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Distributional and poverty consequences of globalization: Are OIC countries different?

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Abstract - This study examines the impact of globalization on cross-country inequality and poverty using a new comparable panel data for Organisation of Islamic Cooperation (OIC) and non-OIC developing countries over a long period, 1970–2008. The major findings of the study are that, first, a non-monotonic relationship between income distribution and level of economic development holds in both samples of countries. However, this relationship is comparatively stronger in the case of non-OIC countries. Second, globalization causes adverse consequences on income inequalities in OIC countries while it does not exert adverse effects in non-OIC countries. Third, in the poverty model, openness to trade accentuates not ameliorates poverty in both sets of countries, while FDI affects only the poor of the non-OIC countries. Fourth, financial liberalization exerts a negative and significant influence on income distribution in OIC countries only. Fifth, inflation distorts income distribution and poverty in both sets of countries. Finally, the role of government is robustly significant in reducing inequalities and poverty in non-OIC countries, while the role of government is insignificant in the OIC world. The overall results of this study show that globalization exerts adverse distributional and poverty consequences and, comparatively, OIC countries suffer more from the adverse consequences of globalization. This study concludes that OIC countries are different from non-OIC countries in terms of their exposure with globalization.

Keywords: globalization, poverty, inequality, FDI, OIC countries

Introduction

Jeffrey Williamson (2002) points out that the current world has experienced two globalization booms and one bust over the past two centuries. The first wave of globalization started at the end of 18th century and lasted until the beginning of World War I, while the second wave of globalization started at the end of World War II and exists until the present. The inter-war period was one of an anti-global backlash because, during this period, countries followed inward-looking policies using trade barriers such as tariffs and quotas.

The first wave of globalization was driven mainly by technical improvements in transportation systems, massive migration, and long-term foreign direct investment in developing countries. The industrial revolution of the UK also played a key role in increasing the speed of globalization as it led to high productivity and inter-country trade flows. The second wave of globalization was driven mainly by short-term financial flows, a dramatic reduction in communication costs (referred to as "the death of distance"), and outward looking trade policies.

The world was homogeneously poor and agrarian at the beginning of the first wave of globalization. However, the world was sharply divided between rich industrial nations and poor primary producers at the beginning of second wave of globalization.

In the first episode of globalization, poverty decreased from 84% in 1820 to 66% in 1910. In the second episode of globalization, the poor benefitted more as poverty decreased from 55% in 1950 to 24% in 1992. The poverty rates probably remained stagnant during the inter-war period.

Recently, Sala-i-Martin (2002) found that poverty rates have reduced remarkably over the recent two decades. He shows that the numbers of poor, subsisting on $1/day, decreased by 235 million between 1976 and 1998. However, the decline of poverty rates across regions has been far from uniform. In this period, Asia has undergone dramatic improvements, particularly after 1980. In Latin America, poverty reduced substantially in the 1970s but effectively stopped in the 1980s and 1990s. Africa has been a disaster area with respect to poverty as poverty rates in this region have increased substantially over the last thirty years. In Africa, the number of $1/day poor increased by 175 million over the period 1970–1998. In 1960, 11%

of the world's poor lived in Africa while by 1998 that proportion had risen to 66%.

Thus, a historical negative relationship between globalization and poverty masks variations within and between countries in their experiences with globalization. Despite pro-poor globalization over the past two centuries, poverty is still a long-standing issue as one-sixth of the world population is still living below the poverty line. This is why many decades of increasing globalization could not silence the debate over the benefits of globalization. The fierce street protests surrounding the ministerial meeting of the WTO and similar protests at the World Bank and the IMF show that anti-globalization debate is getting stronger.

The arguments that globalization helps the poor and decreases inequality are that, according to the static argument, globalization in the form of trade liberalization enhances demand for exports. Since developing countries are abundant in low-skilled labour force, growth in labour-intensive exports leads to high demand for low-skilled workers. This causes lower inequality and poverty because the high demand for workers increases real wages (see, e.g., Krueger 1983).

The other argument is dynamic, linking trade and poverty through growth. Where trade enhances growth, then growth, in turn, reduces poverty. Robertson (1940) characterized trade as an "engine of growth" while Smith (1776) argued that when society is "advancing to the further acquisition… the condition of the labouring poor, of the great body of the people, seems to be the happiest."

The argument that globalization, in the form of trade openness, increases inequality and poverty is based on the concept of "skill premium". Trade liberalization is also a source of technology diffusion from developed to developing countries. The technology diffusion generates a skill premium in favour of high-skilled labour. Thus, demand for labour increases and wage inequalities further widen (see, e.g., Berman et al. 1994; Autor et al. 1998).

Other theories on the distributional and poverty consequences of globalization can be classified into three categories (Wade, 2001):

1. According to the neoclassical growth theory, in the long run, income differences across nations are likely to converge because of increased international capital flows.
2. The endogenous growth theory predicts less convergence and more probable divergence because increasing returns to technological innovations tend to offset diminishing returns to capital.
3. The dependency theory predicts that globalization does not lead to absolute convergence. The argument is that developing countries have a narrow exports base, and relatively limited access to the markets of developed economies.

Another related issue is the change in inequality over the path of development. The Kuznets (1955) inverted-U hypothesis predicts that income inequality increases at lower levels of economic development while it tends to decline at higher levels of economic development because

of trickle down effects. Does Kuznets curve hold? Do the poor benefit more from higher levels of economic development? The existing literature is not yet conclusive.

In the presence of such diverse and contradictory theoretical predictions, a deeper understanding of distributional and poverty consequences of globalization requires largely empirical evidence. The empirical literature ignores the relative contribution of globalization and other fundamental variables in OIC countries. In particular, a comparative analysis of OIC and non-OIC countries appears to be missing in the current empirical literature. This study, therefore, fills these gaps and attempts to provide a better understanding of distributive and poverty effects of globalization. Why is it important to investigate separate parameter estimates for OIC and non-OIC countries? According to the annual economic report on the OIC countries 2010, economic performance in developing OIC countries is substantially different from the rest of the developing countries. Therefore, a separate regression modelling to assess the inequality and poverty consequences of globalization in OIC countries is necessary as it will capture parameter differences.

This study, therefore, attempts to fill the gaps in the existing literature by addressing six key concerns:

1. Does economic development benefit different economic actors equally or it comes at the cost of increased inequality and poverty?
2. Is the effect perhaps different over the path of development in the long run?
3. Does high financial intermediation reduce inequality and poverty?
4. Do high inflation rates accentuate poverty incidence?
5. Does globalization spill over benefits equally?
6. What is the role of government in all this; does government spending reduce potentially existing inequality and poverty?

Literature review

The Heckscher-Ohlin (HO) model shows that a nation specializes in a product which requires an intensive use of its abundant factors of production. Developing countries specialize in labour-intensive products as they are abundant in low-skilled labour. In the process of labour-intensive product specialization, demand and wages for low-skilled labour tend to increase, thereby increasing the wage inequality gap. However, the lower inequality and poverty predicted by the HO model relies on the assumption of identical technologies across countries. If this assumption is dropped then distributional and poverty effects also depend on technology diffusion from developed countries to developing countries that will generate a skill premium and increase the demand and wages of high-skilled labour. Thus, wage distribution becomes more unequal in an open economy (see, e.g., Berman et al. 1994; Autor et al. 1998).

