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## The Role of Intelligence (IQ) on The Globalization-Income Inequality Nexus: A Threshold Regression Approach\*

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### Abstract

Globalization is an economic process responsible for the increase of interdependence of world economies. It enhances the mobility of national resources internationally via the integration of markets, trade and investments with minimal barriers to slow the flow of products and services. Although globalization has some positive impacts on the economy, it is said to be a factor in the decline of income inequality of the participating countries. However, the results of previous studies on the relationship between globalization and income inequality are inconclusive. This suggests that there are other factors influencing the relationship between the two variables. The purpose of this study is to examine the role of intelligence (IQ) in the globalization-income inequality relationship. This study employs the threshold regression technique and cross-nation observations from 117 sample nations for the period 1980–2016. The results show that the impact of globalization on income inequality in a nation relies on its IQ level. The results imply that economic globalization has a negative impact on income inequality in nations with lower IQ levels. It widens the gap between the poor and rich. While in nations with higher IQ levels, it seems to not have any significant impact on income distribution.

**Keywords:** Globalization, Income Inequality, Intelligence, Threshold Analysis

**JEL Classification Code:** F62, F63, I24, J31, O15

### 1. Introduction

The adverse economic impact of income inequality has encouraged many studies to investigate its causes. Existing studies on this issue have mentioned several factors that could influence the distribution of income, for instance,

the speed of advancement in technology human capital, and immigration (Birdsall, 2007). In addition, several other factors could affect income inequality including the level of globalization of the nation (Brady, 2009).

Globalization, which is referred to as a broad process of economic integration, enhances the mobility of national resources internationally and increases the interdependency of national economies. Potrafke (2015) mentioned that the classical and neo-classical literature on the benefits of trade shows how globalization, construed as free trade, could increase national incomes. He adds that the rapid success of East Asian economies in the 1980s, for instance, can be quoted as proof that integration with the global economy could enhance economic growth. Nonetheless, the process of globalization also has a negative implication for the participating nations. The occurrences of financial crises, such as in Mexico in 1994–1995, East Asia in 1997–1998, and Argentina in 2001, are evidence of the adverse impact of globalization. The crises acutely depressed the standard of living and were associated with an increase in poverty and income disparity (Baldacci et al., 2002). In addition, Brady (2009) suggested that globalization is related to worsening income inequality.

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The argument on the income distributional effects of globalization has two viewpoints. First, it argues that economic liberalization and the process of globalization have income-equalizing effects (International Monetary Fund, 2007). Globalization has been argued to raise income in all categories including those at the bottom of the income distribution. On the other hand, the second viewpoint argues that the benefits of globalization are not equally shared among the populations of a nation. Therefore, globalization will widen the income gap among populations, although the overall income will improve. In general, most research argues that globalization is one of the major sources of income inequality, regardless of the increase in international trade and investment (Bhagwati & Koster, 1994).

The inconclusiveness of the income inequality effect of globalization may be an indicator that the relationship between the two variables is nonlinear. Thus, the impact of globalization on income inequality may only hold with the interface of various elements in local environments (Harrison, 2007); this may be the reason that some parts of the world benefit from globalization, while others do not. One variable that may moderate the relationship between globalization and income inequality is human capital, which is defined as any stock of knowledge or characteristics possessed by the labor force, either innate or acquired. A human capital endowment can be a more significant factor of a nation's long-term economic success than any other resource (World Economic Forum, 2013); it determines whether a nation gains from international technological transfers through globalization. Despite the fact that liberalization and globalization create international technology and knowledge spillovers, such processes are not automatic. A nation needs an adequate level of human capital, along with other economic and political institutions, to benefit from globalization. This is supported by several studies (Gelade, 2008), which report that globalization is conditionally associated with inequality.

In general, there is no clear picture of the relationship between globalization and income inequality, as the findings are still mixed. Moreover, the existing empirical evidence continues to be questioned, especially with regard to the way globalization and human capital are measured. The latter is more difficult to measure, since, in empirical growth research, the question of just how to measure a nation's stock of human capital is vague. Thus, overall, numerous studies use education as a proxy for human capital. However, there are longstanding doubts about this pervasive practice. These measures are inferior indicators of education quality and intuitively feeble proxies of the skills employed by the adult population (Abowd et al., 2005). Recently, when discussing "human capital," economists are referring to certain key elements such as the ability to solve problems, to think

creatively, to recall facts, and to interpret those facts in light of changing circumstances. This is because people work with their minds as well as with their bodies. To discuss human capital this way, we divert from job-specific human capital to focus on general-purpose human capital instead. Thus, a valuable technique to measure this particular type of human capital is proposed—the intelligence test (Abowd et al., 2005).

