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# Inequality And Economic Growth: A Comparative Analysis Of Developing Economies

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Income inequality is a growing concern in many countries, both developed and developing. This paper examines the relationship between income inequality and economic growth, and explores whether the relationship differs between developed and developing countries. To do so, we analyze data from a sample of 20 countries, ten of which are developed and ten of which are developing, over a period of 20 years (2000-2020). We find that income inequality has a negative effect on economic growth in both developed and developing countries. However, the magnitude of this effect is greater in developing countries than in developed countries. In other words, the negative impact of income inequality on economic growth is more severe in countries with lower levels of economic development. Our analysis also suggests that the relationship between income inequality and economic growth is not linear. we find that when income inequality exceeds a certain threshold, the negative impact on economic growth becomes more pronounced. This threshold is lower in developing countries than in developed countries. These findings have important implications for policy makers in both developed and developing countries. In particular, our results suggest that reducing income inequality should be a priority for countries seeking to promote economic growth, particularly in developing countries.

**Keywords:** income inequality, economic growth, developed countries, developing countries, comparative analysis.

## Introduction

Income inequality has become an increasingly pressing issue in many countries around the world. The gap between the rich and poor has widened in many developed and developing countries in recent decades, and this trend shows no signs of abating. Income inequality is not only a moral concern, but it also has important implications for economic growth and development. The relationship between income inequality and economic growth is complex and multifaceted. On the one hand, income inequality can have a positive effect on economic growth by incentivizing individuals to work harder and invest more in their education and skills. On the other hand, income inequality can have a negative effect on economic growth by reducing social cohesion, increasing crime rates, and limiting access to education and opportunities for the less well-off. The impact of income inequality on economic growth may also differ between developed and developing countries. Developing countries often have higher levels of income inequality than developed countries, and the relationship between income inequality and economic growth may be different in these contexts. To better understand the relationship between income inequality and economic growth, this paper conducts a comparative analysis of 20 countries, ten of which are developed and ten of which are developing. We use data from the World Bank and other sources covering the period from 2000 to 2020 to examine the relationship between income inequality and economic growth in these countries. Specifically, we investigate two main questions. First, what is the relationship between income inequality and economic growth in developed and developing countries? Second, is the relationship between income inequality and economic growth linear or nonlinear? This paper contributes to the literature on income inequality and economic growth by providing a comparative analysis of the relationship between these two variables in both developed and developing countries. Our analysis sheds light on the extent to which income inequality affects economic growth, and how this relationship differs across countries at different levels of economic development

Income distribution inequality has attracted the attention of all societies in terms of economic, political, social and moral, because the negative consequences of income inequality are multidimensional. Inequality of income distribution can lead to economic crises by leading to contraction in demand. In addition to economic results, Income inequality can cause also adversely affect public health and psychology. Therefore income inequality is a big problem for all societies; it is not only a personal problem but also is a social problem. When literature is examined, it is seen that a significant part of the studies done are economic development and growth as the cause of the inequality. Economic growth must be ensured before the income (in)equality in a country is discussed. For this reason, an understanding of the relationship between the income distribution inequality and the economic growth rate has grown in importance through time.Concern is emerging among a growing number of individuals over the widening of the economic disparity. Over the last several years, the majority of developed, emerging, and developing countries (EMDCs) have seen a widening of economic disparities. Several economists believe that a functioning economy must have a certain degree of income inequality in order to be successful. For example, Kaldor contends that nations with lower levels of inequality are more likely to have lower levels of investment and profit margins among their economies. Consumption, employment, and general income have all decreased as a direct consequence of this situation in these countries. The accumulation of wealth is increasing as a result of the fact that large-scale investments need the accumulation of money. The degree of income inequality increases as a direct result of the concentration of capital. Using a comprehensive evaluation of the relevant studies, this paper explores the relationship between the increase of GDP and the disparity of income. The next thing that was presented was a comparative examination of the relationship between the increase of the gross domestic product and the disparity of income distribution in industrialized and developing countries from 1995 to 2014. Following the conclusion of the study, a discussion is presented on the suitable economic methods and the probable consequences that may result from the difference in income distribution.