In an open economy, increased imports allow a developing economy to upgrade its technology through the imports of mature and second hand capital goods (see, e.g., Barba et al. 2002). Acemoglu (2003) also argues that trade openness leads to technical upgrading by allowing a rise in the international

flows of capital goods. Robbins (2003) defines technological upgrading as "skill enhancing trade hypotheses".

In addition, Perkins and Neumayer (2005) point out that a lagging developing country directly jumps on relatively new technology and therefore exploits the benefits of the late-comer. When the south rapidly adopted the modern skill-intensive technologies, the demand for and wages of skilled labour increased which, in turn, increased inequalities in developing countries. In an open economy, exports also create incentives for replacement of outdated technologies to have a better access in the markets of developed countries. Yeaple (2005) shows that exports based on updated technologies lead to high profits.

In a case of Mexico, Hanson and Harrison (1999) show that firms demand more white-collar workers in the exporting sectors than the non-exporting sectors of production. Therefore, exports widen inequalities. Moreover, Berman and Machine (2004) confirm this positive relationship between exports and inequality for developing countries. These studies build a positive link between exports and inequality but do not link exports to poverty. Some survey studies point out that the relationship between globalization and poverty has been assessed indirectly (Winters et al. 2004; Goldberg and Povcnick 2006; Ravallion 2004). This study fills the gap by developing a direct link between globalization and poverty for OIC countries

In a case study of Brazil, Carneiro and Arbache (2003) found out that trade liberalization may not be sufficient to significantly reduce poverty. In another case study of Papua New Guinea, Gibson (2000) revealed that poverty increased during 1990s. In a recent study, Majeed (2010) established that trade accentuates, not ameliorates, and that it intensifies, rather than diminishing, poverty in the case of Pakistan.

Theory of inequality and poverty determinants

Levels of economic development affect inequalities in a non-linear way, as predicted by Kuznets (1955). Inequalities tend to increase at lower levels of economic development but fall at higher levels of economic development due to trickle down effects. Paukerit (1973) and Ahluwalia (1976) support Kuznet's point of view. However, some later studies (see e.g., Deininger and Squire 1998) do not provide evidence to support Kuznet's Curve.

The role and importance of financial development in reducing income inequality can be traced back to the earlier theoretical papers of Galor and Zeira (1993) and Banerjee and Newman (1993). These papers show the inequality-narrowing effect of financial development. Nevertheless, Greenwood and Jovnovie (1990) predict an inverted U-shaped relationship between financial development and income distribution; they show that financial development initially favors the rich but over time it helps the poor also, when more people have access to the financial system.

Inflation can increase inequalities through its effect on individual income and can reduce inequalities in the presence of a progressive tax system. The inequality-widening effect of inflation is more pronounced when wages fail to chase increasing price levels. In developing countries trade unions are weak and minimum wage laws are dysfunctional in the presence of weak institutions. Thus, workers are left with less or no rise in wages, while owners of the firms enjoy the benefits of rising prices and become increasingly rich (MacDonald and Majeed 2010).

Income inequality may increase or decrease with increase in government spending. If most redistribution through taxes and transfer system is towards the poor, government spending might result into lower inequality. Papanek and Kyn (1986) tested the impact of government intervention on inequality and the results of their study do not support the contention that government spending reduces inequality. They argue that government intervention often benefits the elite, such as the political, bureaucratic and military leadership, rather than poor. However, some cross-country studies (Boyd 1998; MacDonald and Majeed 2010), found the size of the public sector to be significant in reducing income inequality.

Generally, it is believed that faster population growth is associated with higher income inequality. One of the reasons is that the dependency burden may be higher for the poor group. Deaton and Paxon (1997) argue that population growth increases the size of families in the poor stratum, thereby increasing inequality and poverty. Investment in human capital can be expected to reduce the income gap as higher education improves skills, productivity and labour income.

One of the most widely promoted hypotheses in social sciences is that economic growth reduces poverty. Economic growth is an important predictor of poverty. It is widely argued in the literature that growth is pro poor (see, e.g., Ravallion, 1995, 1997). Population growth is another important determinant of poverty. In the literature, it is generally argued that population growth increases poverty. For instance (Deaton and Paxon, 1997) argue that population growth increases the size of families in the poor stratum, thereby increasing poverty. Becker, Glaeser and Murphy (1999) argue that population growth does not increase the labour force and high income in the presence of poor agricultural economies, limited human capital and outdated technology.

Methodology

In this section, a methodological frame work for inequality and poverty is introduced. Following the conventional wisdom of the literature on inequality, initially Kuznet's curve has been modelled followed by some key control variables and, subsequently, proxies for globalization have been introduced.

Inequality Model

$$\log Gini_{it} = \alpha_{it} + \gamma_1 \log Y_{it} + \gamma_2 \log Y^2{}_{it} + \varepsilon_{it} \qquad (I)$$

$$(i = 1,.........N; \ t = 1,........T)$$

$\log Gini_{it}$ = natural logarithm of the G_{ini} Index

$\log Y_{it}$ = natural logarithm of income per capita, adjusted with PPP

$\log Y^2{}_{it}$ = square term controlling nonlinear conditional convergence across the countries

ε_{it} = disturbance term

Equation (I) is conventionally used to test for Kuznets hypotheses (Randolph and Lot, 1993; Garbis, 2005). The expected signs for γ1 and γ2 are positive and negative respectively. Cross country inequality variation depends on other factors such as government size, education and population growth. Higher targeted government spending could reduce inequalities given that rent seeking activities are avoided and government spending enhances the possibilities and opportunities for the poor. A rise in human capital can be expected to narrow down the gap between poor and rich as higher education improves skills, productivity and labour income.

Equation (I) can be rewritten as:

$$\log Gini_{it} = \alpha_{it} + \gamma_1 \log Y_{it} + \gamma_2 \log Y^2_{it} + \gamma_3 \log G_{it} + \gamma_4 \log HK_{it} + \gamma_5 \Delta Pop_{it} + \varepsilon_{it} \qquad (II)$$

G_{it} = natural log of government spending as proxy for government spending on social sector
HK_{it} = secondary school enrolment rate
ΔPop_{it} = percentage change in total population
ε_{it} = disturbance term

Finally, globalization variables are included following the suggestions of Barro (2000) and Aisbett (2005).

According to the Stolper-Samuelson theorem, the expected sign for γ_6 depends on the comparative advantage of an economy relative to its trading partners. Similarly, the sign for γ_7 could be expected to be either positive or negative.

