

Assessing the Dynamics of the Gini Index in Nigeria and Its Implications for Economic Development

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Being Paper presented virtually at the 5th Colloquium to mark the birthday of Dr. Prince Oyebade Oyedepo FCA, JP on Monday, 18th May, 2026

1. Introduction

This edition of the birthday colloquium looks at Nigeria's Gini Index changes over the last three and half decades, examining the structural causes of income inequality and how they affect the country's development. Nigeria still struggles with a "poverty-growth paradox," in which income is largely concentrated among a small elite, despite times of notable GDP development. The Gini coefficient (or index) is a measure of the income or wealth inequality within a nation, and this ranges from **0 (perfect equality) to 1 or 100% (total inequality)**. For perfect equality, it means that every 1% of the population has access to 1% of the national income, which is unrealistic. A coefficient of 1 indicates **perfect inequality**. It means that 1 individual has access to 100% of the country's national income. **A lower coefficient/index is an indication of a more equal society, while a higher value shows a greater inequality, the index is often used to compare economic disparity globally.**

The Gini Index remains the leading indicator of income disparity. The Gini Index for Nigeria, the most populous country in Africa, has traditionally ranged in between 35 to 49, indicating pervasive structural inequalities. In interpreting the Gini index, a higher Gini coefficient is not necessarily better; the higher the Gini coefficient, the greater the population inequality.

One of the most important measures of a nation's economic development and health is economic growth, which is determined by the gross domestic product (GDP). It is the total monetary worth of all finished goods and services produced in the nation within a given time frame, typically a year. Improving the living standards, reducing poverty, and creating jobs all depend on sustainable economic growth.

Income inequality has become a central concern in contemporary economic analysis, not only because of its ethical dimensions or normative implications but also due to its effects on growth, social stability, and long-run development. Empirical evidence suggests that persistently high inequality can weaken the poverty-reducing impact of growth, limit intergenerational mobility, and erode institutional trust (Stiglitz, 2012; Ostry, Berg & Tsangarides, 2014).

In developing economies such as Nigeria, these concerns are particularly relevant. Despite episodes of economic growth, improvements in average income have not translated into broad-based welfare gains. This has shifted attention from growth alone to how its benefits are distributed.

Within this context, the Gini coefficient has become the most widely used summary measure of inequality. This study focuses on some interconnected themes:

- The meaning and interpretation of the Gini coefficient
- Review of past Literature and theoretical framework
- Its construction and standardisation in datasets such as SWIID
- Nigeria's long-run inequality pattern (1985–2022)
- Comparative insights from selected countries with similar Gross Domestic Product and Gross National Income as Nigeria and Brazil.
- Key implications for developing economies

2. Gini Coefficient: Conceptual Foundations

The Gini coefficient is a summary statistic that measures inequality in the distribution of income or consumption. It captures the extent to which actual income distribution deviates from perfect equality.

It ranges between 0 and 1:

- 0 represents perfect equality (everyone earns the same income)
- 1 represents extreme inequality (one person receives all income)

Two main interpretations dominate the literature. The Lorenz-curve approach defines the Gini as the area between the Lorenz curve and the line of perfect equality, relative to the total area under the equality line (Lorenz, 1905; Sen, 1973). Alternatively, it can be interpreted as the average absolute income difference between all pairs of individuals, normalised by mean income (Cowell, 2011). Both perspectives convey the same idea: the Gini coefficient summarises income dispersion in a single measure.

3. Theoretical Framework

Kuznets posits that there is an inverse U-shaped relationship between growth and inequality. People move from the vast, egalitarian, relatively impoverished sector to the smaller, richer, but relatively unequal industrial sector in the early phases of economic development, which leads to an increase in inequality. However, as the majority of the population moves to the urban sector in the latter phases, the relative earnings of the poorer workers in both the urban and rural sectors rise, and a number of legislative initiatives are also put in place to lessen inequality both within and between sectors.

Celso Furtado propounded the developmentalist theory and he opined that income inequality arises when there is an absence of economic growth while the Marxist theory posited that income inequality results from odd development and exploitation, which results in skewed asset and income distribution.

Human capital theory, as developed by Schultz (1961) and Becker (1964), introduces a supply-side dimension to the inequality-development nexus by establishing that the distribution of educational investment across the population is a primary determinant of income dispersion. When access to quality education is broadly distributed, rising human capital endowments compress wage differentials and reduce the Gini coefficient by narrowing the skill premium between high and low-income workers. Conversely, when educational investment is stratified by parental income, geographic location, or social status, human capital accumulation reproduces and potentially amplifies existing inequalities rather than attenuating them.

More recent theoretical contributions have drawn attention to the role of financial development in mediating the inequality-development relationship, with divergent predictions depending on the stage of financial deepening and the inclusiveness of financial access. Greenwood and Jovanovic (1990) proposed an inverted-U relationship between financial development and inequality, whereby the early expansion of financial systems benefits primarily those with sufficient wealth to access formal financial services, initially widening the Gini coefficient before broader financial inclusion eventually compresses it.

4. Review of Literature

A review of the empirical literature presents the fact that the importance of Gini index is clear. Since the first proposal, the Gini index has been the subject of numerous publications, both theoretical and applicative. Some of the reasons for its success and longevity are simplicity, fulfilment of general properties, interesting interpretations, useful decomposition, links with the Lorenz curve (Lorenz, 1905) and the mean difference (Gini, 1912) as in Guandalini (2022). The issue of decomposition has been a common and subsistent practice in the study of inequality measures.

In line with the structure of the data base and the research objectives, it is mainly possible to distinguish decomposition by sources and by population subgroups (Giorgi 2011b). Determining the extent to which each income source or demographic segment contributes to inequality is the overall goal. The decomposition's outcomes are then very helpful in understanding inequality and identifying its hiding places.