The intelligence quotient (IQ) is a score received on a test that assesses intelligence and it is, by far, the most extensively used in practical settings. A well-constructed IQ test measures a very wide-ranging and various sets of cognitive abilities. Cognitive skill scores are robustly related to good economic performance, as they have significantly more predictive power than do traditional schooling measures (Hanushek & Woessmann, 2007). In addition, IQ has both direct and indirect effects. It directly affects job performance when the job requires novel problem solving, independent decision-making, and innovative adaptation. Furthermore, a high IQ level is essential for people to effectively estimate risks and make the right choices in their financial investments (Gelade, 2008). Globalization requires such intelligence for technological diffusion (benefit of globalization) to take place. According to Gelade (2008), high-IQ nations are better at innovating and generating technological knowledge than are low-IQ nations, and this probably explains why the former nations are wealthier. In addition, the vast literature that has investigated the relationship between intelligence and income has found that more intelligent individuals earn more income than do less intelligent individuals. At the aggregate level, if individuals with higher IQ scores have a higher income than less intelligent individuals, then, nations with higher average intelligence should be wealthier than those with lower average intelligence (Birdsall, 2007). Another possibility is that if the nation is based on democracy, more intelligent voters are more likely to choose productive economic policies. All of the above-mentioned points shed light on why some nations are rich, while others remain poor. On the other hand, intelligence indirectly affects worker productivity, as acquiring job-specific knowledge during training and on the job can be done quickly and efficiently by those with higher intelligence (Gelade, 2008).

Thus, this study aims to make use of such advantages of the IQ test over other traditional human-capital measures by examining the influence of IQ in the relationship between globalization and income inequality. Although the globalization-income inequality nexus has been previously tested, to the best of our knowledge, no studies have examined this nexus in the context of different levels of national IQ (Gelade, 2008). Further, this study is important because the results are beneficial to the governments and policymakers for better and more accurate decision-making, regarding their involvement in the process of globalization.

The remainder of this paper is organized as follows. Section 2 discusses the method and data source. Section 3 presents the empirical evidence and discussion of the analysis. Finally, Section 4 concludes.

## 2. Study Background

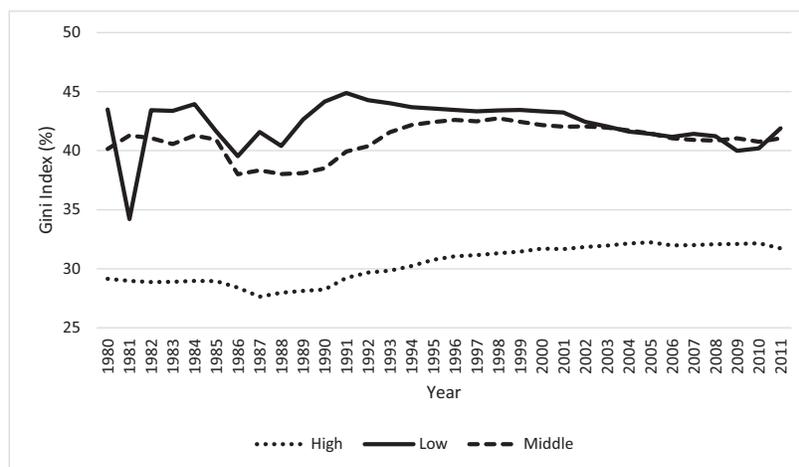
Income inequality indicates how evenly or unevenly income is distributed across society. It is defined as “the fundamental disparity that permits one individual certain material choices while denying another individual those very same choices” (Ray, 1998, p. 170). Income inequality is different from poverty, but connected to it, as the degree of inequality will have effects on the conceptions of poverty. In other words, income inequality concerns variations in living standards throughout the entire population; it increases as the incomes of the asset-rich rise at a faster rate than those of the asset-poor.