Poverty Model

This study follows a basic poverty-growth model suggested by Ravallion (1997), and Ravallion and Chen (1997). In the first step, I estimate the elasticity of poverty with respect to economic growth for OIC and non-OIC countries in separate regressions. In the next step, this study introduces measures for inequality and level of economic development in order to estimate their effects on existing poverty incidence. The incidence of poverty in this article, for data constraints, has been measured as headcount index defined as population living below US$1/day per capita, a standard measure used in the literature, and adjusted with PPP. The relationship for growth-poverty elasticity can be written as:

$$\log P_{it} = \alpha_{it} + \beta 1g + \varepsilon_{it} \qquad (1)$$

$$(i = 1, \ldots \ldots N; t = 1, \ldots \ldots T)$$

Where P_{it} indicates poverty in country i at time t and g_{it} measures annual growth rate. The coefficient β_1 measures elasticity of poverty with respect to growth given by g and e is an error term. An estimated value of β_1 gives the average growth elasticity of poverty in OIC and non-OIC countries. However, this average measure could be misleading because β_1 differs across countries and over time, depending upon other poverty determinants that explain poverty variation. For example, Bourguignon (2003) points out the importance of income distribution and initial level of development as additional controls of poverty while estimating the growth elasticity of poverty;

he stresses the results whereby β_1 is affected significantly by inequality changes during a growth spell and by initial inequality prevailing at the start of such a spell. The modified version of equation (1) that includes inequality elasticity of poverty and economic development can be written as:

$$\log P_{it} = \alpha_{it} + \beta_1 g + \beta_2 \log(ineq) + \beta_3(X_{it}) + \varepsilon_{it} \qquad (2)$$

P_{it} = natural logarithm of head count ratio
ineq = natural logarithm of Gini index
X_{it} = a vector of control variable for poverty other than economic growth and income distribution

Apart from the initial distribution of income and level of economic development, poverty results from complex economic and social processes. For these reasons, this model is extended to include some other factors. Recent studies suggest that households with better profiles of human capital are less prone to poverty incidence compared to those with lower acquisition of human capital. This study measures human capital with average years of schooling.

Finally, the main factors related to globalization are put into the model. Conventionally, in the literature, two measures of globalization used are trade and capital flows. Winter et al. (2004) found that trade liberalization reduces poverty in the long run, while Carneiro and Arbache (2003) did not find a significant effect of trade on inequality and poverty using the CGE model.

$$\log P_{it} = \alpha_{it} + \beta_1 g + \beta_2 \log(ineq) + \beta_3(X_{it}) + \beta_4(Trade / Y) + \beta_5(FDI / Y) + \varepsilon_i \qquad (3)$$

Trade = ratio of exports plus imports to GDPs
FDI = ratio of FDI inflow to GDP

Data and estimation procedure

This study uses the Gini coefficient to measure income inequality, this being one of the most popular representations of income inequality. It is based on the Lorenz Curve, which plots the share of population against the share of income received and has a minimum value of 0 (case of perfect equality) and maximum value of 1 (perfect inequality). Missing values in income inequality data are the major problem in cross-country analysis. Many developing countries have only one or two observations. Therefore, the existing database was expanded by including comparable data on inequality from recent household surveys included in the World Bank, UNDP, and IMF Staff reports.

To make the data more comparable, this study takes data on variables in the form of averages between two survey years. Per capita real GDP growth rates are annual averages between two survey years. Panel data for 22 OIC and 43 Non OIC countries for the period 1970–2008 have been assembled with the data averaged over periods of three to seven years, depending on the availability of inequality data. The minimum number of observations for each country is three and the maximum, nine. That is, only countries with observations for at least three consecutive periods are included. The description of variables is given in Table 1.

Table 1. Description of variables.

Variable name	Definitions and Sources
Per capita real GDP	Per capita real GDP growth rates are annual averages between two survey years and are derived from the IMF, WDI and International Financial Statistics (IFS) databases.
Gini coefficient	It is a measure of income inequality based on Lorenz curve, which plots the share of population against the share of income received and has a minimum value of zero (reflecting perfect equality) and a maximum value of one (reflecting total inequality). The inequality data (Gini coefficient) are derived from World Bank data, UNDP and the IMF staff reports.
Secondary school enrolment	The secondary school enrolment as % of age group is at the beginning of the period. It is used as a proxy of investment in human capital and derived from World Bank database.
Inflation	Inflation rates, annual averages between two survey years, are calculated using the IFS's CPI data.
Credit as % of GDP	Credit as % of GDP represents Claims on the non-financial private sector/GDP and is derived from 32d line of the IFS.
M2 as % of GDP	It represents Broad money/GDP, and is derived from lines 34 plus 35 of the IFS.
Trade Liberalization	It is the sum of exports and imports as a share of real GDP. Data on exports, imports and real GDP are in the form of annual averages between survey years.
HFI	The level of Financial Intermediation is determined by adding M2 as a % of GDP and credit to private sector as % of GDP.
FDI	It is measured as net inflow of foreign direct investment as % of GDP and series have been derived from WDI.
Poverty	It is measure as head count ratio and data has been derived from World Bank.

Estimation technique

Use of pooled time-series and cross-section data provides a large sample that is expected to yield efficient parameter estimates. Ordinary Least Squares (OLS) has the problem of omitted variable bias. If a region, country or some group-specific factors affect inequality and poverty, explanatory variables would capture the effects of these factors and estimates would not represent the true effect of explanatory variables. Baltagi (2001) proposes fixed effect econometric techniques to estimate panel data, which could avoid the problem of omitted variable bias. However, in the case of lag-independent variable this technique gives biased parameter estimates. This analysis is based on the Two Stage Least Square (2SLS) technique of estimation. This technique addresses the issue of endogeniety, that is covariance between independent variables, and the error term is not equal to zero; it also addresses the problem of omitted variables bias. Alternative econometrics techniques such as Limited Information Maximum Likelihood (LIML) and Generalized Methods of Moments (GMM) are also used.

In this study, the focus is mainly on the Generalized Method of Moments (GMM) estimation technique that has been developed for dynamic panel data analysis. This technique was introduced Holtz-Eakin et al. (1990), Arellano and Bond (1991), Arellano and Bover (1995), and Blundell and Bond (1997). GMM control for endogeneity of all the explanatory variables allows for the inclusion of lagged dependent variables, such as regressors, and accounts for unobserved country-specific effects. For GMM estimation sufficient instruments are required. Following the standard convention in the literature, the equations are estimated by using lagged first difference as instrument.

Results and discussion

The estimation strategy for this study is was as follows: first, parameter estimates were drawn for OIC countries. Then, following the empirical literature on cross-country studies, an OLS estimation technique was used to obtain the results, and subsequently other econometrics techniques were used. These alternative techniques helped to accommodate a possible endogeneity problem through using instruments, and also helped assess the robustness of results. Initially the study focused on the inequality consequences of globalization and then the poverty effects of globalization. The same estimation strategy was then used for non-OIC countries to assess comparative parameter differences.

The second column (2) of Table 5 shows that the estimated coefficient for Y_{it} and Y^2_{it} are of the signs expected and significant. This finding supports the non-monotonic relationship between inequality and economic development, implying that inequality tends to increase at lower levels of economic development while it tends to fall at higher levels of economic development. The results reported in columns 3–4 show that financial liberalization significantly reduces inequality while inflation worsens inequality. Thus, financial liberalization helps the poor through credit facility while inflation hits the poor hard. It is noteworthy that the role of government turns out to be insignificant.

