

POVERTY, GLOBALIZATION AND THE ROLE OF STATE: A COMPARATIVE ANALYSIS FOR ISLAMIC COUNTRIES

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Abstract

This study examines the impact of globalization on cross-country poverty using a new comparable panel data set for developing countries over a long period 1970-2008. The main findings of the study are: First, openness to trade exerts adverse effects on poverty in all sample developing countries while FDI helps in reducing poverty only in OIC countries. Second, growth elasticity of poverty is negative and significant in all countries; however, the growth elasticity of poverty is high in the case of OIC countries. Third, inflation adversely affects poverty in all sample countries. Fourth and finally, the role of government is insignificant in OIC countries while it is robustly significant with a negative sign in Non-OIC countries. Thus, government spending helps in reducing poverty only in Non-OIC countries. The overall results of this study indicate that globalization accentuates not ameliorates poverty.

JEL Classification: F21, F41 and J24

Key Words: Globalization; Poverty; Inequality; FDI; OIC Countries

1. Introduction

Williamson (2002) points out that ‘the world has seen two globalization booms over the past two centuries and one bust. The first global century ended with World War-I and the second started at the end of World War II, while the years in between were ones of anti-global backlash’. In the first period of globalization, poverty fell from 84% in 1820 to 66% in 1910. In the second period of globalization poverty fell from 55% in 1950 to 24% in 1992. In the inter-war period, the world population living in poverty remains probably stagnant.

The historical negative relationship between globalization and poverty masks variations within and between countries in their experiences with globalization. Many decades of increasing

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globalization have not yet silenced 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 strong.

Sala-i-Martin, 2002 notes that poverty rates have declined remarkably over the last twenty years. He (2002) found that the number of one-dollar a day poor declined by 235 million between 1976 and 1998. The number of \$2/day poor declined by 450 million over the same period. However, performance across regions has been far from uniform. Specifically he finds: Asia has undergone dramatic improvements, particularly after 1980. Latin America reduced poverty substantially in the 1970s but that 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 \$2/day poor increased by 227 million and 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%.

In order to understand the impact of trade liberalization on poverty in the literature, two different strands of argumentation: static and dynamic, have been provided. First, according to static argument, the central effect on poverty is assumed to come from the effects on real wages of the unskilled workers, endowed with labour but no human or financial capital. Since developing countries are abundant with unskilled labour, a rise in exports based on labour intensive production techniques leads to a rise in real wage rate of unskilled worker that is instrumental in reducing poverty and income inequality. This, in fact, is the central message of Krueger's (1983) findings from a multi-country project on the subject of the effects of trade on wages and employment in developing countries.

According to dynamic argument, free trade reduces poverty following two steps: trade increases growth and growth reduces poverty. In regard to the trade promotes growth hypotheses, there are ample precedents. For instance, Robertson (1940) characterized trade as an "engine of growth." In regard to the growth reduces poverty, 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 literature provides different theories on the distributional and poverty consequences of globalization which can be classified into three categories (Wade, 2001): First, the neoclassical growth theory which predicts income convergence across nations in the long run in response to increased international capital flows. Second, the endogenous growth theory which shows less convergence and, more probable, divergence because diminishing returns to capital are offset by increasing returns to technological innovations. Third, the dependency theory implies that developing countries have relatively limited access to the markets of developed countries and have a narrow exports base. Therefore, international economic integration is less awarding for developing countries and globalization does not cause absolute convergences.

In the presence of such diversified theoretical predictions, estimating the actual impact of globalization on poverty remains largely an empirical issue. Also, no previous effort has been made to quantify the relative contributions of globalization and other fundamental variables to poverty in OIC¹ countries. According to the annual economic report on the OIC countries 2010², economic performance in developing OIC countries is substantially different from the rest of the developing countries. Therefore, a separate regression modelling to assess the 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 four key concerns. (1) Does economic growth benefit different economic actors equally or it comes at the cost of poverty? (2) Do high inflation rates accentuate poverty incidences? (3) Does globalization ameliorate poverty? (4) What is the role of government in all this; does government spending reduce potentially existing poverty?

Rest of the discussion is structured as follow. Section 2 provides a review of the related literature and theory on the predictors of poverty. Section 3 presents an analytical frame work for the study and section 4 provides a discussion on data and estimation procedure.

¹ The Organization of the Islamic Conference (OIC) is the second largest inter-governmental organisation after the United Nations which has membership of 57 states spread over four continents.

² <http://www.sesric.org/publications-detail.php?id=159>

Section 5 puts forward results derived from the research questions and a discussion on these results. Finally, section 6 provides conclusion and policy implications.

2. Literature Review

Heckscher-Ohlin (HO) model shows that a nation will specialize in a product which requires an intensive use of its abundant factors of production. Since developing countries are abundant in low-skilled labour and demand for the abundant labour will increase their wages thereby decreasing the wage inequality. The HO model predicts a lower inequality and poverty with the assumption of identical technologies across countries. However, if this assumption is dropped then trade effects also depend on technology diffusion from developed countries to developing countries that generates a skill premium and increases the demand and wages of high skilled labour. Thus trade makes wage distribution more unequal (see, for example, Berman *et al.*, 1994; Autor *et al.*, 1998).