Figure 1 shows the annual average of nations’ Gini coefficients, a famous index used to measure income inequality, by income group. Basically, the Gini index is lower for high-income nations, followed by middle- and low-income nations. This indicates that the income is more equally distributed among populations in the high-income nations than in the other two groups. In the period 1980–1990, the movements of the Gini coefficients were not really stable, where there were some ups and downs for both low- and middle-income nations. On the other hand, the pattern was slightly decreasing for high-income nations within that period, which means that they were heading toward income equality.

Surprisingly, over the past two decades, inequality has risen in all nations, except for those that are low-income.

Even though richer nations are still more equal in terms of absolute values, the current trend is that they are not doing a sufficient job of distributing their income, when compared with poor nations. In fact, many affluent democracies, such as the United States, Australia, Denmark, Italy, Switzerland, and the Netherlands, have experienced a prominent increase in earning inequality in recent decades (Brady, 2009). This contrasts with the prediction of the Kuznets hypothesis, in which high-income or developed nations were expected to reach levels of prosperity where inequality would smooth out. The idea was based on the Kuznets’ belief that inequality would follow an inverted “U” shape as it rises and falls again with the increase in income per capita (Galbraith, 2007).

The relationship between globalization and income inequality has been the subject of numerous debates, but the question of whether globalization benefits the whole population equally is less documented. In addition, knowledge on whether all types of globalization have parallel impacts on income distribution is limited. Globalization is known as the free movement of goods, services, and capital across borders. The Organisation for Economic Co-operation and Development (OECD, 2011) refers to globalization as a broad process of economic integration that improves the international mobility of national resources and increases the interdependency of national economies. Globalization of product and financial markets refers to an increased economic integration in specialization and economies of scale, which will result in greater trade in financial services through both capital flows and cross-border entry activity. Globalization has involved greater free trade, greater movement of labor, increased capital flows, growth of multinational companies,



**Figure 1:** Annual Average of Nations’ Gini Coefficients by Income Group, 1980–2012

Source: Solt (2014); Standardized World Income Inequality Database.

increased integration of global trade cycles, increased communication, and improved transportation, effectively reducing barriers between nations. In other words, there are three types of globalization—economic, social, and political—but most concerns are associated with the first one. Moreover, economic globalization can be further divided into trade globalization and financial globalization.

Since the beginning of the 1980s, most nations around the world, including developing nations, have opened up their economies to international markets. Figure 2 shows the KOF index, a measure of globalization, for the period 1980–2016. The graph shows that the values of the KOF index are increasing in every group of nations, which indicates that all nations are increasing their involvement in the process of globalization. Nations realized the need to open up their economies and integrate with the rest of the world, to reap all possible gains.

The argument that globalization increases national income at the expense of income equality is somehow observable in Figure 2. Moreover, by comparing Figures 1 and 2, we can see that income inequality is increasing as globalization increases, especially over the past two decades. Such a phenomenon is visible in the middle- and high-income nations, which represent the majority. Yet, it is also worth emphasizing that the case is different for low-income nations where income inequality declines as globalization rises.

### 3. Methodology and Data

This study closely follows the model by Bergh and Nilsson (2010) to measure the relationship between globalization and income inequality. The model is as follows:

$$INEQ_i = \alpha_0 + \alpha_1 GLOB_i + \alpha_2 GDP_i + \alpha_3 DEP_i + \alpha_4 IQ_i + \varepsilon_i \quad (1)$$

where INEQ is the income inequality, GLOB is a globalization indicator, GDP is the real GDP per capita, DEP is the dependency ratio, and IQ is human capital in terms of IQ. The nation indicator is  $i = 1, 2, \dots, N$ , and the error term is  $\varepsilon$ .