Columns 5–7 of Table 5 report replication of benchmark results using alternative econometrics techniques. The estimated coefficient on linear term Y_{it} is about 0.9, and –0.05 on the non-linear term Y^2_{it}, both being significant. This finding implies that the poor suffer in the short-term at lower levels of economic development while they benefit from the development process in the long-run at higher levels of economic development. The coefficient on financial liberalization is significant and fluctuates around 0.11, implying that one standard deviation increase in financial liberalization explains 1.8% of income inequalities. The estimated coefficient on government spending is insignificant in all regressions implying that government does not seem to play a role in improving inequalities.

Table 6 reports the results of the bench mark model including the key variable of concern, openness to trade. The estimated coefficient on openness to trade is positive and significant at a 1% level of significance in all regressions.

The size of coefficient 0.001 remains robustly the same in all regressions implying that one standard deviation increase in openness to trade increases income inequality by 0.02%. This finding supports the views of anti-globalization theorists who argue that trade liberalization accentuates, not ameliorates, inequality. Other parameter estimates remain the same, while overall level of significance improves.

Table 7 shows the empirical estimates for the benchmark model including FDI inflows (a measure of globalization) while excluding openness to trade. A simple correlation matrix shows a correlation between openness to trade and FDI of around 37% that may create the problem of multicolinearity. In order to avoid this problem and to assess the independent effects of both measures of globalization, this study examines their role individually. The results reveal that the estimated coefficient on FDI is about 0.02 and positively significant in all cases (see Table 3). A one standard deviation increase in FDI explains 0.33% of income inequalities dispersion in OIC countries.

The magnitude of the parameter estimate for inflation remains 0.003, implying that one standard deviation increase in inflation leads to 0.05% increase in income inequalities. It is noteworthy that the average inflation in OIC countries is 25%. Therefore, high inflation rates with adverse consequences for the poor in OIC countries call for anti-inflationary policy measures. In all estimations (see Tables 5–7) standard statistical tests such as F stat, Wald Test, Sargan Test and J stat support the estimated model.

The conclusive findings for OIC countries are:

1. Kuznets curve holds in OIC countries that necessitate the importance of policies that built a threshold level of economic development to pick the poor out from poverty traps.
2. Both openness to trade and FDI adversely affect income inequalities in Muslim countries.
3. Financial liberalization exerts a negative influence on income distribution while inflation exerts a positive influence.
4. Government does not appear an important character in reducing inequalities.

Table 8 reports the results for non-OIC countries. The estimated coefficients on Y_{it} and Y^2_{it} are 1.9 and –0.11, respectively, these being of expected signs and significant. The size of the coefficients is almost double compared with

Table 2. Descriptive statistics in OIC countries.

Variables	OIC-Countries				Non-OIC Countries			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Economic Growth	2.05	3.22	–9	9.19	2.73	4.03	–10	13.19
Income Inequality	38.89	6.33	25.9	56	42.07	11	19.4	62.5
Human Capital	48.82	21.49	16	94.89	65.41	22.45	16	105.83
Population	2.13	0.82	–0.8	4.2	1.15	1.14	–1	3.3
Government Spending	21.08	7.58	5.18	36.5	21.33	9.56	6.29	56
Investment	21.23	5.98	7	38	23.04	5.98	11	45
Inflation	16.98	25	1.43	170	25.54	43.37	–1	310
GDP Per Capita	2731.48	2018.76	260	10023.17	5927.76	4524.11	412	25041.45
Poverty	31.84	18.89	1	72.1	25.58	19.8	0	74
High Financial. Int	67.95	42.85	11	250.37	63.58	36.43	10	211.33
Openness to Trade	68.36	39.48	10.8	228.88	72.73	38.34	13.05	174.4

Table 3. Simple correlation matrix for OIC countries.

	Grow	Ineq	HK	Pop	G	Inv	Inf	PCY	Pov	Op	HFI	FDI
Grow	1											
Ineq	−0.12	1										
HK	−0.17	0.23	1									
Pop	0.11	0.21	−0.42	1								
G	−0.03	0.11	0.3	−0.04	1							
Inv	0.18	0.33	0.39	−0.05	0.3	1						
Inf	−0.53	0.09	0.21	−0.57	−0.15	−0.06	1					
PCY	0.04	0.42	0.59	−0.05	0.34	0.7	−0.03	1				
Pov	−0.19	−0.27	−0.43	−0.12	−0.38	−0.54	0.23	−0.76	1			
Op	−0.02	0.41	0.39	0.03	0.28	0.52	−0.02	0.49	−0.18	1		
HFI	0.06	0.16	0.23	0.28	0.4	0.61	−0.33	0.67	−0.64	0.51	1	
FDI	0.01	0.18	0.21	−0.28	0.1	0.27	0.22	0.11	0.13	0.36	−0.05	1

Table 4. Simple correlation matrix for non-OIC countries

	Grow	Ineq	HK	Pop	G	Inv	Inf	PCY	Pov	Op	HFI
Grow	1										
Ineq	0.04	1									
HK	−0.01	−0.4	1								
Pop	0.18	0.54	−0.72	1							
G	−0.43	−0.39	0.45	−0.59	1						
Inv	0.52	−0.03	0.11	−0.04	−0.23	1					
Inf	−0.53	0.1	0.18	−0.23	0.19	−0.27	1				
PCY	−0.14	0	0.48	−0.41	0.43	−0.01	0.04	1			
Pov	−0.1	−0.05	−0.41	0.3	−0.26	−0.16	0.07	−0.73	1		
Op	−0.1	−0.01	0.17	−0.21	0.22	0.21	−0.2	0.12	−0.12	1	
HFI	0.4	0.01	0.16	−0.13	−0.02	0.56	−0.31	0.3	−0.42	0.11	1

those of the OIC countries, implying that Kuznet's curve is comparatively strong in this sample of countries. This is also evident from Figure 1, which shows that a number of OIC countries have surpassed the threshold level of economic development, while only few OIC countries did so.

The role of financial development is not robust, while the parameter estimate for inflation is 0.002, which is robust, and significant, implying that one standard deviation increase in inflation increases income inequalities by 0.06%. It is also evident from the descriptive statistics (Table 2) that average inflation at 43.3% is much high in non-OIC countries.

The population growth rate in non-OIC countries is 1.15%, which is almost half that in the 2.13% of the OIC countries; however, it is interesting to note that population

growth widens inequalites more in non-OIC countries. One standard deviation increase in population growth explains 4.2% of the inequalities in non-OIC countries, and 2.4 % of them in OIC countries.

A sharp contrast between OIC and non-OIC countries has been observed regarding the role of government. Government spending (a proxy for social spending) exerts a negative and significant influence in non-OIC countries. Higher targeted government spending can bridge the gap between the poor and rich, given that rent-seeking by privileged individuals or groups is avoided and bureaucrats focus on increasing the possibilities of the poor.