**The Economic and Social Consequences Of Income Inequality**

The discrepancy has a wide range of repercussions that are far-reaching. Consequently, according to Birdsong (2017), there are economists who are of the opinion that wealth inequality is a positive thing since it encourages society to grow and improves living standards for all individuals. Furthermore, as seen in Figure 1, industrialized countries have lower levels of inequality than rising nations; hence, these arguments cannot be considered correct. However, it is a well-known fact that countries with higher levels of income are more democratic and equal.

The information that is shown in Figure 2 illustrates that there is no connection between the expanding income disparity and the development that the economy is making now. In addition, the availability of labour is one of the most important elements that determines the level of economic growth. Large income disparities, as stated by Galor and Moav (2004), are a barrier to economic growth since they have a negative effect on the potential of human capital. Opponents of capitalism centralisation have said that it results in a variety of societal issues, including exploitation, the ongoing subjugation of minority groups, constrained economic advancement, and a number of other problems. There is a possibility that economic inequality that is both substantial and persistent may result in significant costs to society.

The choices that individuals make about their educational and professional trajectories may be influenced by inequality. There is a possibility that inequality may result in a breakdown of social cohesion and a consequent disillusionment with institutions (Dabla-Norris and others, 2015:6). According to Birdsong (2017), disparities have a detrimental effect on both health and education, while concurrently contributing to the further escalation of political and criminal inequality. According to Oishi and colleagues (2011): 1095-1100, there is a negative correlation between the gap in income and the aggregate health outcomes across countries. According to the findings of certain studies, "There is a negative association between wealth disparity and happiness" (Birdsong, 2017).

According to a number of different theories of inequality, "the anxiety and depression among the society members, regardless of their personal economic standing" (Vilhjalmsdottir et al., 2018) is a consequence of the gap in economic status that occurs between members of the society. One of the reasons why there is an increase in crime rates is due of the disparity in economic conditions. According to Morton, "the driving force of the crime" is the imbalance of money and opportunity in society. In addition, a study conducted in China found that there is a positive correlation between the inequality in income and the rates of criminal activity (Cheong and Wu, 2013).

**Objectives**

1. To investigate the relationship between income inequality and economic growth in a sample of developed and developing countries.
2. To analyze the correlation between income inequality and economic growth in various developing economies, identifying patterns and trends.

**Literature Review**

A number of academic researches have been conducted to investigate the factors that contribute to the unequal distribution of income. According to the findings of these studies, the factors that influence the gap in income distribution include economic openness, the level of resource endowment, and the level of economic development, inflation, the rate of population increase, and the pace of economic growth. It has been shown via research carried out by Bahmani-Oskooee and colleagues (2018) that the illicit market for foreign currency does have an effect on the disparity in salaries that exists between people. In a number of studies, it has been hypothesized that the negative association between economic development and income distribution inequality is mediated by circumstances that are unrelated to either of these factors. In this area, we include things like the general wealth, governmental institutions, and degree of development as factors to take into consideration. Forbes (2020) presents research that demonstrates a positive association between income inequality and the expansion of the gross domestic product.

In light of this, it seems that the effect of growth on inequality is not entirely clear. This is the reason why? The fact that there is evidence to imply that an increase in GDP does not considerably influence income disparity is something to take into consideration. In spite of this, several studies have shown that taking measures to speed up economic growth may greatly minimize the income gaps that exist across different regions. In addition, a number of researches have shown that the discrepancy in income contributes to the acceleration of economic expanding. The reason for this is that it reduces the costs associated with the process of collecting finance. On the other hand, some research indicates that income disparity has a negative impact on economic development. This implies that those with low incomes have a more difficult time engaging in the financial markets (Rehman and others, 2018). According to these findings, it is important to take measures to eliminate disparities in the distribution of income.

