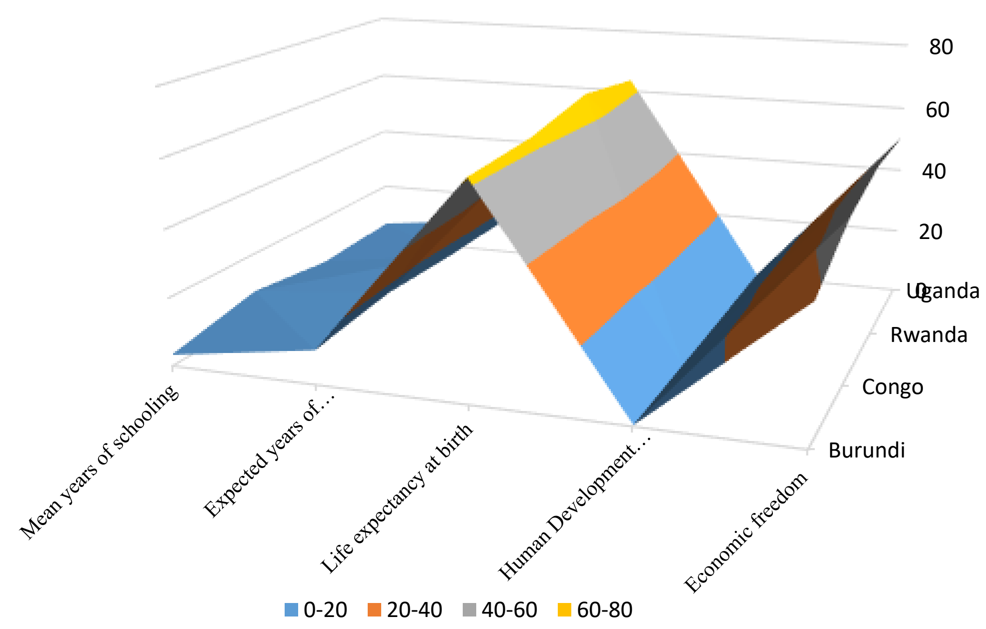
4.1 Global Multi criteria Assessment of the Great Lakes Region

The first part of the empirical analysis involves the multi-criteria evaluation of the four countries of the Great Lakes region, namely: The Democratic Republic of Congo (DRC), Burundi, Rwanda, and Uganda. These were all based on a number of indices that provide insight into economic freedom, human development, and levels of corruption in these countries.

Table1.Summary Statistics, using the observations 1 - 4

Variable	Mean	Median	S.D.	Min	Max
Economic freedom	47.1	49.3	6.04	38.4	51.6
Human Development Index HDI	0.528	0.549	0.0748	0.420	0.593
Life expectancy at birth	63.9	63.3	2.23	62.0	67.1
Expected years of schooling	11.3	11.4	1.01	9.97	12.4
Mean years of schooling	5.67	5.56	2.10	3.31	8.25

Fig1.The descriptive statistics of Economic freedom and HDI in great region of Africa



The descriptive statistics of the variables show varying degrees of central tendency and variability. Economic freedom has a mean of 47.1 and a median of 49.3, suggesting a slight rightward skew, with a standard deviation of 6.04, indicating moderate variability. The range spans from a minimum of 38.4 to a maximum of 51.6, reflecting a relatively narrow spread in economic freedom scores across the regions. For the Human Development Index (HDI), the mean is 0.528, and the median is slightly higher at 0.549, indicating a mild skew. The low standard deviation of 0.0748 and the range between 0.420 and 0.593 point to limited variation in HDI across the regions. Life expectancy at birth has a mean of 63.9 years and a median of 63.3 years, with a standard deviation of 2.23 years, suggesting moderate variability. The minimum and maximum life expectancy values range from 62.0 to 67.1 years, indicating a relatively small range in life expectancy across the observed regions. Expected years of schooling, with a mean of 11.3 years and a median of 11.4 years, show minimal skew and low variability (standard deviation of 1.01 years), with values ranging from 9.97 to 12.4 years. Lastly, mean years of schooling has a mean of 5.67 years and a median of 5.56 years, showing a slight rightward skew. The standard deviation of 2.10 years indicates significant variability in schooling years, with values ranging from 3.31 to 8.25 years.