The results reported in Table 9 include the key variable of concern, openness to trade. Here, a sharp contrast can be observed with respect to the inequality impact of trade
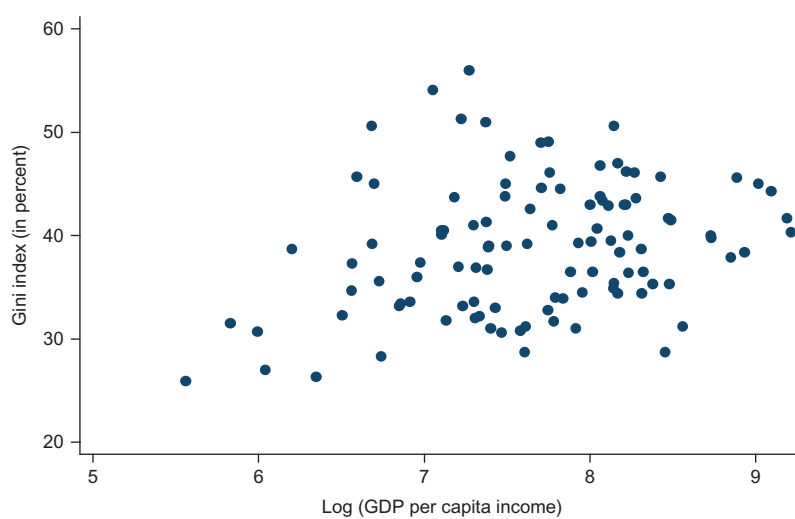
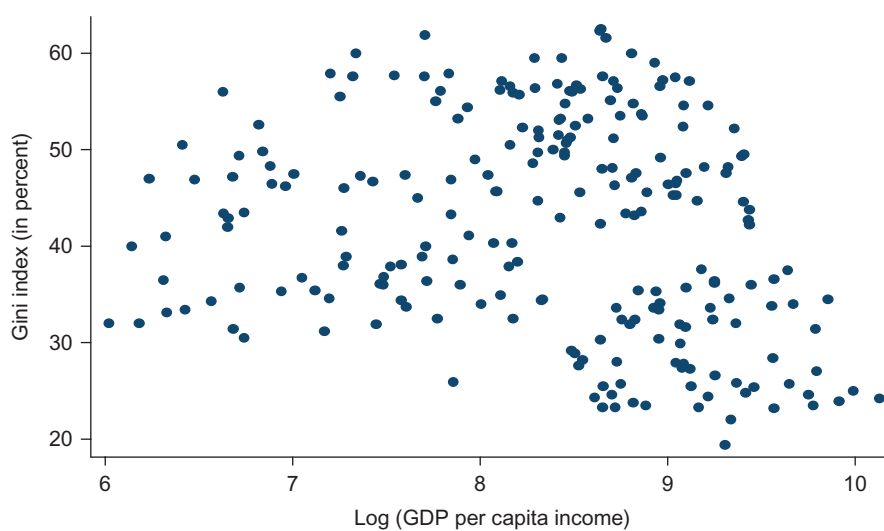**Figure 1.** Inequality and level of devlopment in OIC countries.

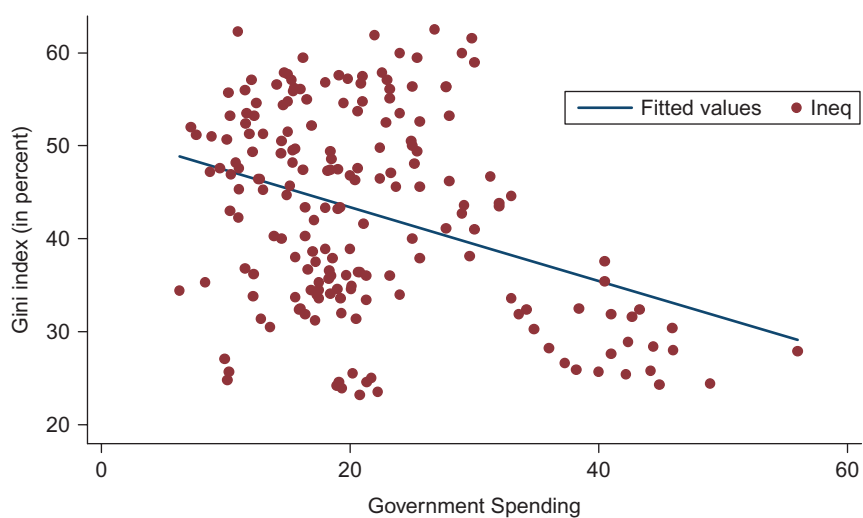**Figure 2.** Inequality and level of devlopment in non-OIC countries.

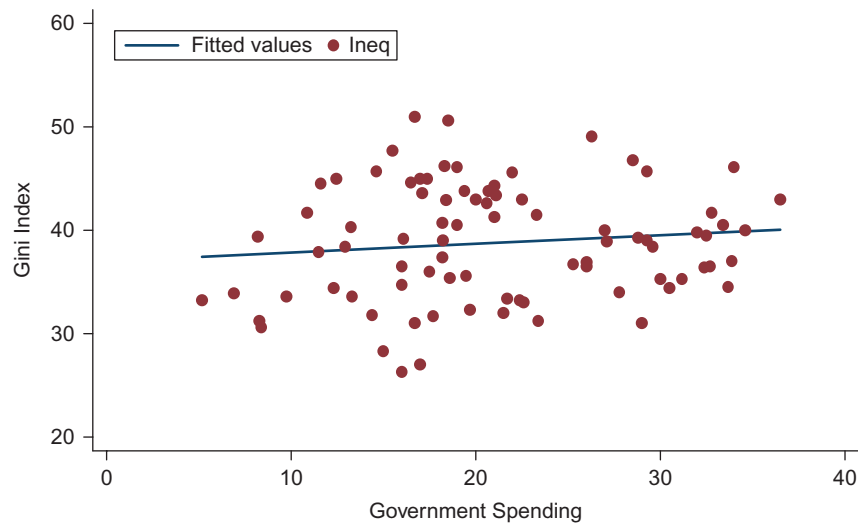**Figure 3.** Inequality and government spending in non-OIC countries.

Figure 4. Inequality and government spending in OIC countries.

Table 5. Inequality in OIC countries using alternative econometrics techniques.

Independent Variables	Dependent Variable: Income Distribution					
	OLS	OLS	OLS	2SLS	LIML	GMM
Per Capita GDP	0.673 (2.82)*	0.541 (1.60)***	0.136 (4.46)*	0.924 (1.85)***	0.956 (1.92)**	0.901 (2.48)*
Per Capita GDP squared	−0.04 (−2.56)*	−0.025 (−1.15)		−0.049 (−1.6)***	−0.049 (−1.6)***	−0.047 (−2.11)*
Human Capital			0.034 (0.80)	0.084 (1.31)	0.086 (1.31)	0.099 (1.61)***
High Financial Intermediation		−0.105 (−3.67)*	−0.085 (−2.96)*	−.110 (−3.24)*	−.111 (−3.26)*	−0.099 (−3.18)*
Population		0.093 (4.79)*	0.115 (5.23)*	0.146 (5.12)*	0.147 (5.12)*	0.162 (5.80)*
Government Expenditure		0.47 (0.15)	0.016 (0.50)	−0.021 (-.45)	−0.023 (−0.48)	−0.023 (−0.55)
Inflation			0.002 (2.55)*	0.001 (0.88)	0.001 (0.88)	0.002 (1.18)
Constant	0.873 (0.97)	1.15 (0.90)	2.48 (13.46)*	−0.71 (−0.37)	−0.83 (−0.43)	−0.73 (−0.52)
F Stat	9.71 (0.000)	9.18 (0.000)	9.05 (0.000)			
Wald				51.11 (0.000)	51.18 (0.000)	82.49 (0.000)
Sargan				1.92 (0.59)	1.97 (0.58)	
Basmann				1.61 (0.66)	0.55 (0.65)	
Hansen J						1.20 (0.75)
R Square	0.12	0.38	0.42	0.40	0.39	0.39
Countries	22	22	22	22	22	22

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics given in parentheses (*), (**), and (***) indicate statistical significance at 1%, 5% and 10% levels, respectively.

openness, as all columns indicate that trade improves income distribution in non-OIC countries. However, when the problem of endogeneity is controlled, the significance level and sign for the estimated coefficient on trade lost remain the same. This finding provides deeper insights into the relationship between trade and inequality. The existing literature ignores the differences between OIC and non-OIC countries, but empirical findings have clearly shown that the effects of trade openness are not uniform across different samples of developing countries. Strictly speaking, it is the poor of the OIC countries who suffer most from globalization. The results obtained are similar to the benchmark findings.