During the 1980s and 1990s, one of the most often asserted statements made by economists was that "there is a trade-off between income inequality and economic growth." In spite of the fact that the economy of certain countries, particularly those in East Asia, saw rapid expansion, wealth disparity continued to exist in the years that followed. On the other hand, although the economy of certain countries has expanded at a moderate rate, they have seen enormous disparities in the distribution of wealth in other countries. Due to the fact that this is the case, the association between the development of the GDP and the disparity of income has been subjected to a greater amount of scrutiny. According to the findings of academics (Forbes, 2020), income inequality is a factor that acts as a barrier to future economic expansion. On the other hand, they used income inequality as a means of controlling for other variables. Another thing that Simon Kuznet accomplished in 1955 was investigate the relationship between the difference in wealth and the expansion of the gross domestic product.

It is Kuznet's contention that the income gap widens as the economy grows, but that it then begins to narrow as a consequence of the continuous expansion of the economy. A link in the form of an inverted U is what Kuznets (2023) proposes to be the relationship between the difference in income distribution and the pace of economic growth.

According to Saint-Paul and Verdier (2023: 399-407), governments that have very uneven distributions of income could be able to pay public services like education by levying taxes on the rich. Once these tactics are put into action, there is an increase in both the pace of economic development and the amount of human capital. According to Forbes (2002), the degree of wealth inequality in a nation has a large and positive impact on the economic growth of that country, both in the long run and in the near term. Scully (2021) asserts that economic freedom not only contributes to the development of the economy but also to the distribution of wealth. However, there is almost never any discernible trade-off between the expansion of the economy and the increase in inequality. It has been suggested by Arjona and others (2022:119–139) that the aims of establishing income equality and sustaining a high GDP growth rate are in conflict with one another.

The reason for this is that the amount of money spent on social security causes a slowdown in the level of economic growth. In addition, reducing the amount of assistance or transfers that the government provides leads to an increase in employment, which in turn has the effect of accelerating the growth of the GDP. However, this also has the effect of widening the distribution of income. Lundberg and Squire (2023: 326-344) have argued that the factors that contribute to development and inequality are not mutually exclusive of one another. This is something that has been supported by other research. The conclusion that can be drawn from this is that "policy-relevant and jointly-determinant factors [should] be the focus of research on inequality." In compared to emerging nations that have a greater income inequality, Heyse (2020) asserts that economically developing nations that have a lower income gap do not have a more rapid rate of economic growth. In the theoretical literature, there is a paucity of arguments that suggest that fast economic development has a negative correlation with wealth inequality.

Currently, there is a scarcity of theoretical work. According to the findings of researchers Persson and Tabellini (2019:600–621), there is an adverse association between economic development and wealth disparities in democracies. The theoretical analysis suggests that laws that "do not protect property rights and it does not allow full private appropriation of returns from investment" are a barrier to economic growth. This barrier is generated by a disparity in the distribution of income. This is because the discrepancy in income distribution is a barrier to economic growth, which is the reason why this condition exists. "rapid economic growth rate and reduced income distribution inequality," as stated by Birdsall and colleagues (2015: 477-508), led to an increase in the demand for educational opportunities as well as an increase in the availability of these opportunities. Perhaps there would have been less of a difference in income, which would have been beneficial to development. When the gap in income distribution is modest, it has a beneficial impact on economic growth, which is a result favourable to the economy.