It is feasible to break down inequality measures and, of course, the Gini index by the contribution of each income source to the inequality when data allows us to break down the total income by several income sources (such as wages, salaries, capital incomes, etc.). The overall disparity can be divided into the contributions of each income source because the Gini index is additively decomposable by income sources. (Rao 1969)

Consequently, it is feasible to examine how each population subgroup—identified by these criteria—contributes to overall disparity when income data is combined with individual variables like age, sex, educational attainment, geographic location, etc. (Deutsch and Silber 1999; Mussard *et al.* 2006).

Omoluwa and Tamunowariye (2021) observed stemming from the result that there was a negative relationship between income inequality measured by Gini coefficient and economic growth. This means that income inequality reduces economic growth in Nigeria. The reason that could be adduced for this development is the fact that the rich who are the beneficiary of uneven distribution of income, instead of investing such funds in the Nigerian economy which could bring about economic growth, they rather prefer to save in foreign accounts for their families.

Adeola Temitope and Evans James (2022) in their study on the structural determinants of income inequality in Sub-Saharan Africa, according to their analysis, stated the main causes of Nigeria's income inequality as resource mismanagement, corruption, and poor institutional frameworks. The study claimed that high levels of inequality restrict chances for most people, which hinders economic progress. To foster an atmosphere that supports fair economic development, the authors suggested bolstering institutional governance.

5. The Gini Coefficient in SWIID: Meaning and Interpretation

Reliable inequality analysis depends on comparable cross-country data. One of the most widely used sources is the Standardized World Income Inequality Database (SWIID), which harmonises inequality data across countries and time.

SWIID addresses inconsistencies arising from:

- Differences in household survey design
- Variation in income definitions

- Uneven data coverage across countries

It produces internationally comparable estimates through statistical standardisation (Solt, 2020).

A key clarification concerns scaling. SWIID reports Gini values on a 0–100 scale, whereas the theoretical range is 0–1. Thus:

- 38.4 corresponds to 0.384
- 43.5 corresponds to 0.435

Importantly, this is only a rescaling and does not affect interpretation or comparability.

SWIID also distinguishes between:

- Market income inequality (before taxes and transfers)
- Disposable income inequality (after taxes and transfers)

This distinction allows for the assessment of the redistributive role of fiscal policy.

5.1 Evidence of the Gini Coefficient Widely Usage

The Gini coefficient remains dominant because it combines simplicity with analytical usefulness. It compresses complex income distributions into a single interpretable number and enables consistent comparisons across countries and time.

It is also widely adopted by international organisations such as the World Bank and IMF, which reinforces its policy relevance.

However, it has limitations. It does not reveal where inequality is concentrated within the distribution and may mask important structural differences between top-end and bottom-end inequality. For this reason, it is best viewed as a summary indicator rather than a complete measure of distributional structure (Atkinson, 1970).

6. Nigeria's Gini Coefficient Trend (1985–2022)

Nigeria's inequality trajectory shows persistence with gradual improvement. Both market and disposable income Gini coefficients decline over time, though from relatively high initial levels.

Market inequality falls from about 43.6 in 1985 to 40.1 in 2022, while disposable inequality declines from 42.2 to 38.4. Market inequality consistently remains above disposable

inequality, though the gap is relatively stable, suggesting limited redistributive impact of fiscal policy.

Three broad phases are evident:

During the structural adjustment period of the late 1980s and 1990s, inequality increased moderately, reflecting adjustment costs from liberalisation and macroeconomic reforms. From the late 1990s to the mid-2010s, inequality gradually declined, associated with democratic consolidation, oil-driven growth, and expansion in services and education. From 2015 onward, the decline continues but at a slower pace, shaped by economic shocks, inflation, and labour market pressures.

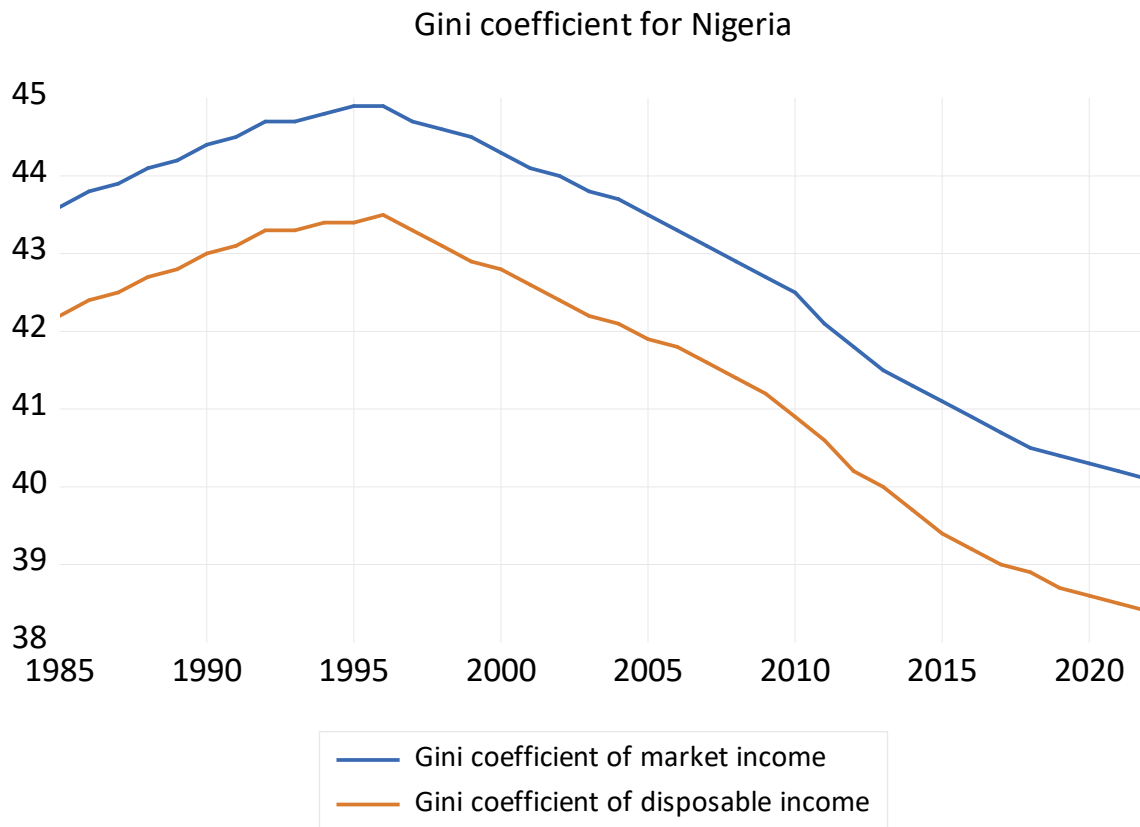
Overall, the pattern reflects gradual movement rather than structural transformation, with inequality remaining relatively high by international standards.

