

Does Redistribution Promote Human Development? The Role of Migration and Inequality

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Abstract: This paper revisits the long-standing debate on whether fiscal redistribution hinders or supports economic development. Utilizing data from a diverse sample of more than 70 countries over the last three decades since 1993. The analysis explores the relationship between redistribution policies and national income levels, which represents the material basis for human development and its sub-aspects. Contrary to traditional efficiency-loss arguments, the findings suggest a positive and statistically significant association between higher redistribution rates and higher per capita income. In addition to income levels, the study examines how redistribution relates to income inequality and to migration. While initial correlation analysis suggested that countries with more migrants tend to be more equal, panel regression reveals a reversed relationship: an increasing migrant population is associated with rising inequality in host countries. Ultimately, the impact of migration on inequality, as well as on other aspects of economic development, depends on how well destination countries are able to integrate migrants into their social and economic systems.

Keywords: redistribution, economic development, inequality, migration

JEL Classification: D12, I32, O44, Q56

1 Introduction

The relationship between income redistribution and economic growth has long been a central but unresolved issue in both theoretical and empirical economics. Based on Okun's seminal work (1975), the "leaky bucket" hypothesis defines redistribution as a process that inevitably reduces economic efficiency. This framework assumes that any transfer of resources from higher-income individuals to lower-income individuals involves administrative leakages, behavioural distortions, and reduced incentives for productivity, thereby limiting overall growth. Despite its intuitive appeal, this trade-off model is increasingly being subjected to critical scrutiny. Recent empirical evidence challenges this conventional wisdom and suggests that, under certain institutional and macroeconomic conditions, redistribution may not only be compatible with sustainable economic growth but may even promote it (Berg & Ostry, 2011; Cingano, 2014; Cerra et al., 2021). These studies argue that high levels of inequality can hinder growth through several channels, including insufficient investment in human capital, reduced social cohesion, and increased political instability. From this perspective, redistribution can play a corrective role by addressing market failures and increasing aggregate demand, especially in economies with large differences in inequality. This article builds on this line of research and examines the empirical relationship between income redistribution and national income levels across a large and diverse sample of countries. Specifically, we examine whether countries with higher levels of fiscal redistribution measured as the difference between market and disposable income inequality tend to achieve higher per capita income over time. Our study extends this line of research by conducting a cross-country analysis covering more than 70 countries over the last three decades. This long-term, comparative perspective enables us to examine how redistribution policies are associated with national income levels across a wide range of economic and institutional contexts.

At the same time, it is clear that economic growth is only one aspect of economic development. Composite indicators are constructed using other indicators that are used to monitor economic development. One of these, the Human Development Index (HDI), also allows the impact of redistribution and migration to be examined. The fact that people migrate in search of a better life is the subject of a number of studies and, subsequently, political measures (World Migration report, 2024, McAuliffe et al., 2024). Migration has increased significantly over the past two decades, from 2.8% of the world's population in 2000 to 3.6%. Empirical research (Khan, 2025) confirms that remittances have a significant impact on education, especially in low-income countries, and on health, especially in upper-middle-income countries. Nikolova

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(2025) and Gupta and Bapuji (2024) also paid attention to aspects related to the varying levels of human capital among migrants.

A distinctive feature of our study is the inclusion of international migration as a mediating factor. Migration has become an increasingly important element of the global economic environment, affecting labour markets, fiscal balances, and social cohesion in both countries of origin and host countries. Migrants are not randomly distributed among destinations; rather, their decisions are influenced by a combination of economic opportunities, institutional quality, perceived inequality, and redistribution regimes (Clemens & Mendola, 2024; McKenzie & Rapoport, 2007). This suggests a potential two-way interaction: redistribution can attract or repel migrants, while migration can affect both the effectiveness and political sustainability of redistributive policies. The integration of migrants into host societies further complicates this relationship. On the one hand, an inclusive labour market that allows for social mobility can reinforce the economic and social benefits of redistribution. On the other hand, if migrants disproportionately occupy low-income, precarious jobs or face barriers to accessing social security systems, their presence may contribute to growing inequality and social fragmentation (Leal & Harder, 2023). This interdependence raises important questions about the long-term compatibility of open migration regimes with egalitarian models of redistribution, particularly in high-income democratic countries facing demographic pressures and fiscal constraints.