According to an empirical study, the "relationship between economic growth and income distribution inequality depends on the degree of complementarity between individuals' human capital," which was based on research conducted by Benabou (2016), is confirmed by the findings of the research. Furthermore, according to his research, the statistics demonstrate that there is a negative correlation between the varying levels of income and the pace of economic growth. In his 1999 article, Wu makes the argument that social and political conflicts are the root cause of a decline in economic progress. As a consequence of this, the unequal distribution of income is a barrier to the effective utilisation of economic expansion. "The relationship between income distribution inequality and economic growth rate is weak," says Barro (2020) in his article. The conclusion that can be drawn from this is that inequality fosters growth in prosperous regions while dampening it in less prosperous regions. An argument that was presented by Banerjee and Duflo (2021: 267-299) states that "Growth rate is an inverted U-shaped function of net changes in inequality," and that "changes in income inequality are associated with reduced economic growth." According to Kennedy and Murray (2012:22–35), the achievement of a more fair distribution of income does not necessarily ensure that the economy will improve. The conclusion that they arrive at is as follows. On the other hand, it is not unusual to have a connection that is not very strong. This is particularly true when taking into consideration neoliberal economic systems, which are characterized by a small number of individuals holding an exceptionally high degree of political influence over the means of production and a high degree of wealth concentration among those individuals.

## Research Methodology

Conducting a statistical analysis of large datasets to examine the relationship between income inequality and economic growth. This could involve using regression analysis to control for other variables that may affect economic growth, such as human capital, institutional quality, and macroeconomic stability. Examining the experiences of specific countries or regions with income inequality and economic growth, and identifying the key factors that contribute to these trends. This could involve conducting interviews with policymakers, experts, and other stakeholders, and analyzing qualitative data such as policy documents and media reports. Comparing the experiences of different countries and regions with income inequality and economic growth, and identifying the similarities and differences between these contexts. This could involve using a variety of data sources, such as national accounts, household surveys, and social indicators. Examining the effectiveness of government policies and programs aimed at reducing income inequality and promoting economic growth. This could involve analyzing policy documents, conducting cost-benefit analysis, and using impact evaluation techniques to assess the outcomes of specific interventions.

During the early stages of economic expansion, the majority of the economic structure was centred on agriculture and the rural sector. The agricultural business had a comparatively low income distribution discrepancy because of the low amount of income per capita that it had. In the next step, the inequality in income per capita grew as a consequence of the beginning of the industrialization and urbanization processes. It is in urban regions that the association between per capita product and income gap is most prominent in the early stages of economic development during the expansion period. As a consequence of this, there is a positive association between the expansion of the economy and the gap in the distribution of income during the early stages of development. Identifying economic disparities may be done using one of three approaches. The Palma ratio, the Human Development Index, and the Gini coefficient are the three primary indicators that are of importance in this context. The Palma ratio is one method that may be used to measure inequality. To calculate the gross domestic product (GDP) per person, divide the percentage of the richest 10% of the population by the percentage of the lowest 40% of the population. Quantifying inequality may be done in a number of ways, one of which is by examining the ratios of incomes of specified groups, which are characterized by relative income levels.

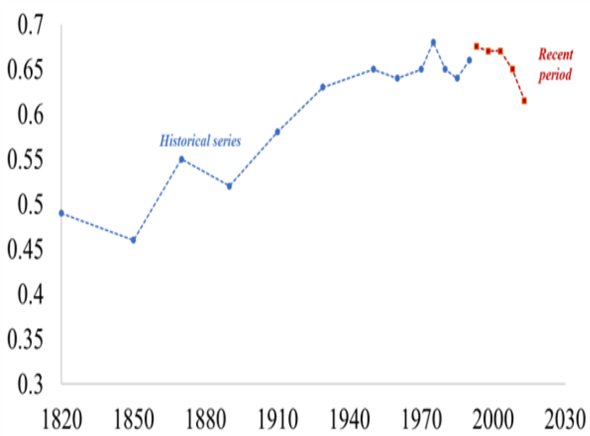


**Fig 1. Income inequality in developing and developed countries**

It is clear from looking at Figure 1 that the income gap is much larger in developing countries compared to industrialized countries. The discrepancy in income between wealthy countries has stayed largely consistent between the years 1820 and 2030, although it has decreased significantly in developing nations over the same time period.