It is also argued in the literature that a rise in imports allows a developing country to upgrade its technology through the imports of mature and second hand capital goods (see, for example, Barba *et al.*, 2002). Moreover, Perkins and Neumayer (2005) point out that a lagged developing country directly jumps on relatively new technology and enjoys the benefit of last comer. Similarly, increased exports also create incentives for replacement of outdated technologies to have a better access in the markets of developed countries. Yeaple (2005) shows that use of updated technologies for exports of developing countries ensure high profits. A replacement of outdate technologies also increase the demand for high skilled labour, thereby increasing income inequality and poverty.

In the case of Mexico, evidences shows that firms demand more white-collar workers in exporting sectors as compared to non-exporting sectors of production. Thus exports cause an adverse effect on inequality (Hanson and Harrison, 1999). Moreover, Berman and Machine (2004) confirms this positive relationship between exports and inequality for developing countries. These models establish a positive relationship between trade and inequality but do not provide direct link between trade and poverty. It is also pointed out in some survey studies that the relationship between globalization and poverty has been assessed indirectly (Winters *et al.*, 2004; Goldberg and

Povcnick, 2006; Ravallion, 2004). This study establishes a direct relationship between trade and poverty.

The historical negative relationship between globalization and poverty, nevertheless, could not ensure complete eradication of poverty both within and across countries. Harrison *et al.*, provide evidence that people living in poverty are one sixth of the world population. Greenway *et al.*, (2002) point out that more than 100 developing countries embarked on trade liberalization policies during 1980-2000. Thus, there is coincidence between poverty incidence and trade liberalization policies.

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

Economic growth is an important predictor of poverty. It is widely argued in the literature that growth is pro poor (see, for example, 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 Paxson, 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 labour force and high income in the presence of poor agricultural economies, limited human capital and outdated technology.

3. Methodology

In order to build a poverty model this study follows a basic poverty-growth model suggested by Ravallion (1997). In first step, this study estimates the elasticity of poverty with respect to economic growth for OIC and Non-OIC countries in separate regressions. In next step, this study introduces measure for inequality and level of economic development in order to estimate their effects on existing poverty incidence. The incidence of poverty in this study, for data constraints, has been measured as headcount index defined as population living below one dollar a day per capita, a standard measure

used in the literature, and adjusted with PPP. The relationship for growth-poverty elasticity can be written as

$$\log P_{it} = \alpha_{it} + \beta_1 g_{it} + \varepsilon_{it} \dots \dots \dots (1)$$

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

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 control of poverty while estimating the growth elasticity of poverty by stressing the results where 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

$$\log P_{it} = \alpha_{it} + \beta_1 g_{it} + \beta_2 \log(ineq_{it}) + \beta_3 (X_{it}) + \varepsilon_{it} \dots \dots \dots (2)$$

P_{it} = It refers to natural logarithm of head count ratio.

g_{it} = It refers to annual growth rate of GDP between two survey years.

$ineq_{it}$ = It refers to natural logarithm of gini index.

X_{it} = It refers to a vector of control variable for poverty other than economic growth and income distribution.

Apart from initial distribution of income and level of economic development, poverty results from complex economic and social process. For these reasons I extend this model for some other factors. Recent studies suggest that households with better profiles of human capital are less prone to poverty incidence as compared to those with lower acquisition of human capital. This study uses as proxy human capital with average year of schooling.

Finally, main variables related to globalization enter in the model. Conventionally in the literature two measures of globalization are used that 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 found significant effect of openness to trade on inequality and poverty using CGE model.

$$\log P_{it} = \alpha_{it} + \beta_1 g_{it} + \beta_2 \log(\text{ineq}_{it}) + \beta_3 (X_{it}) + \beta_4 (\text{Trade}_{it} / Y) + \beta_5 (\text{FDI}_{it} / Y) + \varepsilon_{it} \dots (3)$$

Trade_{it} = It refers to ratio of exports plus imports to GDP.

FDI_{it} = It refers to ratio of FDI inflow to GD.

4. Data and Estimation Procedure

A 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 nine years, depending on the availability of poverty and inequality data. To make the data more comparable, this study takes data on variables in the form of averages between two survey years. 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. A description of the variables used is given in Table 1 (appendix).

This section briefly explains estimation procedure for poverty model. The use of pooled time-series and cross-section data provide large sample that is expected to yield efficient parameter estimates. Ordinary Least Squares (OLS) has a problem of omitted variable bias. This analysis is based on Two Stage Least Square (2SLS), technique of estimation. This technique addresses the issue of endogeneity that is covariance between independent variables and error term is not equal to zero and also addresses the problem of omitted variables bias. This study also uses alternative econometrics techniques Limited Information Maximum Likelihood (LIML) and Generalized Methods of Moments (GMM).