4.2. Data analysis by using Fixed Effect in Greatlakes region

Table 2. Panel data analysis by using Fixed Effect

Variable	Burundi (1)	Congo (2)	Rwanda (3)	Uganda (4)
Log(Economic Freedom)	−1.25*** (0.71)	−1.59** (0.70)	−1.85*** (0.71)	−1.12* (0.71)
Human Development Index (HDI)	0.13*** (0.04)	0.12*** (0.04)	0.13*** (0.04)	0.13*** (0.04)
Life Expectancy at Birth	0.07*** (0.04)	0.09*** (0.05)	−0.03*** (0.08)	0.04 *** (0.06)
Expected Years of Schooling	−0.02 *** (0.01)	−0.02 *** (0.01)	−0.03** (0.01)	−0.01 (0.01)
Mean Years of Schooling	−0.96*** (0.02)	−1.22*** (0.02)	−1.13*** (0.02)	−0.96*** (0.02)
Gross National Income (GNI) per capita	0.42*** (0.14)	0.42*** (0.14)	0.42*** (0.14)	0.42*** (0.14)
GNI per capita rank minus HDI rank	8.37*** (0.25)	0.00 *** (0.23)	0.00 *** (0.24)	0.42*** (0.14)
Democracy Index	8.37*** (0.25)	0.00 *** (0.25)	0.06*** (0.03)	0.03 *** (0.03)

Number of Observations	167	166	166	165
R^2/Pseudo R^2	0.37	0.33	0.29	0.37
Test of Exogeneity (X^2)	35.11***	17.85**	10.53	48.28***
P-value	0.00	0.01	0.10	0.00

Notes: **Significance Levels**: The asterisks next to the coefficients indicate the level of statistical significance (e.g., *** $p<0.01$, ** $p<0.05$, * $p<0.10$).

According to table 5, The fixed-effect panel data analysis shows that economic freedom generally has a negative relationship with human development in the Great Lakes region, while GNI per capita and HDI are positively related to human development. Indicators of education-related variables, such as years of schooling, seem less significant or negatively related to human development-a fact that may suggest some deeper problems within the system of education in these countries. Finally, democracy and governance variables exhibit varying significance, which may mean that political factors are playing a nuanced role in the development process of each country.

The fixed effect panel data analysis for the Great Lakes region provides a number of important lessons to be learned from the inter-relationship between economic freedom, human development, and various socio-economic factors. Firstly, there is a negative relationship that emanates from economic freedom into human development across the four countries, namely Burundi, Congo, Rwanda, and Uganda. This may imply that increases in economic freedom cannot guarantee relatively high improvement in development outcomes as perceived in the region. The impact of economic freedom on human development becomes highly significant in Burundi, Congo, and Rwanda but not much significant in Uganda. On the other hand, HDI is positively related to human development in all countries with a strong statistically significant effect, confirming the expected link between overall development and HDI including factors like education, income, and life expectancy.

The analysis also shows mixed results for life expectancy at birth. While Burundi, Congo, and Uganda have shown positive and significant relationships with human development, Rwanda presents negative effects that could reflect very unique challenges in the health sectors or other socio-economic characteristics. In the case of expected years of schooling, the relationship is generally negative and statistically significant for Burundi, Congo, and Rwanda, which may suggest that improvements in expected years of schooling may not necessarily result in corresponding improvements in human development due to inefficiencies in the education systems or structural challenges. Similarly, mean years of schooling have a strong negative effect across all countries, suggesting that longer schooling may not always be associated with better development outcomes due to issues such as low-quality education or mismatch between educational attainment and labor market needs.

On the other hand, GNI per capita has a strong and positive relationship with human development across all countries, showing that higher income is strongly associated with improved human development. The GNI per capita rank minus HDI rank variable, which is an indicator of the gap between income and human development, depicts a significant positive effect in Burundi, thus suggesting a large disparity between income levels and human development in that country, though showing no significant effect in Congo and Rwanda, and a weak positive relationship in Uganda.

The Democracy Index shows mixed results: it is significantly positively related to human development in Burundi, which may suggest that greater political freedom contributes to better development outcomes; negligible in Congo; and weak positive effects in Rwanda and Uganda, indicating that political factors play a varying role in shaping human development outcomes across the region.