In this paper, we argue that the following threshold specification is particularly well suited to offer a rich way of modeling the influence of human capital on the dynamics of globalization and income inequality:

$$INEQ_i = \begin{cases} \beta_0^1 + \beta_1^1 GLOB_i + \beta_2^1 GDP_i + \beta_3^1 DEP_i + \varepsilon_i, & IQ_i \leq \gamma, \\ \beta_0^2 + \beta_1^2 GLOB_i + \beta_2^2 GDP_i + \beta_3^2 DEP_i + \varepsilon_i, & IQ_i > \gamma, \end{cases} \quad (2)$$

where IQ (i.e., national intelligence quotient) is the threshold variable used to split the sample into regimes or classes, and  $\gamma$  is the unknown threshold parameter. This specification allows the role of globalization to be different depending on whether IQ is above or below some unknown level  $\gamma$ . The impact of globalization on income inequality will be  $\beta_1^1$  ( $\beta_1^2$ ) for nations in the low (high) regime. Clearly, under the hypothesis  $\beta_1^1 = \beta_1^2$ , the model becomes linear and is reduced to (1). The model, such as that in (2), has been used in the analysis of the finance-growth nexus (Deidda & Fattouh, 2002), trade-growth nexus (Khoury & Savvides, 2006), knowledge spillovers and FDI-growth nexus (Azman-Saini et al., 2010), and international financial integration-growth nexus (Chen & Quang, 2014), among others.

The foundation of our investigation is to formally test the null hypothesis of linearity— $H_0: \theta^1 = \theta^2$ —against the threshold model in (2). This is a non-standard inference problem since the threshold parameter is unidentified under and, therefore, the Wald or LM test statistics will not have

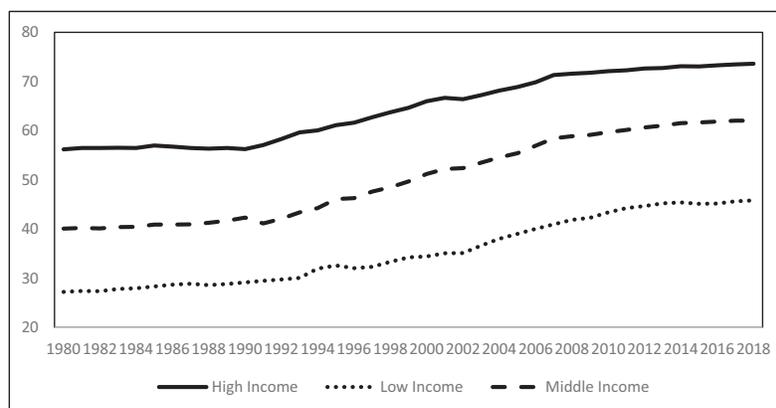


Figure 2: Annual Average of Overall globalization (KOF) index by income group, 1980–2018

Source: World Development Indicators (2020).

their conventional chi-square limits (see Hansen, 1996, 2000). As an alternative, inferences are made by computing a Wald or LM test statistic for each possible value of  $\gamma$  and, subsequently, basing the inferences on the supremum of the Wald or LM across all possible  $\gamma$ s. The limiting distribution of this supremum statistic is non-standard and influenced by various model-specific nuisance parameters. As tabulations are not possible, inferences are conducted via a model-based bootstrap, whose validity and properties have been recognized in Hansen (1996). It is also worth noting that the threshold model in (2) is estimated using conditional least squares, as recommended by Hansen (2000), since given  $\gamma$ , the model is linear in its parameters. Estimates of the slope parameters will follow trivially as  $\hat{\theta}(\hat{\gamma})$  once an estimate of  $\gamma$  has been obtained (as the minimizer of the residual sum of squares computed across all possible values of  $\gamma$ ). To conclude, our aim here is, first, to test for the presence of threshold effects and, if they are supported by the data, to estimate (2) to determine the statistical significance of  $\beta_1^1$  and  $\beta_1^2$ .

The threshold regression technique is selected over other alternatives primarily because of its key feature, as it allows for two distinct regimes. Once the threshold  $\gamma$  has been estimated from the data,  $IQ_i$  decides which of two possible regimes a nation belongs. Without prior knowledge as to how the coefficients on the globalization variables vary with income inequality, the problem is best addressed using threshold regression techniques (Hansen, 2000).

The samples for this study are taken from 117 nations during the period 1980–2016. Income inequality refers to the net income Gini coefficient from the Standardized World Income Inequality Database created by Solt (2014). For globalization, this variable is represented by three

components or dimensions of KOF index measures—economic globalization (KOF1), social globalization (KOF2), and political globalization (KOF3)—developed by Dreher (2006). The selection of control variables closely follows Bergh and Nilsson (2010) and are real GDP per capita and dependency ratio, both from World Development Indicators. Real GDP per capita is to correct for any distributional effects driven by income levels and dependency ratio corresponds to the share of the population younger than 15 years and older than 64 years.