Table 10 excludes openness to trade while it includes FDI as another measure of globalization. The coefficient of FDI exerts a positive and significant influence on inequalities in non-OIC countries. The estimated coefficient on FDI is 0.02, which implies that one standard deviation increase in FDI leads to a 0.6 % increase in income inequalities.

It is important to note that non-OIC countries receive, on average, 3.3% FDI compared to non-OIC countries that receive 2.08%, on average. The average high inflow of FDI explains the larger impact of FDI on income distribution in non-OIC countries. All other estimated parameters remain the same in terms of significance and direction of link.

The main findings for the non-OIC countries are:

1. Very strong and robust evidence has been found in favour of Kuznet's hypotheses.
2. Openness to trade is not harmful.
3. FDI widens existing inequalities.
4. Inflation seems to distort income distribution.
5. The most important difference is that the government emerges as a major player in non-OIC countries, whereas its role is insignificant in the OIC world.

Columns 2–5 in Table 11 provide results for the poverty model for OIC countries. All columns of the Table indicate

Table 6. Inequality and globalization (openness to trade) in OIC countries.

Independent Variables	Dependent Variable: Income Distribution					
	OLS	OLS	OLS	2SLS	LIML	GMM
Per Capita GDP	0.697 (2.38)*	0.899 (2.93)*	0.942 (2.96)*	1.44 (2.91)*	1.51 (3.00)*	1.46 (4.07)*
Per Capita GDP squared	−0.042 (−2.18)**	−0.050 (−2.50)*	−0.052 (−2.55)*	−0.072 (−2.65)*	−0.086 (−2.74)*	−0.084 (−3.67)*
Openness to Trade	0.0006 (1.33)	0.001 (4.17)*	0.001 (4.12)*	0.001 (2.93)*	0.0014 (2.74)*	0.001 (2.50)*
High Financial Intermediation		−0.105 (−4.00)*	−0.106 (−4.01)*	−0.119 (−3.81)*	−0.121 (−3.83)*	−0.107 (−3.69)*
Population		0.113 (6.35)*	0.109 (5.44)*	0.131 (4.97)*	0.133 (4.94)*	0.150 (5.72)*
Inflation		0.001 (2.83)*	0.001 (2.85)*	0.002 (1.79)***	0.002 (1.79)***	0.002 (1.5)
Human Capital			−0.022 (−0.55)	0.006 (0.09)	−0.006 (−0.10)	0.037 (0.54)
Government Expenditure		−0.021 (−0.67)	−0.023 (−0.75)	−0.06 (−1.26)	−0.06 (−1.31)	−0.061 (−1.26)
F Stat	6.39 (0.000)	12.24 (0.000)	10.65 (0.000)			
Wald				69.60 (0.000)	65.50 (0.000)	158.30 (0.000)
Sargan				4.1 (0.25)	4.36 (0.23)	
Basmann				3.52 (0.32)	1.19 (0.32)	
Hansen J						3.76 (0.29)
R square	0.16	0.54	0.54	0.50	0.49	0.47
Country	22	22	22	22	22	22

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 7. Inequality and globalization (FDI) in OIC countries.

Independent Variables	Dependent Variable: Income Distribution					
	OLS	OLS	OLS	2SLS	LIML	GMM
Per Capita GDP	0.605 (1.94)**	0.61 (1.95)***	0.555 (1.60)***	0.993 (1.84)**	1.05 (1.89)**	1.003 (2.70)**
Per Capita GDP squared	−0.030 (−1.48)	−0.031 (−1.54)	−0.027 (−1.30)	−0.055 (−1.62)***	−0.059 (−1.69)***	−0.056 (−2.40)*
FDI	0.007 (1.65)***	0.006 (1.60)***	0.006 (1.6)***	0.021 (2.67)*	0.023 (2.77)*	0.020 (1.76)***
High Financial Intermediation	−0.076 (−2.65)*	−0.074 (−2.56)*	−0.074 (−2.53)*	−0.052 (−1.23)	−0.048 (−1.11)	−0.042 (−1.03)
Population	0.112 (6.46)*	0.13 (5.80)*	0.124 (5.50)*	0.166 (5.00)*	0.169 (4.94)*	0.201 (4.97)*
Inflation	0.002 (2.82)*	0.002 (2.90)*	0.002 (2.80)*	0.003 (1.96)**	0.003 (2.01)**	0.003 (1.76)***
Human Capital		0.018 (0.44)	0.024 (0.57)	0.046 (0.66)	0.045 (0.62)	0.089 (1.33)
Government Expenditure			0.004 (0.12)	0.011 (0.21)	0.012 (0.23)	0.003 (0.07)
Constant	0.78 (0.65)	0.81 (0.67)	0.90 (0.72)			
F Stat	10.16 (0.000)	8.64 (0.000)	7.45 (0.000)			
Wald				50.37 (0.000)	49.30 (0.000)	96.75 (0.000)
Sargan				3.15 (0.20)	3..24 (0.20)	
Basman				2.72 (0.26)	1.35 (0.27)	
J Stat						1.21 (0.54)
R	0.45	0.45	0.45	0.31	0.27	0.28
Country	22	22	22	22	22	22

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

that economic growth is robustly and negatively associated with poverty, thus, growth is pro-poor. Income inequalities are positively and significantly associated with poverty incidence. The effect of inflation is positive and significant implying that inflation hits the poor hard. Once again, the government does not appear to play a role in reducing poverty.

The last four columns 6–9 of Table 10 report poverty estimates for non-OIC countries. The growth turns out to be good for the poor. The overall model does not fit better because most of the variables turn out to be insignificant. In order to overcome this problem and to sort out a more reliable comparative picture of poverty for both sets of countries, this study employs a parsimonious model that includes economic growth and income distribution as compulsory variables along with globalization variables.

Table 12 reports results on globalization and poverty in OIC countries. Economic growth elasticity of poverty turns out to be negative and significant, implying that growth is good for the poor. However, inequalities are positively associated with poverty but not significant. Inflation is significant with positive sign. A sharp contrast has been observed on the role of government in helping the poor. The estimated coefficient on government spending is insignificant. When comparison are made regarding the role of openness to trade, findings in terms of sign are similar to those for non-OIC countries; however, parameter estimates for openness to trade are insignificant, implying that trade is not harmful. A sharp contrast is observed when it comes to the role of FDI; it significantly helps the poor.