The need for a systematic approach to migration is therefore emphasized by Tagliacozzo et al. (2024), Zickgraf et al. (2024), and Triandafyllidou et al. (2024). The results of research by Charles-Edwards et al. (2025) already suggest a certain systematicity when it comes to shifts in both the level and pattern of flows, which become more intense and balanced with higher levels of human development. This is closely linked to the need for adequate infrastructure (McAuliffe and Triandafyllidou, 2022, Sun et al., 2024, Pandey et al., 2025).

By placing redistribution within a broader socioeconomic framework, this study aims to contribute to a more comprehensive understanding of the mechanisms through which fiscal policy relates to economic development. Rather than presenting a single causal explanation, we provide empirical evidence on how redistribution correlates with national income levels, while also considering how migration and inequality interact with these dynamics. Migration is not considered a central explanatory variable, but rather a relevant contextual factor that can amplify or mitigate the effects of redistributive efforts. In particular, we examine whether countries with higher levels of redistribution tend to attract larger numbers of migrants and how this may affect domestic inequality. From this perspective, the study engages with broader debates in political economy concerning the compatibility of equality-oriented fiscal policy with the challenges of global mobility, demographic change, and institutional diversity.

2 Methods

As briefly explained in the introduction section. Our paper deals mainly with the potential relationship between national income levels represented and the income redistribution using a cross-country analysis covering more than 70 countries over the last three decades (1993 - 2022). The income levels are represented by GNI per capita, which allows us to compare countries that would not be possible to compare without converting to per capita figures. The degree of redistribution can be calculated in various ways, so it is important to consider possible minor differences in methodology when comparing with other studies. In our case, we chose to calculate the difference between the original Gini coefficient, known as the Gini market, i.e., after the initial distribution based on market mechanisms, and the subsequent Gini disposable, which represents the value of the inequality coefficient after subsequent redistribution and thus after state intervention in the market environment. Based on our choice of data, we can use the Gini coefficient to compare its value before and after redistribution, which gives us the redistribution rate, but the Gini coefficient value after redistribution can be used for analysis as a separate variable in the form of inequality. This value shows us the inequality after redistribution. Not only the degree of redistribution, but also the value of separate inequality. It is important to mention that the data for both variants of the Gini coefficient were taken from the Standardized World Income Inequality Database (SWIID). As for the GNI per capita data, it was taken from the World Bank database, which uses its own method called the Atlas method. This method specifically ensures international comparability by adjusting for inflation and exchange rate fluctuations.

The preliminary stage of the analysis, conducted in Microsoft Excel, involved computing correlation coefficients and graphical exploration of the relationship between redistribution and income levels. This graphical exploration can be observed in Figure 1 (see Research results) where there are two figures next to each other. The first follows the relationship for the year 1993 and the latter represents the relationship for the end of the period (2022). The reader can see that the colour of the data points corresponds to the income group. Green dots are the High-income countries. Blue diamonds represent the Upper middle-income countries, orange squares represent the Lower middle-income countries and lastly, the red triangles represent the Low-income countries. These steps provided initial insights into the direction and magnitude of

the association. Subsequently, more advanced analyses were conducted in RStudio, using a panel data framework with country fixed effects to control for unobserved heterogeneity across nations. In addition to the main specification focusing on redistribution and income, the models also incorporate migration. For our purposes, we used the percentage of migrants in the total population (stock of migrants) to compare the impact of migration on inequality in a given country. If we had used absolute values, this would not have accurately reflected the number of migrants in specific countries. This is logical, as the same number of migrants will appear differently in absolute terms in a country with a population of one million and in a country with ten times that population. In order to achieve the highest possible informative value, we therefore used the percentage of migrants in the total population as previously stated. Given the scope of this article, we decided to formulate a single null hypothesis, which we tested through analysis. This hypothesis is as follows:

- (1) Null hypothesis (H0): *"There is no statistically significant association between a country's income level and the extent of its income redistribution."*

However, we supplement this single hypothesis with an analysis of the relationship between migration and inequality and, more generally, the role that migration can play in relation to redistribution. Based on the results of this supplementary analysis, we are then able to draw certain conclusions about the extent to which migration can play a role in these relationships, thus laying the groundwork for a more detailed analysis in the future.