Human capital is employed as a threshold variable in this paper. We do not use the proxy for human capital as suggested in Bergh and Nilsson (2010). Instead, in our study, it corresponds to the national average IQ from Lynn and Vanhanen (2012). To the best of our knowledge, no studies have considered the role of IQ in examining the relationship between globalization and income inequality. To examine the robustness of our results, we also regress our model with interaction terms. If previously, we used IQ as our threshold variable, here, we use IQ as our interaction variable. Using the least-squares method, we test for the interaction between globalization and IQ as well as its relationship to income inequality.

#### 4. Results and Discussion

Table 1 shows the descriptive statistics of all variables and correlation coefficients among KOF index values used in this analysis. Some dimensions of globalization, especially economic and social globalization, are highly correlated. Such a phenomenon confirms the standard view that nations with liberal policies in some areas also tend to have them in other areas. These results are in line with those in Bergh and Nilsson (2010).

**Table 1:** Summary Statistics (117 Nations, 1980–2016)

Variables	Ineq.	KOF1	KOF2	KOF3	GDP per Capita	Dep. Ratio	IQ
Mean	37.772	53.944	45.648	63.804	9.683	65.427	86.708
Std.	9.245	16.704	20.710	17.933	13.522	17.562	10.965
Max.	65.340	94.550	87.940	96.100	60.410	105.62	107.100
Min.	21.870	18.330	11.210	27.570	0.160	39.450	60.100
Correlations Between KOF Index Values							
KOF1		1.000					
KOF2		0.864***	1.000				
KOF3		0.306***	0.499***	1.000			

Notes: \*\*\* indicates statistical significance at the 1 percent level. Ineq. = average of net income Gini coefficient; KOF1 = average of economic globalization index; KOF2 = average of social globalization index; KOF3 = average of political globalization index; GDP per capita = average of per capita income; Dep. Ratio = average share of the population younger than 15 years and older than 64 years; IQ = national average intelligence quotient.

The analysis continues with the estimation of linear equation (1) that does not take into account the threshold effect using ordinary least squares (OLS) regression, and the results are shown in Table 2. The estimation is carried out on three models. *Model A* uses economic globalization as a proxy of globalization, while *Models B* and *C* use social and political globalization, respectively.

Based on the results, among the three dimensions of globalization, only economic globalization has a positive and significant impact on income inequality, while social and political globalization do not have any significant impact. This result is somewhat consistent with Dreher and Gaston (2008), who find that the economic dimension of globalization has exacerbated wage inequality in developed nations.

Surprisingly, the results also show that GDP per capita has a significant negative impact on income inequality, which is not in support of Kuznets *U*-shaped hypothesis. This is similar to the results in Dreher and Gaston (2008), who suggested that the dependency ratio is not significantly associated with income inequality, even though the sign of the positive value is as expected and compatible with Bergh and Nilsson (2010). In addition, IQ shows a negative and significant impact on income inequality. High IQ will narrow the income gap, as there will be a large number of performers in the job, which requires problem-solving, independent decision-making, and innovation.

**Table 2:** OLS Regression Estimates of the Effect of Globalization on Income Inequality

Variables	Model A	Model B	Model C
	(KOF1)	(KOF2)	(KOF3)
Globalization	0.118** (0.046)	0.024 (0.706)	-0.004 (0.910)
GDP per capita	-0.250*** (0.000)	-0.198*** (0.001)	-0.176*** (0.000)
Dep. Ratio	0.105 (0.141)	0.082 (0.271)	0.072 (0.303)
IQ	-0.355*** (0.005)	-0.345*** (0.006)	-0.338*** (0.008)
R-sq.	0.530	0.511	0.510
Number of observations	117	117	117

Notes: \*\* (\*\*\*) indicates statistical significance at the 5 (1) percent level. The dependent variable is the average net income Gini coefficient. KOF1 = average of economic globalization index; KOF2 = average of social globalization index; KOF3 = average of political globalization index; GDP per capita = average of per capita income; Dep. Ratio = average share of the population younger than 15 years and older than 64 years; IQ = national average intelligence quotient. *P*-values in parentheses are based on robust standard errors.