Table 1: Data on Nigeria's Disposable Income and Market Income

Country	Year	Gini_disp	Gini_disp_se	Gini_mkt	Gini_mkt_se
Nigeria	1985	42.2	3.55	43.6	3.66
Nigeria	1986	42.4	3.52	43.8	3.63
Nigeria	1987	42.5	3.46	43.9	3.61
Nigeria	1988	42.7	3.42	44.1	3.54
Nigeria	1989	42.8	3.36	44.2	3.45
Nigeria	1990	43	3.31	44.4	3.36
Nigeria	1991	43.1	3.22	44.5	3.28
Nigeria	1992	43.3	3.1	44.7	3.19
Nigeria	1993	43.3	3.04	44.7	3.16
Nigeria	1994	43.4	3	44.8	3.11
Nigeria	1995	43.4	2.93	44.9	3.04
Nigeria	1996	43.5	2.85	44.9	2.95
Nigeria	1997	43.3	2.8	44.7	2.91
Nigeria	1998	43.1	2.76	44.6	2.85
Nigeria	1999	42.9	2.68	44.5	2.79
Nigeria	2000	42.8	2.59	44.3	2.71
Nigeria	2001	42.6	2.47	44.1	2.6
Nigeria	2002	42.4	2.32	44	2.44
Nigeria	2003	42.2	2.15	43.8	2.28
Nigeria	2004	42.1	2.13	43.7	2.28
Nigeria	2005	41.9	2.18	43.5	2.32
Nigeria	2006	41.8	2.22	43.3	2.39
Nigeria	2007	41.6	2.24	43.1	2.39
Nigeria	2008	41.4	2.22	42.9	2.37
Nigeria	2009	41.2	2.16	42.7	2.3
Nigeria	2010	40.9	2.12	42.5	2.26
Nigeria	2011	40.6	2.2	42.1	2.35
Nigeria	2012	40.2	2.27	41.8	2.4
Nigeria	2013	40	2.38	41.5	2.51
Nigeria	2014	39.7	2.46	41.3	2.59
Nigeria	2015	39.4	2.52	41.1	2.66
Nigeria	2016	39.2	2.6	40.9	2.77
Nigeria	2017	39	2.69	40.7	2.86
Nigeria	2018	38.9	2.73	40.5	2.93
Nigeria	2019	38.7	2.87	40.4	3.07
Nigeria	2020	38.6	2.98	40.3	3.19
Nigeria	2021	38.5	3.07	40.2	3.31
Nigeria	2022	38.4	3.17	40.1	3.4

Source: Standardized World Income Inequality Database (SWIID)

Figure 1: Gini Coefficient for Nigeria



Source: Author's Compilation, using data from Standardized World Income Inequality Database

7. International Perspective: Brazil as a Benchmark

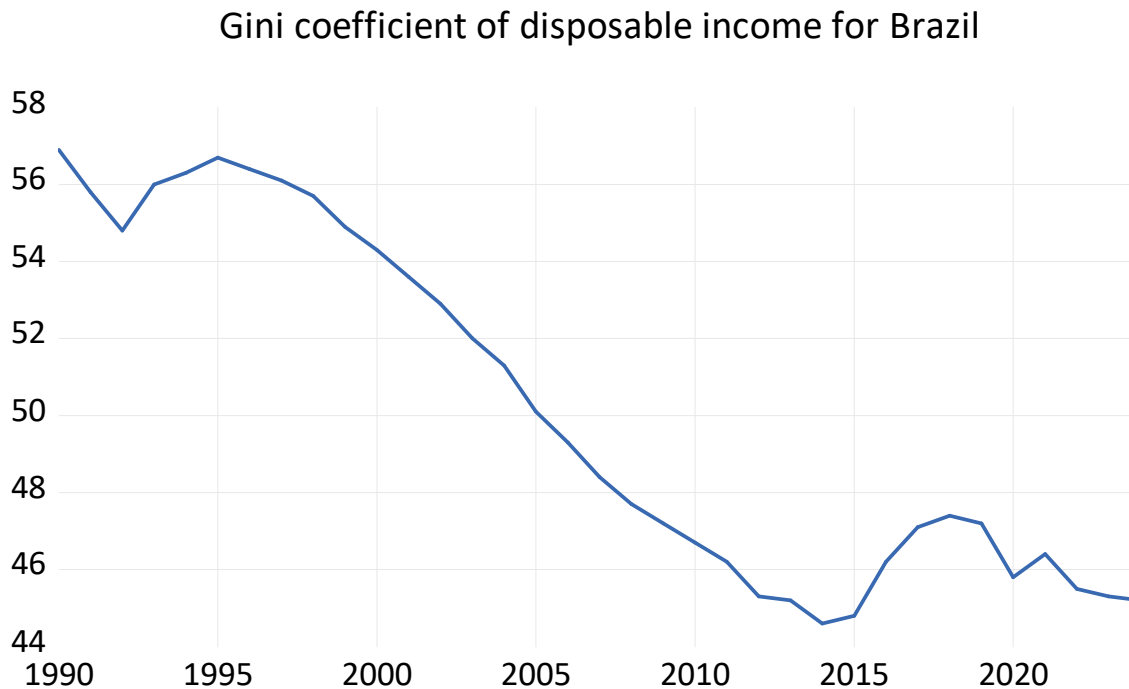
For interpretation, Gini values are often grouped as:

- Below 30: low inequality
- 30–40: moderate inequality
- Above 40: high inequality

Both Nigeria and Brazil fall within the high-inequality category, but their trajectories differ.