Despite limited space, we tried to focus even more on migration and its impact on economic development, and we also attempted to test the relationship between the number of migrants and age in a given country as part of a supplementary analysis. To best represent the average age in a given country, we chose the "median age" indicator from the Our World in Data database. The reason for examining this relationship stems from an effort to map the age of migrants traveling to host countries. Under certain assumptions, it could be expected that a large increase in migrants as a percentage of the total population would lower the average age, or more specifically the median age in a given country, as it is often younger migrants who are looking for better conditions for their families. If, on the other hand, the analysis found an increase in the median age, the question would arise as to whether the reason for this is the migration of older migrants, who raise this average, or some other factor.

Since this study addresses not only economic growth but also human development, that is, growth in a broader societal context, the analysis includes not only the relationship between migrant stock, meaning the percentage of migrants in the total population of the host country, and the median age, but also education. Education is an essential component of human development and should be included when analysing its determinants. A wide range of indicators measure educational attainment across countries worldwide, yet for the purposes of this study it was necessary to select an indicator with global coverage and consistent time-series data. Therefore, data were obtained from the Barro-Lee Educational Attainment Dataset (2021), which provides harmonized data on the educational composition of the population by age and gender for most countries in five-year intervals since 1950. Although the dataset also includes projected values beyond 2020, only empirically observed data were used in this analysis. Consequently, the values for 2020 were used as the closest possible estimate for 2022, and the values for 1995 were used as a substitute for 1993 in order to maintain consistency across variables and time intervals. In particular, the indicator "Completed tertiary education (% of population aged 15–64)" was used. It expresses the share of the population who have completed tertiary education (ISCED 5–8). This variable was chosen as a proxy for human capital because tertiary education represents the highest level of formal education and is considered a key determinant of economic growth, productivity, and innovation capacity (Barro & Lee, 2013). We also considered using the secondary education level as an alternative, but in most high-income countries the proportion of individuals with completed secondary education is already very high, which would likely obscure any meaningful variation. The tertiary education indicator was therefore considered more suitable for capturing differences in educational attainment across countries, particularly between high-, middle-, and low-income economies.

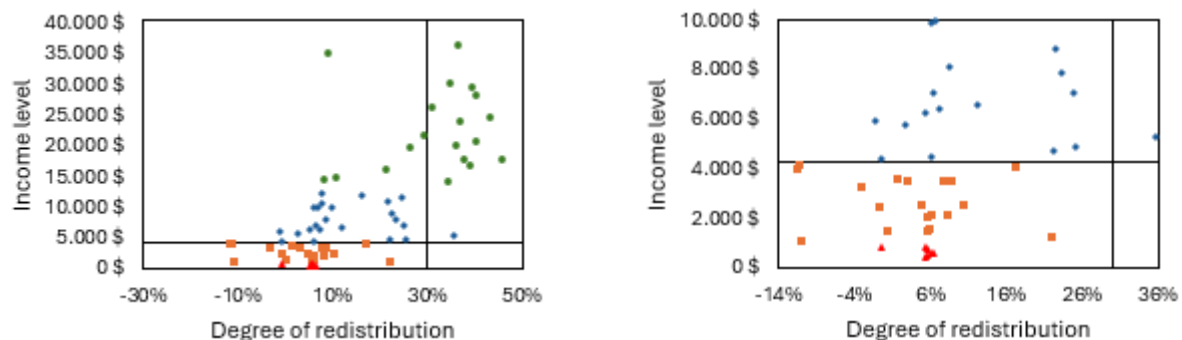
It should be acknowledged that tertiary education has expanded in most countries over the past three decades regardless of migration trends. However, migration motives are often linked to opportunities for a better life, which commonly include access to higher education or the use of skills acquired abroad. If the results indicate that migration contributes to the rejuvenation of host countries or at least slows population aging, this could be related to the fact that young individuals often migrate to take advantage of educational opportunities in destination countries. For this reason, the final part of this supplementary analysis explores the relationship between the share of migrants in a country's population and educational attainment, specifically tertiary education as defined above. The results of this analysis are presented in Chapter 3 (see Research results). Again, this part of the study is based on a linear model examining the relationship between the change in the share of migrants in the total population and the percentage change in tertiary-educated individuals aged 15–64. Since

income levels are closely related to both education and migration, the model also includes initial per capita income as a control variable to eliminate the influence of economic development on the estimated relationship. By controlling for income, we aim to isolate the effect of migration on educational attainment from that of general economic prosperity, ensuring that the observed associations reflect social and demographic mechanisms rather than differences in wealth across countries.