To test for the existence of thresholds in the globalization-inequality nexus, we use IQ as a threshold variable. First, we examine the existence of thresholds and determine the number of thresholds by estimating model (2), allowing for zero, one, and more IQ thresholds on the three globalization variables. We test the null hypothesis of no threshold using LM test statistics and their bootstrapped *p*-values. The results are summarized in Table 3.

For economic globalization, the results reject the null hypothesis of no threshold at the five-percent significance level, suggesting that a minimum of one threshold exists. We further employ the LM test to investigate the possibility of the existence of more than one threshold. The split produces an insignificant bootstrap *p*-value, 0.7939, where we cannot reject the one threshold's null hypothesis. Hence, the test procedure infers one threshold and, thus, two IQ regimes in the economic globalization-inequality relationship. On the other hand, for social and political globalization, we do not find any threshold effects, as the results fail to reject the null hypothesis of no threshold. In this paper, our focus is much centered on economic globalization, rather than social and political globalization, as there is no formal theory or obvious reason to expect the latter two to have specific effects on income distribution or any threshold associated with it.

Then, we proceed with the likelihood ratio test to examine the confidence interval around the threshold estimate. Table 4 shows the point estimates of the threshold and the corresponding 95% asymptotic confidence intervals. The estimated optimal threshold value is 90.6, which divides our sample into two groups (low and high IQ groups) according to this variable.

Table 5 reports the estimation results of the relationship between globalization and income inequality from 1980–2016 for the two-regime threshold model. It is observable that the impact of economic globalization on income inequality is positive and statistically significant in the low-IQ regime, below 90.6, indicating that economic globalization has an inequality-enhancing effect in nations

**Table 3:** LM Tests Results of Threshold Effects

	KOF1	KOF2	KOF3
$H_0 = \text{no threshold}$	24.782** (0.042)	25.688 (0.136)	21.600 (0.483)
$H_0 = \text{one threshold}$	6.530 (0.794)	–	–

Notes: \*\* indicates statistical significance at the 5 percent level. The dependent variable is the average net income Gini coefficient. The threshold variable is the national average IQ. KOF1 = average of economic globalization index; KOF2 = average of social globalization index; KOF3 = average of political globalization index.

**Table 4:** Threshold Estimates [95% Confidence Intervals]

	KOF1	KOF2	KOF3
Threshold estimates	90.6	–	–
95% confidence interval	[89.800, 91.700]	–	–

Notes: The dependent variable is the average net income Gini coefficient. The threshold variable is the national average IQ. KOF1 = average of economic globalization index; KOF2 = average of social globalization index; KOF3 = average of political globalization index.

**Table 5:** Threshold Regression Results (1980–2016)

Variables	Low IQ (IQ ≤ 90.6)	High IQ (IQ > 90.6)
KOF1	0.214**	–0.026
	(0.013)	(0.728)
GDP per capita	0.699	–0.121**
	(0.061)	(0.034)
Dependency	0.237***	0.259
	(0.001)	(0.070)
Number of observations	69	48
R <sup>2</sup>	0.232	0.292

Notes: \*\* (\*\*\*) indicates statistical significance at the 5 (1) percent level. The dependent variable is the average net income Gini coefficient. The threshold variable is the national average IQ. KOF1 = average of economic globalization index; GDP per capita = average of per capita income; Dep. Ratio = average share of the population younger than 15 years and older than 64 years.

with low IQ. However, when IQ is higher than the threshold level, economic globalization has no significant impact on income inequality.

Globalization is often an important tool for developing and least developed countries (LDCs) to address many issues, such as low economic growth and poor living standards. Meraj (2013) showed that developing nations and LDCs are gaining from globalization, especially in boosting their economic growth. However, in general, LDCs and developing nations have low human capital in terms of inadequate levels and poor quality of education, and low IQ. In 2015, The United Nations Conference on Trade and Development (UNCTAD) classified a nation as an LDC if it meets the inclusion threshold in three criteria: (1) a low-income criterion, (2) weak human-assets criterion, and (3) economic vulnerability criterion. One of the reasons behind such a phenomenon is the low level of government intervention to invest in human capital. The low IQ of

populations in LDCs and developing nations could influence the way globalization affects income inequality.