Brazil began the 1990s with extremely high inequality (above 55), but experienced a sustained decline over the next two decades, reaching the mid-40s. This improvement was driven by expanded social transfers, improvements in labour market conditions, and broader access to education. Nigeria shares structural similarities with Brazil, including commodity dependence, informality, and regional disparities. However, Brazil's inequality reduction has been more pronounced and consistent, suggesting stronger redistributive and labour market institutions.

Figure 2: Gini Coefficient of disposable income for Brazil



Source: Author's Compilation, using data from Standardized World Income Inequality Database

8. Benchmark with the Countries with the same Gross Domestic Product as Nigeria.

For Nigeria, the nominal Gross Domestic Product (GDP) is estimated around \$252 billion, placing it in a volatile position among the top countries with good economy in Africa. Its GDP is generally comparable to that of Algeria, Morocco, South Africa and Ethiopia.

Countries	GDP
Algeria	\$266b
Morocco	\$165b
South Africa	\$373b
Ethiopia	\$205b

Source: Author's compilation

The trend for these countries over the years 1985 to 2022 as compared with that of Nigeria are as shown in the figures below:

Figure 3: Gini Index for Disposable Income for Algeria

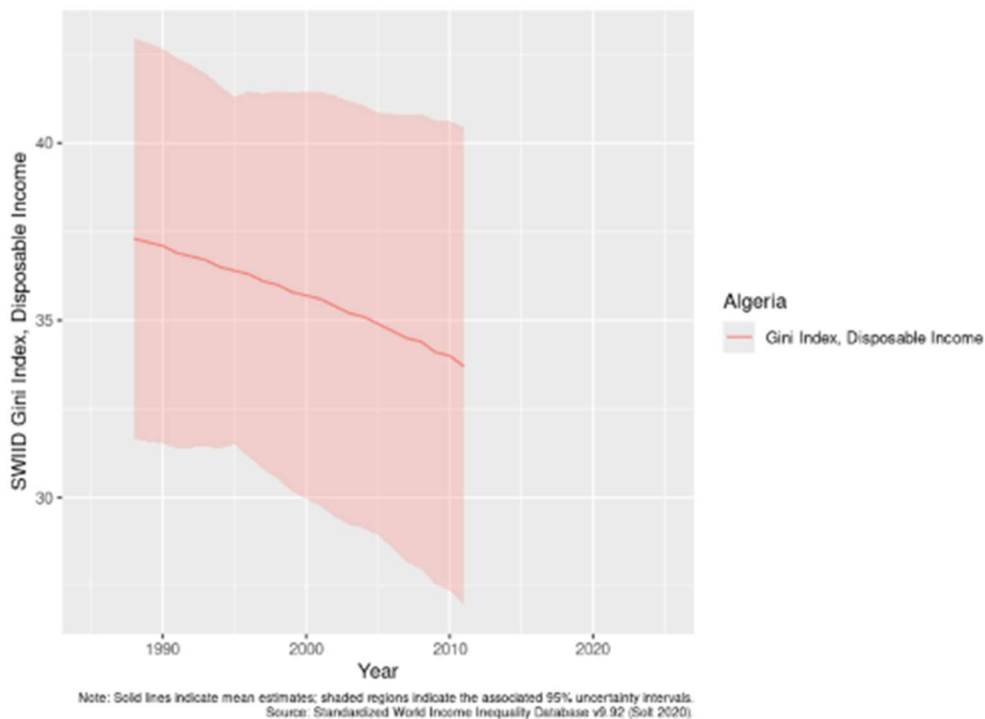


Figure 4: Gini Index for Disposable Income for Morocco

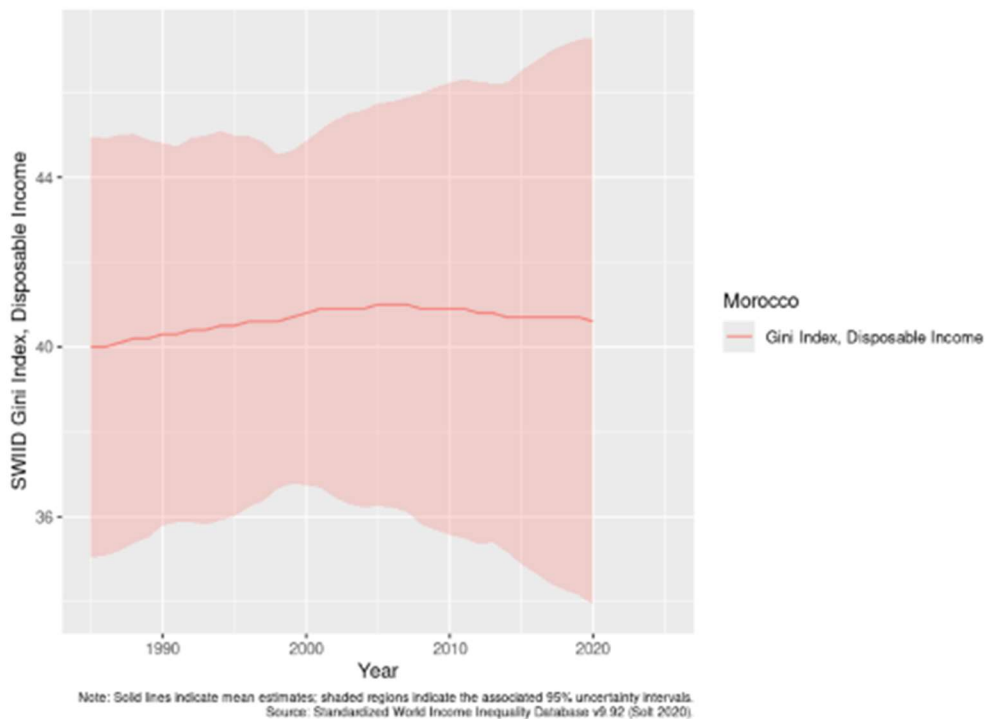


Figure 5: Gini Index for Disposable Income for South Africa

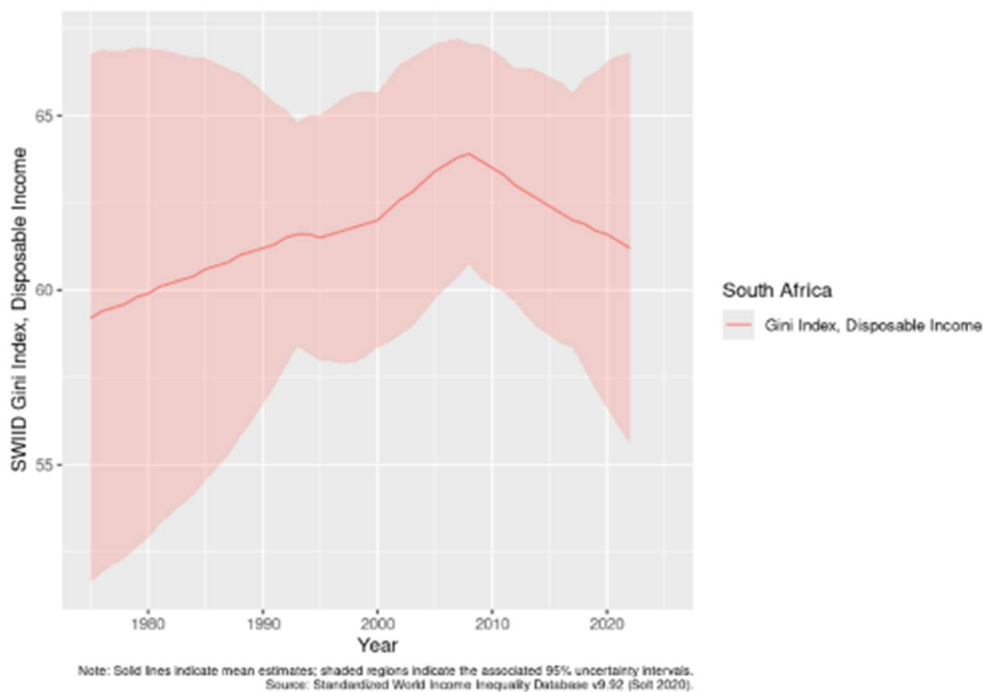


Figure 6: Gini Index for Disposable Income for Ethiopia

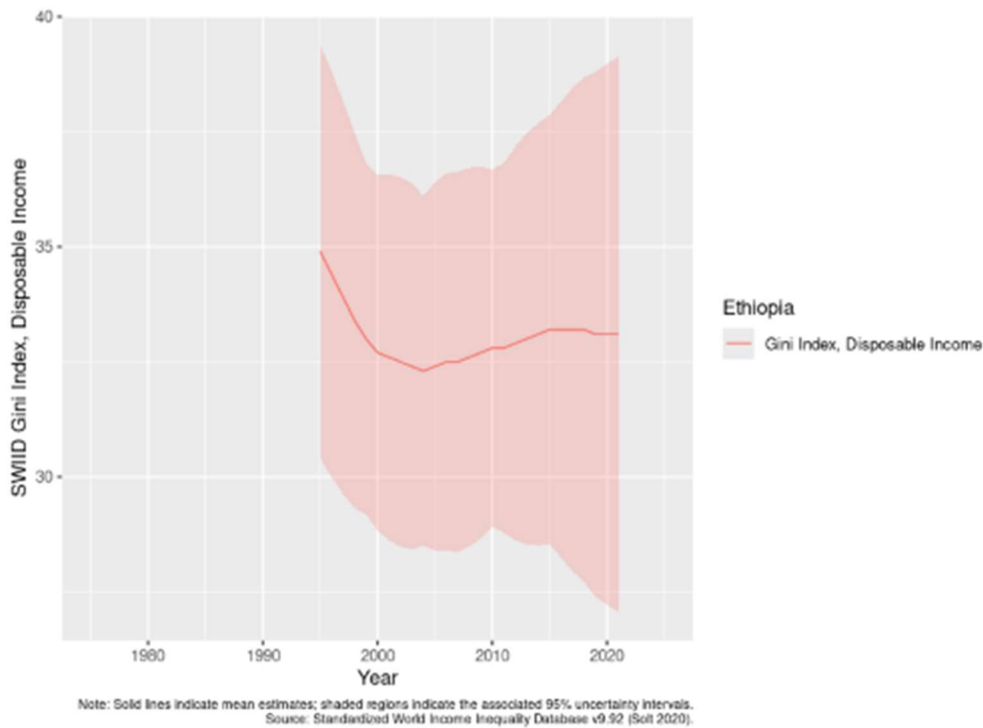
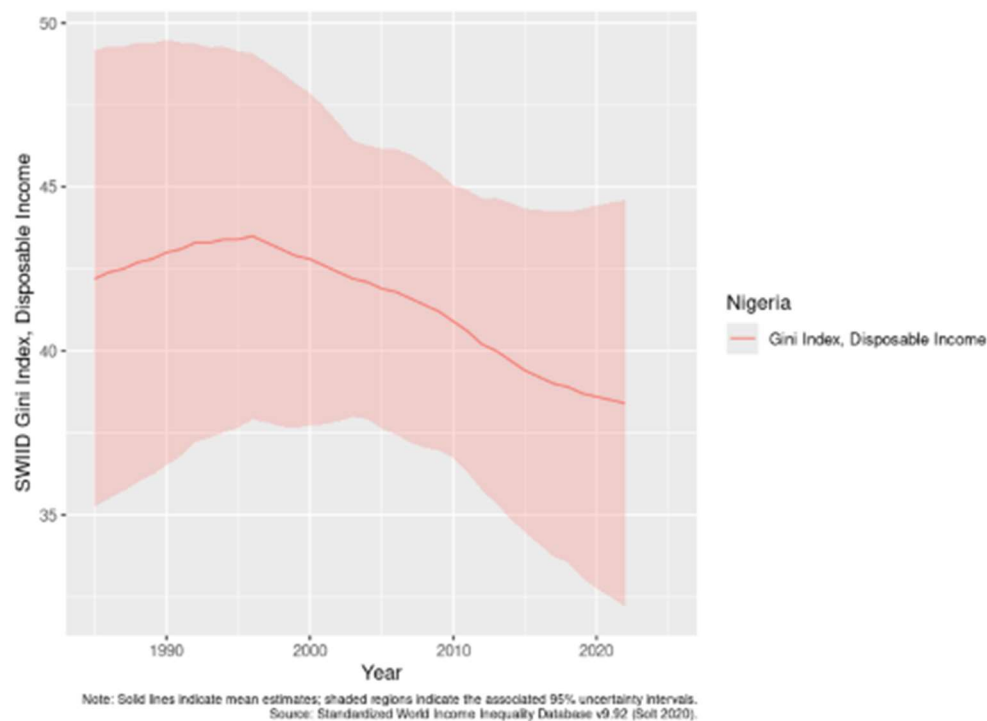