3 Research results

The results of our analysis reveal a statistically significant and positive association between income redistribution and income level of countries, represented as GNI per capita. Countries with higher levels of redistribution (measured as the difference between market and disposable Gini coefficients) tend to exhibit higher values of Gross National Income (GNI) per capita. This relationship holds across the observed sample of more than 70 countries from 1993 to 2021 and is consistent with a growing body of literature that views redistribution not merely as compatible with economic growth, but as a potential driver of long-term development through its effects on equity, stability, and social investment. This finding is visually supported by a clear positive trend in the graphical representation of the relationship between redistribution and income (see Figure 1), where countries with sustained redistributive efforts are clustered at higher income levels. While the relationship is not strictly linear, the general pattern indicates that greater income equalization through taxation and transfers does not impede, and may in fact facilitate, higher income levels at the national scale. We are well aware that correlation does not equal causation, and so a much deeper analysis will be needed in the future. At the same time, many countries already had high income values at the beginning of the period under review, but these countries continued to grow and remained at high values. This is despite the fact that the scale for 2021 has changed in line with the change in the threshold for individual income groups according to the World Bank methodology (Atlas method). It can therefore be said that countries that maintained a high level of redistribution throughout the period under review did not suffer in any way and grew throughout the period. At the same time, many countries that started with very low-income values grew, and in most cases this growth was accompanied by high levels of redistribution. There are exceptions, such as Korea, which grew during the period under review with relatively low redistribution rates, but the situation here is very specific, as this country grew mainly on the basis of its brands such as Samsung, etc.

Figure 1 Income level and Degree of redistribution 1993 & 2022



Source: Authors calculations

Certainly, there were also countries that did not grow despite relatively high levels of redistribution, but in that case many other external factors often play a role, which could not be analysed in depth here. Countries that had low-income levels at the beginning and showed low or even negative redistribution values during the period under review, with a few exceptions such as the aforementioned Korea, grew only marginally in less than 30 years. Negative redistribution values in this regard indicate the centralization of power among just a few individuals who extract wealth from others, which is more typical of regimes far removed from democracy. At the same time, countries with very low redistribution rates indicate poorly functioning state institutions that do not seek to help those at the very bottom of the distribution ladder. The ideal level of redistribution and solidarity is very difficult to determine and is highly specific to the particular situation of each country. This sensitive issue requires increased attention in the future as it becomes increasingly relevant.

This relationship between income level and redistribution isn't obvious merely using graphical representation. It is also supported by analysis which confirms statistical significance of this relationship. As for the role of migration, the analysis using fixed effects models reveals that there is statistically significant positive relationship between percentage of migrants in country's population and its level of inequality. From this finding we can derive that countries are often unable to absorb these migrants and to integrate them into society in a way that does not increase inequality. Although it is not possible to

determine the causality of this relationship with certainty on the basis of such a superficial analysis, and conclusions must be treated with caution. These results suggest that migrants coming to these countries (mostly to high-income countries) are unable to find jobs other than the lowest-paid ones, or even do not work at all, but are registered in the system so that they can take advantage of the solidarity of the system in the given country and receive social benefits. It is terribly important to be cautious with these conclusions, and we are aware that a much more detailed analysis is needed, but the increase in inequality does indeed indicate that this may be one of the reasons.

The supplementary analysis regarding migrants consisted of an additional part, the purpose of which has already been described in Section 2 (see Methods). Here, we tested how the change in the share of migrants in the host country's population over the last three decades was reflected in the change in the age structure. Specifically, we compared it with the change in the median age. It can be expected that mainly younger people migrate, which could lower the median age in the host country. The results of testing this relationship are interesting. First, we compared the percentage change in the number of migrants and the median age. However, the result did not show anything statistically significant. A closer look at the data, however, revealed that the median age has increased in almost all countries over the past 30 years. It is therefore very difficult for the regression to determine whether this is due to an increase in the number of migrants, as this is happening everywhere. For this reason, we adjusted the linear model to also include the initial value of the median age. The model subsequently shows that countries with a higher initial median age have experienced a greater increase in median age. However, countries with a higher increase in the number of migrants have experienced slower population aging. Therefore, we cannot directly speak of rejuvenation, but these migration flows at least counteract the demographic trend of population aging in developed countries to some extent. Although the relationship is very complex, the model shows statistical significance, which indicates that a certain connection exists.