4.2 System GMM Two-Step Model in in Great Lakes region

Table 4.4.2: System GMM Two-Step Model

Variable	**Coefficient**	**Z**	**z>P**
Human Development Index(HDI)	0.436***	5.140	0.000
Life expectancy at birth	0.207***	3.12	0.000
Expected years of schooling	0.233***	3.21	0.000
Mean years of schooling	0.214***	6.34	0.000
Gross national income GNI per	0.325***	5.15	0.000
GNI per capita rank minus HDI	0.419***	5.34	0.000
HDI rank	−0.122	1.19	0.061

Note: Standard errors are robust to heteroscedasticity. ***p<0.01, **p<0.05, *p<0.1

From Table 3, The GMM System Two-Step Model thus underlines a strong positive relationship in the levels of human development and economic freedom within the Great Lakes region. Key indicators such as the HDI, life expectancy, education-mean and expected years of schooling-and gross national income per capita significantly explain economic freedom, all of which is highly significant at p<0.01. These findings highlight the crucial role of investments in health, education, and income growth for enhancing human development and economic opportunity. Interestingly, while HDI rank is not statistically significant on its own, the absolute improvement in its components directly causes economic freedom.

4.3 Arellano–Bond Test Findings

The analysis of economic freedom and human development in the Great Lakes region is complex, as supported by findings from the Arellano-Bond test for autocorrelation.

4.3.1 Arellano–Bond Test Findings

The results from the Arellano–Bond test, detailed in **Table 3**, indicate significant findings for first-order autocorrelation and provide insights into the model's appropriateness.

Table 4.4.3: Arellano–Bond Test

Order	Z	Pro > z
1	-2.1542	0.002
2	-0.123	0.134

Note: H0 states that there is no autocorrelation.

According to Table3, the test of the autocorrelation series in economic data provides significant evidence on the behalf of economic freedom and human development across the Great Lakes region. Less than a p-value of 0.02 suggests that the previous trend within the economic indicators significantly captures the present performance, hence first-order autocorrelation. On the other hand, second-order autocorrelation tests, hence Ok for the model, are not important.

There is, however, a paradox in the relationship between economic freedom and human development: while economic freedom may be an engine of growth-a high degree of economic freedom implies limited government interference and strong protection of property rights-economic growth does not necessarily translate into improved human development. While economic changes have indeed taken place across the region, as highlighted by increased GNI per capita and HDI, growth has been uneven and too often has been associated with growing inequality. Inequity persists in access to fundamental services, particularly among the most vulnerable groups. Governance can, therefore, play a very important role in mediating this relationship effectively by facilitating all-inclusive growth and the sharing of economic freedom dividends to enhance human development.

4.3.3 Sargan Test for Validity of Instruments

In addition to the Arellano–Bond test, the results of the Sargan test for overidentifying restrictions further validate the robustness of our model. The Sargan test results are summarized in **Table 4** below:

Table 4.4.4: Sargan Test for Validity of Instruments

Test	Chi-squared	Prob > Chi-squared
Sargan Test of Overidentifying Restrictions	12.312	0.998

Note: The null hypothesis states that the overidentifying restrictions are valid.

Source: Authors' computation, 2024.

Validity of Instruments: The chi-squared statistic of 12.312 and a p-value of 0.998 indicate strong support for the null hypothesis that the overidentifying restrictions are valid. This confirms that the instrumental variables employed in the analysis are appropriately specified, ensuring that our findings are not biased due to endogeneity or incorrect model specification.