Figure 7 : Gini Index for Disposable Income for Nigeria



8.1 Interpretation;

Figure 3: Algeria went from a gini index of 37.4 in 1985 coming down to 33.5 in 2011. In line with the grouping highlighted above and copied below, the gini index for Algeria is of moderate inequality for the number of years shown. This is an indication that the country has been maintaining a near stable economic stability for the twenty-six-year period.

- Below 30: low inequality
- 30–40: moderate inequality
- Above 40: high inequality

Figure 4: The gini index for Morocco hovering around 40 in 1985 through 42 in 2005 and 41 in 2020. Morocco has a high inequality which indicates that the high income citizens are there but not many in the country.

Figure 5: The gini index for South Africa was 59 in 1975 and went as high as 63.5 in 2009 and 61.5 in 2022, for this country, the gini index shows an extremely high inequality which is an indication that there is inequality in the income level of the South Africans.

Figure 6: The gini index for Ethiopia was 35 in 1995 and this came down to 33 in 2022, this shows a moderate inequality for the twenty five years period.

Figure 7: The gini index for Nigeria was 42.5 in 1985 and this came down to 38.2 in 2022, this shows a high inequality for the prior years but came down to a moderate one by the year 2022 which could be an indication that the country worked on some primary drivers to reduce the high inequality among the citizens.

9. Benchmark with the Countries with the same Gross National Product/ Gross National Income as Nigeria.

Consequently, there are some other countries that have almost the same Gross National Product/ Gross National Income as Nigeria and these are Iran, Denmark and Ireland. This study sets to compare the gini index of the aforementioned countries with that of Nigeria.