Table 13 shows the results obtained for the poverty model in non-OIC countries. The growth turns out to be good for the poor, while inequality and inflation are harmful for them. The major difference observed is on government

Table 8. Inequality in non-OIC countries using alternative econometrics techniques.

Independent Variables	Dependent Variable: Income Distribution					
	OLS	OLS	OLS	2SLS	LIML	GMM
Per Capita GDP	1.62 (5.63)*	1.81 (7.85)*	1.72 (6.80)*	1.90 (5.57)*	1.88 (5.50)*	1.90 (6.05)*
Per Capita GDP squared	−0.105 (−5.90)*	−0.107 (−7.02)	−0.101 (−6.56)	−0.111 (−5.51)***	−0.11 (−5.44)***	−0.111 (−5.97)*
High Financial Intermediation		−0.068 (−1.35)	0.072 (1.45)	−0.029 (−0.86)	−0.028 (−0.85)	−0.028 (−1.00)
Population		−0.031 (−1.25)*	−0.01 (−0.65)	0.138 (5.86)*	0.137 (5.81)*	0.143 (6.55)*
Human Capital		0.147 (8.21)*	0.147 (8.25)*	0.06 (0.88)	−0.063 (−0.86)	−0.06 (−1.11)
Government Expenditure		−0.080 (−2.45)*	0.099 (2.95)*	0.14 (2.38)*	0.145 (2.42)*	−0.139 (−2.43)*
Inflation			0.002 (1.92)**	0.002 (2.11)**	0.002 (2.15)**	0.002 (1.99)**
Constant	−2.45 (−2.12)*	−3.42 (3.31)*	−3.05 (−2.92)*			
F Stat	24.90 (0.000)	39.93 (0.000)	35.24 (0.000)			
Wald				191.38 (0.000)	190.27 (0.000)	250.05 (0.000)
Sargan				2.51 (0.47)	2.55 (0.47)	
Basman				2.36 (0.50)	0.79 (0.50)	
J stat						2.43 (0.54)
R	0.18	0.58	0.58	0.56	0.55	0.56
Country	43	43	43	43	43	43

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 9. Inequality and globalization (openness to trade) in non-OIC countries.

Independent Variables	Dependent Variable: Income Distribution					
	OLS	OLS	OLS	2SLS	LIML	GMM
Per Capita GDP	1.54 (5.49)*	1.75 (6.95)*	1.69 (6.72)*	1.85 (5.54)*	1.84 (5.46)*	1.84 (6.02)*
Per Capita GDP squared	−0.098 (−5.64)*	−0.103 (−6.71)*	−0.098 (−6.45)*	−0.108 (−5.45)***	−0.108 (−5.37)*	−0.108 (−5.89)*
Openness to Trade	−0.002 (−3.78)*	−0.001 (−1.7)***	−0.001 (−1.61)***	−0.0006 (−1.02)	−0.0005 (−0.96)	−0.0006 (−0.87)
High Financial Intermediation		−0.023 (−0.94)	−0.012 (−0.48)	−0.026 (−0.78)	−0.027 (−0.77)***	−0.025 (−0.89)
Population		0.163 (10.88)*	0.137 (7.28)*	0.128 (5.22)*	0.128 (5.16)*	0.130 (5.81)*

(*Continued*)

Table 9. (*Continued***)**

Human Capital			0.0005 (1.61)***	−0.081 (−1.13)	−0.08 (−1.10)	−0.084 (−1.4)
Government Expenditure			−0.081 (−1.62)***	0.134 (2.31)*	−0.139 (−2.35)*	−0.133 (−2.38)*
Inflation			−0.099 (−2.92)*	0.002 (1.88)***	0.002 (1.94)**	0.002 (1.83)***
Constant	−2.11 (−1.88)**	−3.66 (−3.53)*	−2.88 (−2.76)*			
F Stat	22.32 (0.000)	46.29 (0.000)	31.44 (0.000)			
Wald				200.83 (0.000)	199.10 (0.000)	254.29 (0.000)
Sargan				2.90 (0.41)	2.96 (0.46)	
Basman				2.72 (0.44)	0.91 (0.44)	
J Stat						2.94 (0.40)
R	0.23	0.57	0.59	0.58	0.57	0.58
Country	43	43	43	43	43	43

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

spending, which significantly reduces poverty. The results show that one standard deviation increase in government spending reduces poverty by 2%. Overall, the results for non-OIC countries indicate that globalization accentuates and does not ameliorates poverty and, among the domestic factors, economic growth is good for the poor while both income inequality and inflation hurt poor people and increase their suffering.

Conclusion and policy implications

The purpose of this study has been to examine the distributional and poverty consequences of globalization for OIC countries in comparison to non-OIC countries over a long period, 1970 to 2008. This study is unique in the way that it disaggregates globalization consequences for two sets of developing countries and uses more comparable statistics on inequality and poverty. Furthermore, it explicitly controls for high financial intermediation and accommodates the endogeneity problem.

The main findings on the distributional consequences of globalization in OIC countries are:

- Kuznet's curve holds in OIC countries and highlights the importance of policies building a threshold level of economic development to lift the poor out of poverty traps.
- Globalization causes an adverse effect on inequalities
- Financial liberalization has been found to exert a negative influence on income distribution, while inflation exerts a positive influence.
- The role of government is insignificant in improving income distribution.

In non-OIC countries the main findings are:

- The results reflect a strong presence of the Kuznets curve; a number of the countries have surpassed the threshold level of economic development, and many are close it.
- Openness to trade is not harmful.
- The government emerges as a major player in non-OIC countries.

In a separate modelling for poverty consequences of globalization in the OIC world, the major findings are that the estimated coefficient on economic growth is robustly significant with negative sign that implies economic growth is good for the poor. Also, the impact of inflation turns out to be robustly bad for poor people. The role of government was found to be insignificant in reducing poverty, this study identifying strong evidence that government does not play a significant role in picking the poor out from poverty traps in OIC countries. The analysis exhibits a sharp contrast on the role of FDI, which appears to be good for the poor in OIC countries. In the case of non-OIC countries, a major contrast has been observed on the role of government in reducing poverty, the estimated coefficient being robustly significant with a negative sign in non-OIC countries. The evidence indicates that one standard deviation increase in government spending reduces poverty by 2%.

It is proposed that this analysis has the following policy implications:

1. OIC countries need to focus more on growth than trade openness as the evidence suggests that growth elasticity of poverty is high in this sample of countries and trade openness does not help in reducing poverty.

Table 10. Inequality and globalization (FDI) in non-OIC countries.