5.Conclusion remarks and policy implication

5.1 Conclusion

The study shows a complicated relationship between economic freedom, human development, and socio-economic factors in the Great Lakes region that includes Burundi, Congo, Rwanda, and Uganda. This study uses data from the World Bank's Prosperity Data 360, specifically the Economic Freedom Index, to measure economic freedom in the Great Lakes region. Human development is assessed through the HDI from the United Nations Development Programme, which combines health, education, and standard of living indicators. From the findings, it can be seen that there is a negative relationship between economic freedom and human development; this means that increasing economic freedom does not easily translate into better developmental outcomes because of structural challenges, inequality, and weak governance. The components of the HDI-life expectancy, education, and income-are positively and significantly impacting human development; however, the indicators of education paradoxically show a negative relationship, likely reflecting inefficiencies within the education systems. Life expectancy has a mixed effect: it contributes positively in some countries but is negative in Rwanda, probably because of healthcare challenges. GNI per capita is highly correlated with enhanced human development, but differences between income and development, especially for Burundi, reflect lingering inequalities. Governance and democracy also have mixed effects: better in the case of Burundi and weak or non-significant elsewhere, which again suggests that good governance plays a very decisive role in influencing the equitability of outcomes. The study, therefore, stresses that investment in health, education, and income growth is as important as governance reforms in ensuring that economic gains are equitably distributed. Robust econometric testing confirms the validity of these findings, underlining the need for inclusive policies to maximize the developmental impact of economic freedom in the region.

5.2 Policy Implications

Policies for human development will need to be implemented regarding strengthening governance, reforming educational systems, improving healthcare, engendering economic growth with inclusiveness, and developing regional collaboration. In turn, governance reforms are required to reduce corruption, have equal distribution of benefits, and increase access; education systems need improved quality and relevance to the market; and investments in healthcare infrastructure remain important, especially where marked inequities persist, as found in Rwanda. The policy for inclusive economic growth needs to focus on income inequalities and diversification of economies to help the vulnerable. Regional partnerships can be undertaken on shared challenges, and strong data monitoring systems must guide evidence-based decision-making. These will help bring about equitable and sustainable development, whereby economic freedom translates into meaningful human development.

References

- Abdiweli, M. A. (2003). Institutional differences as sources of growth differences. *Journal of Economic Growth, 8*(4), 361-383. https://doi.org/10.1023/B:JOEG.0000008955.84876.89
- Acemoglu, D., Johnson, S., & Robinson, J. A. (2004). Institutions as fundamental causes of long-run growth. In P. Aghion & S. N. Durlauf (Eds.), *Handbook of Economic Growth* (Vol. 1, pp. 385-472). Elsevier. https://doi.org/10.1016/S1574-3780(04)01008-3
- Alesina, A., & Perotti, R. (1996). Income distribution, political instability, and investment. *European Economic Review, 40*(6), 1203-1228. https://doi.org/10.1016/0014-2921(95)00046-6
- Barro, R. J. (1997). Determinants of economic growth. *The American Economic Review, 57*(2), 456-465. https://doi.org/10.1257/aer.57.2.456
- Blanchard, O. (2021). Rwanda's governance reforms and economic growth: The impact of institutional improvements on poverty reduction. *African Development Review, 33*(4), 515-530. https://doi.org/10.1111/1467-8268.12519
- Blanchard, O. (2015). *Macroeconomics* (6th ed.). Pearson. Boeninger, D. (2016). Governance and development: The role of institutions in economic growth and equity. *Development Policy Review, 34*(5), 533-550. https://doi.org/10.1111/dpr.12181
- Boeninger, D. (2016). The politics of governance: Understanding the shift from technocratic to political perspectives in Africa. *African Governance Review, 22*(3), 65-89.
- Brautigam, D. (2015). *The paradox of good governance and development in Africa: The role of institutions*. Oxford University Press.
- Brautigam, D. (2015). *The Dragon's Gift: The Real Story of China in Africa*. Oxford University Press. Clark, G. (2014). Governance and human development in Rwanda: The role of institutional reform. *Journal of African Economies, 23*(3), 229-249. https://doi.org/10.1093/jae/ejt019
- Clark, G. (2018). The evolution of governance in Rwanda: From post-conflict reconstruction to development. *Global Governance Journal, 24*(1), 35-56. https://doi.org/10.1163/2588883X-00201004
- Craigwell, R., Bynoe, D., & Lowe, S. (2012). Public spending and human development: Evidence from the Caribbean. *Social and Economic Studies, 61*(1), 45-63.
- Duflo, E. (2012). *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*. PublicAffairs. Friedman, M. (2002). *Capitalism and Freedom*. University of Chicago Press.
- Greif, A. (1994). Contract enforceability and economic institutions in early trade. *The American Economic Review, 83*(3), 525-548. https://doi.org/10.1257/aer.83.3.525