Countries	GDP
Iran	\$417b
Denmark	\$436b
Ireland	\$423b
Nigeria	\$432b

Source: Author's compilation

Figure 8: Gini Index for Disposable Income for Iran

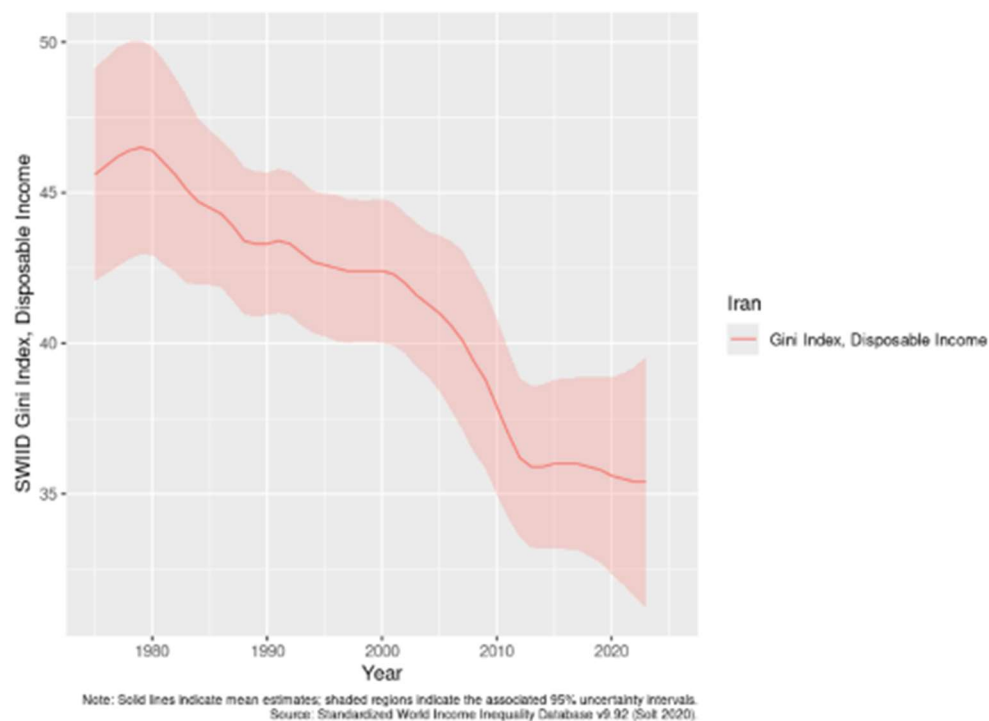


Figure 9: Gini Index for Disposable Income for Denmark

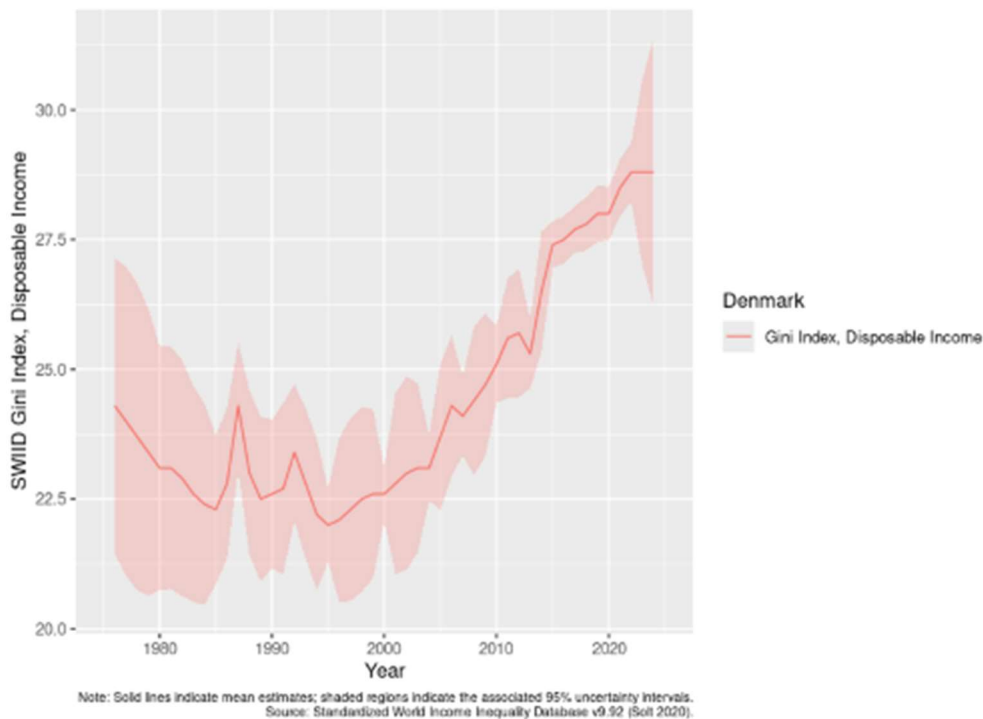
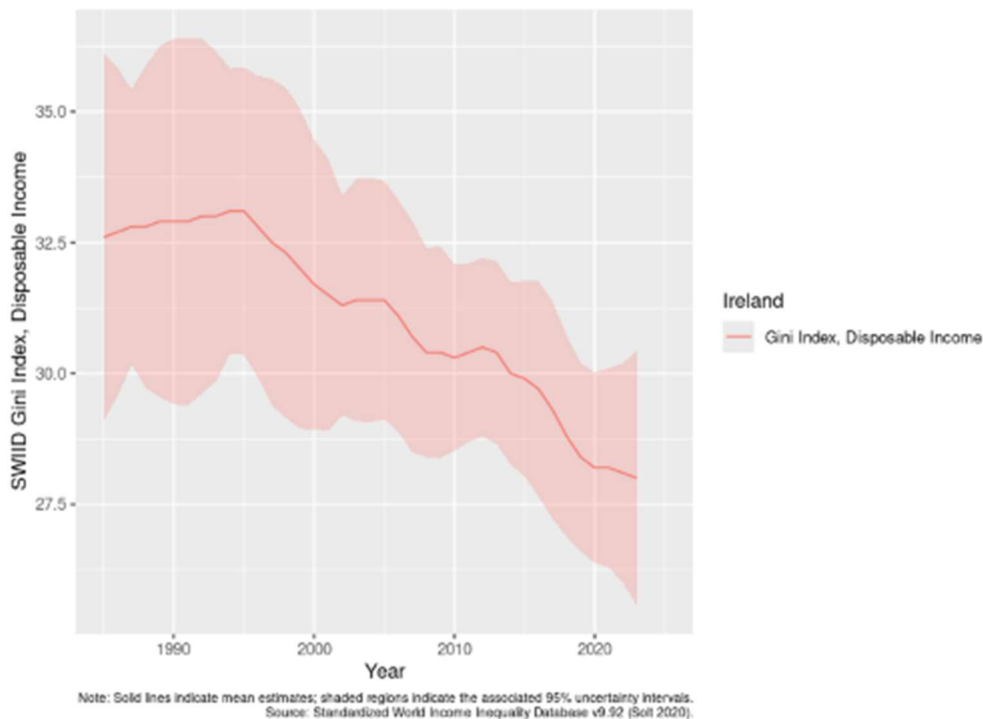


Figure 10: Gini Index for Disposable Income for Ireland



9.1 Interpretation;

Figure 7: The gini index for Nigeria was 42.5 in 1985 and this came down to 38.2 in 2022, this shows a high inequality for the prior years but came down to a moderate one by the year 2022 which could be an indication that the country worked on some primary drivers to reduce the high inequality among the citizens.