Building on these findings, the supplementary analysis was further extended to include education as another essential dimension of human development. In this part, the models examined how changes in the share of migrants are related to changes in tertiary education attainment. The results show a positive and moderately strong relationship between these two variables. The coefficient for is positive and statistically significant at the 10% level ($p = 0.085$), suggesting that countries with a faster increase in the migrant population tend to record a faster growth in the share of tertiary-educated individuals. After controlling for the initial income level, the relationship remains positive, although slightly weaker, which implies that migration may contribute to human capital accumulation even beyond the influence of economic prosperity itself. The results also indicate a pattern of convergence in education. The coefficient of initial tertiary education is negative and statistically significant ($p = 0.012$), confirming that countries starting with a lower level of tertiary attainment have experienced a faster growth in educational attainment. This supports the hypothesis of conditional convergence in education, suggesting that less educated countries are catching up with more advanced ones over time.

Finally, the relationship between inequality and education is negative and statistically significant when considering the direct association between the education indicator and the Gini coefficient after redistribution ($p = 0.000251$). A similar level of statistical significance is found for the relationship between the degree of redistribution and tertiary education attainment, where the coefficient is positive as expected, indicating that a higher degree of redistribution is associated with higher levels of education ($p = 0.000582$). However, income plays a crucial role in this context. Once income is included in the model and the change in education is analysed in relation to inequality and redistribution, the previously significant relationships lose their statistical significance. This suggests that cross-country differences in tertiary education attainment are more strongly linked to income levels than to the redistribution of income inequality itself. In other words, variations in national wealth appear to be a more powerful determinant of educational outcomes than differences in redistributive intensity. It should be emphasized that this part of the analysis is supplementary, and further, more detailed research would be required to better understand the causal mechanisms underlying these relationships.

4 Conclusion

The results of our study indicate that income redistribution and economic prosperity are not mutually exclusive. Countries that maintained higher levels of redistribution throughout the observed period generally achieved and sustained higher income levels. Rather than constraining efficiency, redistribution appears to contribute to long-term stability, social cohesion, and overall economic resilience. At the same time, the findings underline that there is no universal pattern. Some economies experienced only limited growth despite extensive redistribution, while others such as South Korea achieved rapid expansion even with modest redistributive policies. These contrasting examples point to the importance of institutional quality, industrial structure, and historical context in shaping outcomes. The positive association between migration and inequality further reveals that economic openness brings new challenges. Migrants, who mainly move to high-income countries, often contribute to higher inequality, although the underlying mechanisms are complex. One

possible explanation is that many migrants arrive with a limited skillset, language proficiency, or social capital, which makes integration into the labour market more difficult and can lead to concentration in low-paid sectors. As a result, inequality may rise even in economies with otherwise strong redistributive systems. According to our findings, however, migrants slow down the aging of host countries' populations, so it will be interesting to include their level of participation in the labour market in these countries in future research. Although lowering the age is a positive factor, it is crucial to determine the relationship between migrants and work participation. In other words, whether they contribute to the system and what positions they occupy. To better understand what types of jobs migrants are likely to hold, we examined how migration is related to education, that is, whether migrants tend to be more or less educated. The analysis shows that an increase in the share of migrants is positively associated with the growth of tertiary education attainment, suggesting that migration may indirectly support the accumulation of skilled labour. However, this relationship weakens once income levels are considered, indicating that differences in education are more closely linked to national wealth than to migration or redistribution alone. Overall, redistribution should not be viewed as a barrier to growth but as one potential channel through which economies achieve greater balance and inclusiveness. Future research should focus on the interplay between redistribution, migration, and governance to better understand how policy design can foster both equity and sustainable development. A deeper understanding of these interconnections could help policymakers design welfare and migration systems that reinforce each other rather than compete. Integrating educational and labour market policies within redistributive frameworks may thus be essential for achieving sustainable and inclusive growth in the long term.

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