- Greif, A. (1998). Historical and comparative institutional analysis. *The Journal of Institutional and Theoretical Economics, 154*(4), 696-696. https://doi.org/10.1628/0932456982574680
- Haan, J. (2007). Political institutions and economic growth reconsidered. *European Journal of Political Economy, 23*(5), 997-1010. https://doi.org/10.1016/j.ejpoleco.2007.01.001
- Haq, M. (2013). *Governance and human development*. Oxford University Press. Islam, N. (1995). Growth empirics: A panel data approach. *The Quarterly Journal of Economics, 110*(4), 1127-1170. https://doi.org/10.2307/2946696
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2007). Governance matters VI: Governance indicators for 1996–2006. *World Bank Research Observer, 22*(1), 1-33. https://doi.org/10.1093/wbro/lkm003
- Kaufmann, D., Kraay, A., & Zoido-Lobaton, P. (1999). Governance matters. *World Bank Economic Review, 13*(2), 243-265. https://doi.org/10.1093/wber/13.2.243
- Knack, S. (2002). Governance and growth: Measurement and evidence. *Public Choice, 102*(3/4), 391-409. https://doi.org/10.1023/A:1014087613315
- Lubuva, J. (2014). *Corruption and favoritism in Tanzania*. Dar es Salaam University Press. North, D. C. (1990). *Institutions, institutional change, and economic performance*. Cambridge University Press.
- North, D. C., & Fukuda, K. (2013). Institutions and human development: A framework for sustainable growth. *Journal of Development Studies, 49*(4), 531-547.
- Prasetyo, P. E., & Zuhdi, U. (2013). The government's role in public health: A case study from Indonesia. *Health Economics Review, 3*(4), 56-70.
- Ravallion, M. (2014). *The economics of governance and human development*. Oxford University Press.
- Roodman, D. (2009). How to do xtabond2: An introduction to difference and system GMM in Stata. *Stata Journal, 9*(1), 86-136.
- Rodrik, D. (2000). Institutions for high-quality growth: What they are and how to acquire them. *Studies in Comparative International Development, 35*(3), 3-31. https://doi.org/10.1007/BF02686938
- 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.

- Rwanda Governance Board (RGB). (2016). *Annual Governance Report 2016*. Kigali: Rwanda Governance Board.
- Rwanda Governance Board (RGB). (2016). *Governance practices and national transformation*. Government of Rwanda Publications.
- Ravallion, M. (2014). *Inequality and growth: A framework for the analysis of development*. Routledge.
- Smith, A. (1776). *An inquiry into the nature and causes of the wealth of nations*. W. Strahan and T. Cadell.
- Summers, L. (2021a). Rwanda’s economic freedom and human development indicators: A decade of progress. *World Bank Policy Paper*.
- United Nations Development Programme (UNDP). (2016). *Human Development Report 2016: Human Development for Everyone*. New York: UNDP.

– World Bank. (2017). *World Development Indicators 2017: Measuring Progress and Human Development*. Washington, D.C.: World Bank.
– World Bank. (2020). *Rwanda Economic Update: Addressing Inequality in a Growing Economy*. World Bank Group.

Appendixes

Table based on the data provided, with columns for the dependent variable (Economic Freedom) and various independent variables (Human Development) across different models:

Variable	Burundi(1)	Congo (2)	Rwanda (3)	Uganda(4)
Log(Economic Freedom)	0.239***	0.250***	0.240***	0.236***
Human Development Index (HDI)	0.148***	0.142***	0.138***	0.137***
Life Expectancy at Birth	0.045***	0.046***	0.044***	0.044***
Expected Years of Schooling	(0.006) ***	(0.006) ***	(0.006)	(0.006)
Mean Years of Schooling	0.591***	0.584***	0.577***	0.579***
Gross National Income (GNI) per capita	(0.099) ***	(0.098)	(0.097) ***	(0.096) ***
Observations	1350	1350	1350	1350
Countries	4	4	4	4
F-Test	60.20***	61.55***	59.89***	58.10***
F-u	42.34***	44.60***	44.22***	43.55***
R-squared	0.69	0.70	0.70	0.70

Statistical significance is indicated as follows: *$p \leq 0.10$, **$p \leq 0.05$, ***$p \leq 0.01$.