Figure 8: Iran went from a high inequality gini index of 45.5 in 1985 to a moderate one 35 in 2022. This is an indication that the country reduced the high inequality among the citizens. This is almost similar to the case of Nigeria which came from high inequality of 42.5 to a moderate 38.2.

Figure 9: The gini index for Denmark went up from 24 in 1985 to 28 in 2022. Denmark has a low inequality which shows that the country is operating within acceptable limits.

Figure 10: The gini index for Ireland was 32.5 in 1985 and went down to 27.7 in 2022, for this country, the gini index shows a very low inequality which is an indication that there is almost no inequality in the income level of the citizens.

10. Dynamics of the Gini Index in Nigeria (1985 –2025)

Over the years, there has been volatile income inequality trends in Nigeria rather than a steady one, the trends has been characterized by decline.

Period	Estimated/ Average Gini Index	Primary Drivers
1985 – 1989	38.7	Over-dependency on Oil (Non-diversification), Economic Mismanagement and Corruption
1990 - 1994	45.0 – 50.0	Structural, economic, and political factors following the implementation of Structural Adjustment Programs (SAPs) in the late 1980s. High Inflation Rates, Declining Agricultural Era
1995 - 1999	51.9	The astronomical cost of governance. Nigerian lawmakers are one of the best paid in the world. Macroeconomic Instability and Failed Policies
2000 - 2004	39.1 – 40.0	Corruption and Misappropriation of Resources, Unemployment and Informal Labor
2005 - 2009	40.1 – 43.0	The tax system is largely regressive: the burden of taxation mostly falls on poorer companies and individuals.
2010–2014	43.0 – 48.0	High oil prices; growth localized in telecom and banking; minimal rural impact.

2015–2019	35.1 – 39.1	Economic recession (2016); decline in the middle class; expansion of the informal sector.
2020–2023	33.9 – 35.1	COVID-19 shocks; "multidimensional poverty" affecting 133 million; high youth unemployment.
2024–2026	35.1	Subsidy removal; currency depreciation (Naira); increased cost of living impacting low-income earners.

Source: Author's Compilation

9. Key Implications for Economic Development for Nigeria

The comparative evidence points to the following implications and actions to be embarked upon:

- Human capital accumulation is essential**
 Unemployment and informal labour were the major primary drivers of the income inequality for some of the years (2000 – 2004) and (2020 – 2023), and the unequal distribution of wealth limits access to quality education and healthcare for a large portion of the population. Education and skills development, therefore, remain the most durable mechanisms for reducing inequality, as they expand access to productive employment and reduce long-term income gaps.
- Growth must be structurally inclusive**
 Growth driven by capital-intensive or enclave sectors tends to reinforce inequality. More equal outcomes are associated with labour-absorbing sectors such as manufacturing, services, and productive agriculture. To enable people to accumulate wealth rather than just subsist, practical, inclusive job initiatives must be created in order to close the inequality gap.
- Redistribution and Institutions matter**
 The relatively small gap between market and disposable inequality in Nigeria suggests limited redistributive impact. In contrast, countries like Brazil show that transfers, minimum wages, and social protection can gradually reduce inequality even at high initial levels.
- More Policies for fair Income redistribution**
 Assessing the dynamics of the gini index in the short run, uneven distribution of income was much pronounced in the Nigerian economy. However as in (Adefabi, 2025), in the long run, the relationship was positive, suggesting the need for policies

promoting fair income redistribution. On a long term note, the link was both positive and adversely influencing economic development, suggesting that the income distribution was somewhat but widely impacted.

- **Adoption of Wealth transfer policies and Progressive Taxation**

In lieu of the income disparity and minimal rural impact evidenced from 2010, there is a need for more policies which are to be aimed at equitable wealth transfer in Nigeria and this must be vigorously pushed.

- **Progressive Taxation in place of Regressive Taxation**

For 2005 to 2009 when the gini index average was 43, it was largely driven by the regressive tax system being in operation as the burden of taxation mostly falls on poorer companies and individuals. According to estimates through the National Statistics Bureau, taxing Nigeria's wealthiest citizens (2% for millionaires and up to 5% for billionaires) might bring in over \$3.2 billion a year, which could quadruple expenditure on health and education to lessen inequality.

- **Slow pace of economic growth**

The gini index above 0.4 is an indication that wealth is concentrated rather than distributed, high inequality levels ($Gini > 0.4$) are frequently linked to slower economic progress. Long-term growth is slowed and per capita income is reduced as a result of this inequality. This highlights the necessity of significant economic development in Nigeria and calls for immediate government transfers and policies to reduce wealth inequality.

10. Conclusion/Recommendations

This paper has examined income inequality through the lens of the Gini coefficient, combining conceptual, empirical, and comparative perspectives. The Gini remains a widely used summary measure, particularly when derived from harmonised datasets such as SWIID, which allow consistent cross-country analysis.

Nigeria's inequality pattern between 1985 and 2022 reflects persistence with gradual improvement rather than structural transformation. While inequality has declined modestly, it remains high by global standards, and redistribution appears limited in its effectiveness.

The comparison with other countries highlights a key insight: inequality is not fixed, even in structurally similar economies. Sustained reduction requires coordinated progress in human capital formation, labour market inclusion, and redistributive policy.

Ultimately, the Gini coefficient is best understood not merely as a descriptive statistic, but as a diagnostic indicator of deeper structural processes shaping distributional outcomes.

The government should work purposefully to implement programs, activities and policies that would enhance human capital through education, particularly in the rural areas. Additionally, the government should promote expansionary fiscal policies that are focused on educational plans and initiatives so that the impoverished masses can get skills to improve their situation, which would ultimately result in economic growth. Additionally, a suitable monitoring plan should be in place to guarantee that government officials do not embezzle or misappropriate the monies allocated for viable projects and programs.

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