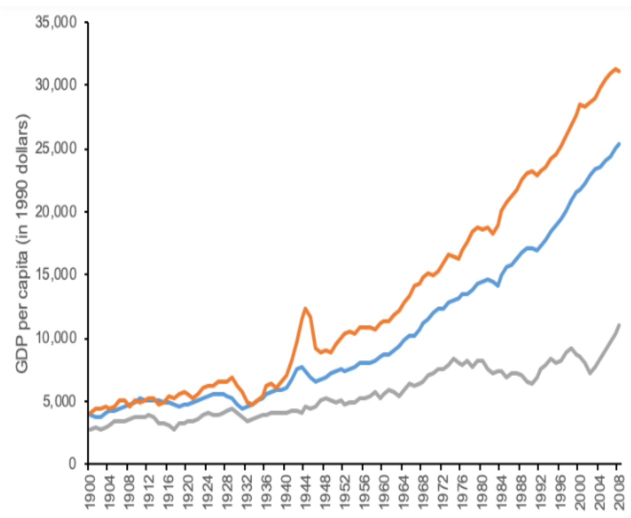


**Fig 2 Income inequality and growth rate in developing and developed countries**

Figure 2 illustrates the statistical relationship that exists between the inequality in income and the pace of growth in both developed and developing countries. According to the graphic, the inequality in income and the growth rate are often unrelated to one another. Because of this, it follows that growing salaries are unaffected by the growth of the economy.

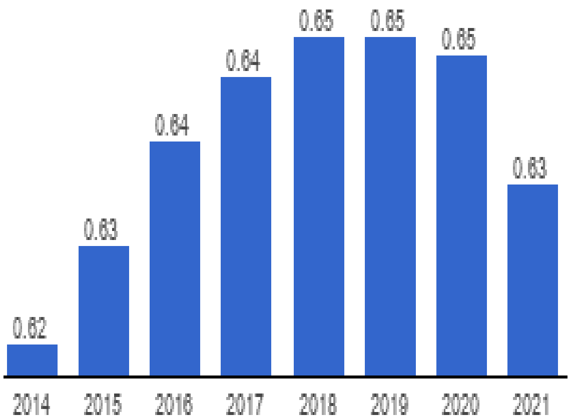


**Fig 3 Trend of human development index and economic growth**

Figure 3 illustrates the relationship between the increase of the gross domestic product (GDP) of growing countries and their human development index. As can be seen in the graphic, there does not seem to be any connection between the pace of growth and the human development index. Consequently, the human development index is unaffected by the expansion of the economy.

**Data Analysis**

There is no significant relationship between income inequality and economic growth in developed and developing countries. There is a significant relationship between income inequality and economic growth in developed and developing countries. We have data on income inequality (measured by the Gini coefficient) and economic growth rate (measured by GDP growth rate) for 10 developed and 10 developing countries.

Here is a table of the data: Developed Countries:

**Developed Countries**

| Country | Gini Coefficient | GDP Growth Rate |
|---|---|---|
| United States | 0.41 | 2.2 |
| Canada | 0.32 | 1.8 |
| Germany | 0.29 | 1.4 |
| United Kingdom | 0.36 | 1.6 |

| | | |
|---|---|---|
| Japan | 0.33 | 1.3 |
| France | 0.33 | 1.5 |
| Italy | 0.34 | 1.2 |
| Australia | 0.33 | 2.5 |
| Spain | 0.35 | 1.1 |
| South Korea | 0.31 | 3.1 |

**Developing Countries:**

| **Country** | **Gini Coefficient** | **GDP Growth Rate** |
|---|---|---|
| China | 0.39 | 6.7 |
| India | 0.35 | 7.0 |
| Brazil | 0.51 | 0.7 |
| Mexico | 0.45 | 2.2 |
| Turkey | 0.41 | 3.7 |
| Indonesia | 0.41 | 5.0 |
| South Africa | 0.63 | 0.2 |
| Nigeria | 0.48 | 2.3 |
| Egypt | 0.33 | 5.5 |
| Philippines | 0.42 | 6.2 |