Globalization is the trend of increasing the integration of economies not only in terms of goods and services, but also in terms of ideas, information, and technology. When the population of a nation has low human capital, specifically a low IQ, it will have difficulty absorbing the benefits of globalization, particularly in terms of ideas, information, and technology. Most of the time, these areas require a substantial amount of intelligence, good understanding, problem-solving skills, and the ability to think creatively, in order for technological diffusion (benefit of globalization) to take place.

On the other hand, high-IQ nations, usually those that are developed and advanced nations, do not rely much on globalization to improve their economic issues, be it economic growth or income distribution. For example, the OECD (2011) finds that neither rising trade integration nor financial openness has a significant impact on either wage inequality or employment trends within OECD nations. However, the OECD might have some other factors influencing the unevenly distributed income in its nations, such as information and communication technology (ICT), policy choices, regulations, and institutions. ICT is frequently considered to be skill-biased and, for that reason, an inequality-increasing factor, while policy choices, regulations, and institutions can affect income distribution (e.g., through deregulation in product markets, changes in social transfers, wage-setting mechanisms, or workers' bargaining power). Further, the OECD (2007) for instance, put ICT at the forefront of its explanation of inequality, as its report suggests that “technical change is a more powerful driver of increased wage dispersion than closer trade integration”.

To strengthen our results that IQ has a considerably important influence on the relationship between economic globalization and income inequality, we further estimate a linear regression model by including IQ as an interaction variable. Table 6 shows the estimation results of the linear interaction model on the globalization-income inequality nexus. *Model A* uses economic globalization as a proxy of globalization, while *Models B* and *C* use social and political globalization, respectively. In short, the results show that economic globalization alone will increase income inequality. However, when economic globalization interacts with IQ, it has an equalizing effect on income inequality. This is shown by the negative and significant coefficient, –0.014.

## 5. Conclusion

Rising income inequality has coincided with the escalation of globalization in most nations. Even though

**Table 6:** Linear Interaction Model (1980–2016)

Variables	Model A	Model B	Model C
	(KOF1)	(KOF2)	(KOF3)
Globalization	1.380** (0.025)	1.174** (0.045)	−0.223 (0.492)
GDP per capita	−0.149 (0.076)	−0.113 (0.196)	−0.196*** (0.000)
Dep. Ratio	0.140 (0.064)	0.140 (0.064)	0.073 (0.308)
IQ	0.358 (0.303)	0.107 (0.650)	−0.475** (0.034)
Globalization* (IQ)	−0.014** (0.045)	−0.012 (0.055)	0.003 (0.483)
R-sq.	0.583	0.553	0.512
Number of observations	117	117	117

Notes: \*\* (\*\*\*) indicates statistical significance at the 5 (1) percent level. The dependent variable is the average net income Gini coefficient. KOF1 = average of economic globalization index; KOF2 = average of social globalization index; KOF3 = average of political globalization index; GDP per capita = average of per capita income; Dep. Ratio = average share of the population younger than 15 years and older than 64 years; IQ = national average intelligence quotient. *P*-values in parentheses are based on robust standard errors.

there is vast theoretical literature concerning these variables, empirical work in this field is still lacking. To fill this gap, this paper revisits the issue by exploring whether IQ explains the relationship between globalization and income inequality.

Using the threshold regression technique developed by Hansen (2000) on cross-sectional data of 117 nations, we find that economic globalization exerts a negative impact on income distribution in nations with low IQ levels, therefore widening the gap between the poor and rich. However, once beyond this critical level, economic globalization has no significant impact on income inequality. In unison, the results also show that social and political globalization have no significant impact on income inequality, even after conditioning on IQ.

In addition, we examine the relationship between economic globalization and income inequality by including IQ as an interaction variable in a linear regression model. The evidence indicates that globalization alone will increase income inequality. However, when globalization interacts with IQ, it has an equalizing effect on income inequality. The data, thus, imply that economic globalization worsens

income inequality for nations with lower IQ levels, while in nations with higher IQ levels, it seems to not have any significant impact on income distribution.

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