Independent Variables	OLS	OLS	OLS	2SLS	LIML	GMM
			Dependent Variable: Income Distribution			
Per Capita GDP	1.65 (5.75)*	1.85 (7.37)*	1.75 (6.95)*	2.05 (5.45)*	2.06 (5.29)*	20.6 (5.52)*
Per Capita GDP squared	−0.106 (−5.98)*	−0.109 (−7.16)*	−0.103 (−6.73)*	−0.122 (−5.42)***	−0.123 (−5.26)***	−0.123 (−5.5)***
FDI	−0.004 (−1.45)	0.009 (2.36)*	0.008 (2.19)*	0.022 (1.72)***	0.024 (1.76)***	0.021 (1.94)**
High Financial Intermediation		−0.031 (−1.28)	−0.017 (−0.67)	−0.032 (−0.93)	−0.033 (−0.92)	−0.034 (−1.15)
Population		0.175 (12.4)*	0.155 (8.61)*	0.163 (5.78)*	0.166 (5.59)*	0.165 (6.34)*
Human Capital			−0.058 (−1.15)	0.020 (0.24)	0.030 (0.34)	0.014 (0.20)
Government Expenditure			−0.090 (−2.65)*	−0.134 (−2.13)*	−0.136 (−2.07)**	−0.143 (2−0.16)**
Inflation			0.0007 (2.10)*	0.003 (2.39)*	0.003 (2.43)*	0.003 (2.43)*
Constant	−2.59 (−2.24)**	−4.08 (−3.95)*	−3.29 (−3.15)*			
F Stat	16.93 (0.000)	46.45 (0.000)	31.92 (0.000)			
Wald				178.79 (0.000)	170.79 (0.000)	235.44 (0.000)
Sargan				2.84 (0.42)	2.83 (0.42)	
Basman				2.65 (0.45)	0.87 (0.46)	
J						2.79 (0.43)
R	0.19	0.57	0.60	0.52	0.50	0.52
Country	43	43	43	43	43	43

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 11. Poverty, growth, inequality and globalization in OIC countries.

Independent Variables	OIC Countries				Non-OIC Countries			
	2SLS	GMM	2SLS	GMM	2SLS	GMM	2SLS	GMM
				Dependent Variable: Poverty				
Growth	−1.56 (−3.8)*	−0.98 (−2.55)*	−1.67 (−3.17)*	−1.42 (−2.98)*	0.−74 (−3.14)*	−0.69 (−3.29)*	−0.71 (−3.14)*	−0.69 (−3.34)*
Inequality	1.24 (2.26)*	1.29 (4.12)*	1.16 (1.23)	1.18 (1.28)	1.13 (−2.26)*	1.13 (3.02)*	1.09 (2.41)	1.12 (3.02)
Inflation	0.109 (2.17)*	0.095 (2.93)*	0.108 (1.75)**	0.088 (1.92)**	−0.015 (−0.49)	−0.011 (−0.54)	−0.017 (−0.61)	−0.014 (−0.80)

(*Continued*)

Table 11. (*Continued*)

Population	−1.45 (−1.05)	−0.68 (−0.73)	−1.85 (−1.33)	−1.68 (−1.55)	1.15 (1.10)	1.11 (1.29)	1.12 (1.08)	0.998 (1.23)
Human Capital	0.20 (0.44)	−0.041 (−0.97)	−0.01 (−0.26)	−0.003 (−0.09)	0.06 (1.40)	0.070 (1.73)	0.065 (1.42)	0.069 (1.74)***
Government Expenditure	−0.003 (−0.02)	0.070 (0.49)	−0.037 (−0.28)	−0.02 (−0.18)	0.044 (0.035)	0.052 (0.41)	0.059 (0.51)	0.051 (0.46)
High Fin. Intermediation	3.29 (2.43)**	3.15 (2.87)*	2.63 (2.08)*	2.74 (2.33)*	−0.62 (−0.57)	−0.52 (−0.65)	−0.73 (−0.70)	−0.55 (−0.68)
Openness to Trade	−0.031 (−1.51)	−0.039 (−2.94)*			−0.01 (−0.30)	−0.002 (−0.06)		
FDI			−0.166 (−0.40)	−0.218 (−0.58)			−0.42 (−0.75)	−0.23 (−0.73)
Wald	59.49 (0.000)	160.06 (0.000)	56.06 (0.000)	70.54 (0.000)	30.39 (0.000)	49 (0.000)	31.23 (0.000)	70.54 (0.000)
Sargan	4.32 (0.23)		3.50 (0.32)		1.04 (0.79)		1.69 (0.64)	
Basman	3.41 (0.33)		2.70 (0.40)		0.86 (0.83)		1.39 (0.71)	
J Stat		3.24 (0.36)		3.89 (0.27)		0.96 (0.81)		1.26 (0.73)
R	0.55	0.49	0.55	0.53	0.25	0.24	0.30	0.27
Country	22	22	22	22	43	24	43	43

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 12. Poverty, growth, inequality and globalization in OIC countries.

Independent Variables	Dependent Variable: Poverty			
	2SLS	GMM	2SLS	GMM
Growth	−1.83 (−6.08)*	−1.79 (−4.64)*	−1.73 (−5.72)*	−1.70 (−4.43)*
Inequality	0.25 (0.99)	0.24 (0.76)	0.21 (0.88)	0.34 (1.12)
Inflation	0.074 (1.69)***	0.077 (2.71)*	0.097 (2.12)*	0.094 (3.18)*
Government Expenditure	0.044 (0.29)	0.055 (0.46)	0.11 (0.75)	0.064 (0.57)
Openness to Trade	0.023 (0.92)	0.022 (1.08)		.
FDI			−0.56 (−1.63)***	−0.52 (−2.43)*
Wald	77.05 (0.000)	155.68 (0.000)	82.37 (0.000)	178.21 (0.000)
Sargan	0.33 (0.56)		2.12 (0.35)	
Basman	0.29 (0.59)		1.90 (0.39)	
J Stat		0.41 (0.52)		2.69 (0.26)
R	0.56	0.56	0.58	0.57
Country	23	23	23	23

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

Table 13. Poverty, growth, inequality and globalization in non-OIC countries.

Independent Variables	Dependent Variable: Poverty			
	2SLS	GMM	2SLS	GMM
Growth	−0.96 (−4.7)*	−0.92 (−4.16)*	−1.01 (−3.45)*	−0.94 (−3.97)*
Inequality	0.68 (4.15)*	0.67 (3.21)*	0.632 (3.46)*	0.68 (3.29)*
Inflation	0.071 (3.95)*	0.072 (3.75)*	0.069 (3.63)*	0.068 (3.90)*
Government Expenditure	−0.17 (−1.97)**	−0.162 (−2.05)**	−0.203 (−2.05)**	−0.208 (−2.26)*
Openness to Trade	0.056 (2.17)*	0.053 (2.03)**		
FDI			1.87 (3.38)*	1.69 (3.04)*
Wald	150.08 (0.000)	93.16 (0.000)	125.36 (0.000)	96.51 (0.000)
Sargan	0.96 (0.32)		2.85 (0.24)	
Basman	0.90 (0.34)		2.67 (0.26)	
J Stat		0.83 (0.36)		1.99 (0.37)
R	0.62	0.62	0.53	0.53
Country	43	43	43	43

F-statistics and associated p-values are reported for the test of all slope parameters jointly equal to zero.
The t-statistics are given in parentheses (*), (**), and (***) and indicate statistical significance at 1%, 5% and 10% levels, respectively.

2. OIC countries may increase government spending to help the poor, but it is in the non-OIC countries where the role of government is significant in reducing poverty.
3. OIC countries may focus more on the factors that attract FDI as the evidence clearly shows that, in this sample of countries, FDI inflows ameliorate poverty.

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