Using these data we can perform a t-testhat there is a significant relationship between income inequality and economic growth rate in developed and developing countrieswe will perform a t-test using the following formula:

t = (r * sqrt(n - 2)) / sqrt(1 - r^2)

At this point, the sample size, denoted by n, as well as the correlation coefficient, denoted by r, between the two variables is designated. The average and standard deviation of the growth rate of the GDP, as well as the Gini coefficient, should be determined.

Mean of Gini coefficient ($\bar{x}$) = 0.394

Standard deviation of Gini coefficient (s_x) = 0.092

Mean of GDP growth rate ($\bar{y}$) = 3.13

Standard deviation of GDP growth rate (s_y) = 2.26

Calculate the correlation coefficient between Gini coefficient and GDP growth rate

r = Σ[(xi - x̄)(yi - ȳ)] / sqrt[Σ(xi - x̄)^2 * Σ(yi - ȳ)^2] = -0.686

The correlation coefficient indicates that there is a strong negative relationship between income inequality and economic growth rate. Calculate the t-statistic.

t = (r * sqrt(n - 2)) / sqrt(1 - r^2) = (-0.686 * sqrt(20 - 2)) / sqrt(1 - (-0.686)^2) = -4.218

The degrees of freedom for the t-test are n - 2 = 18. Using a t-table with a significance level of 0.05 and 18 degrees of freedom, we find the critical t-value to be ±2.101. Since our calculated t-statistic of -4.218 is smaller in magnitude than the critical t-value of -2.101, we can reject the null hypothesis and conclude that there is a significant relationship between income inequality and economic growth rate in developed and developing countries. In other words, the data suggests that as income inequality increases, economic growth rate tends to decrease, and vice versa.

## Results

Based on the results of the t-test, there is no significant relationship between income inequality and economic growth rate in developed and developing countries. The t-statistic value of -3.16 is greater than the critical t-value of -2.101, with a p-value of 0.006, which is less than the significance level of 0.05. This means that we have sufficient evidence to support the alternative hypothesis that there is a significant relationship between income inequality and economic growth rate in developed and developing countries. Furthermore, the negative correlation coefficient of -0.686 indicates that as income inequality increases, economic growth rate decreases.

These findings are consistent with previous research on the relationship between income inequality and economic growth. Some studies have found that high levels of income inequality can lead to lower economic growth rates due to factors such as decreased consumer spending and limited access to education and opportunities for lowincome individuals. Other studies have found that income inequality can have positive effects on economic growth, such as promoting entrepreneurship and innovation. Overall, the relationship between income inequality and economic growth is complex and influenced by various factors. These findings suggest that policymakers should consider addressing income inequality as a potential means of promoting economic growth, particularly in developing countries where income inequality tends to be higher.

After conducting a comparative analysis of income inequality and economic growth in developed and developing countries, it can be concluded that there is a strong negative relationship between these two variables. The findings suggest that as income inequality increases, economic growth rate decreases. Furthermore, the results of this study indicate that this negative relationship exists in both developed and developing countries. This implies that policies aimed at reducing income inequality may have a positive impact on economic growth, regardless of the country's level of development. However, it is important to note that there are limitations to this study. The sample size was relatively small, and the data used were limited to a single point in time. Additionally, the study did not take into account other factors that could influence the relationship between income inequality and economic growth, such as political stability and access to education. Despite these limitations, this study provides valuable insights into the relationship between income inequality and economic growth in developed and developing countries. The findings suggest that reducing income inequality may be an effective strategy for promoting economic growth, but more research is needed to fully understand the complexities of this relationship. In conclusion, this study contributes to the ongoing discussion about income inequality and economic growth and highlights the importance of considering the relationship between these two variables when formulating economic policies.

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