This study mainly focuses the generalized method of Moments (GMM) estimation technique that has been developed for dynamic panel data analysis. This technique has been 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 as regressors and accounts for unobserved country-specific effects. For GMM estimation sufficient instruments are required. Following the standard convention in literature, the equations are estimated by using lagged first difference as instrument.

5. Results and Discussion

Estimation procedure for this study has been proceeded in three steps. First, parameter estimates have been drawn for OIC countries and then for Non-OIC countries for a comparative analysis. Second, initially study focuses growth elasticity of poverty and then exclusively controls globalization variables. Third, following conventional wisdom of the empirical literature on cross country studies results are obtained using OLS econometric method and subsequently different econometrics techniques have been used to address the possible problem of endogeneity and to assess the robustness of results.

Table 1 provides results for poverty model for OIC countries. All columns of the Table indicate that growth elastic of poverty is negative and significant. Thus economic growth is pro poor in OIC countries. A high degree of income inequality is positively and significantly associated with poverty incidence. A high level of unequal distribution of wealth adversely affects poor as they lack opportunities. For example, a rich family have better access to human and physical capital while poor remains poor due to restricted opportunities. The effects of inflation are disproportional and hurt poor hard. The panel regression results in Table 1 provide robust and positive influence of inflation on poor people. The role of government is insignificant in explaining poverty.

Table 1: Globalization and Poverty in OIC Countries

Independent Variables	Dependent Variable: Poverty					
	2SLS	GMM	2SLS	GMM	2SLS	GMM
Growth	-1.81 (-4.61)*	-1.42 (-3.44)*	-1.56 (-3.8)*	-0.98 (-2.55)*	-1.67 (-3.17)*	-1.42 (-2.98)*
Inequality	1.43 (2.66)*	1.60 (3.75)*	1.24 (2.26)*	1.29 (4.12)*	1.16 (1.23)	1.18 (1.28)
Inflation	0.123 (2.34)*	0.116 (3.12)*	0.109 (2.17)*	0.095 (2.93)*	0.108 (1.75)**	0.088 (1.92)**
Population	-2.00 (-1.44)	-1.49 (-1.29)	-1.45 (-1.05)	-0.68 (-0.73)	-1.85 (-1.33)	-1.68 (-1.55)
Human Capital	-0.01 (-0.27)	-0.009 (-0.002)	0.20 (0.44)	-0.041 (-0.97)	-0.01 (-0.26)	-0.03 (-0.09)
Government Expenditure	-0.029 (-0.21)	0.024 (0.16)	-0.003 (-0.02)	0.070 (0.49)	-0.037 (-0.28)	-0.02 (-0.18)
High Financial Intermediation	2.54 (1.96)**	2.38 (2.15)*	3.29 (2.43)**	3.15 (2.87)*	2.63 (2.08)*	2.74 (2.33)*
Openness to Trade			-0.31 (-1.51)	-0.39 (-2.94)*		
FDI					-0.166 (-0.40)	-0.218 (-0.58)
Wald	47.64 (0.000)	63.82 (0.000)	59.49 (0.000)	160.06 (0.000)	56.06 (0.000)	70.54 (0.000)
Sargan	2.89 (0.41)		4.32 (0.23)		3.50 (.32)	
Basman	2.27 (0.52)		3.41 (0.33)		2.70 (0.40)	
J Stat		2.17 (0.54)		3.24 (0.36)		3.89 (0.27)
R	0.48	0.40	0.55	0.49	0.55	0.53
Country	22	22	22	22	22	22

Note: 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 (***) indicate statistical significance at 1%, 5% and 10% levels respectively

Table 2: Globalization and Poverty in Non-OIC Countries

Independent Variables	Dependent Variable: Poverty					
	2SLS	GMM	2SLS	GMM	2SLS	GMM
Growth	-0.73 (-3.09)*	-0.69 (-3.25)*	0.74 (-3.14)*	-0.69 (-3.29)*	-0.71 (-3.14)*	-0.69 (-3.34)*
Inequality	1.18 (-2.41)*	1.16 (3.16)*	1.13 (-2.26)*	1.13 (3.02)*	1.09 (2.41)	1.12 (3.02)
Inflation	0.01 (0.39)	0.01 (0.73)	-0.015 (-0.49)	-0.011 (-0.54)	-0.017 (-0.61)	-0.014 (-0.80)
Population	1.16 (1.10)	-1.49 (-1.29)	1.15 (1.10)	1.11 (1.29)	1.12 (1.08)	0.998 (1.23)
Human Capital	.064 (1.39)	0.07 (1.72)	0.06 (1.40)	.070 (1.73)	0.065 (1.42)	0.069 (1.74)***
Government Expenditure	0.028 (.24)	0.04 (0.39)	0.044 (0.035)	0.052 (0.41)	0.059 (0.51)	0.051 (0.46)
High Financial Intermediation	-0.58 (-.53)	-0.46 (-0.60)	-0.62 (-0.57)	-0.52 (-0.65)	-0.73 (-0.70)	-0.55 (-0.68)
Openness to Trade			-.01 (-0.30)	-.002 (-0.06)		
FDI					-.42 (-.75)	-0.23 (-.73)
Wald	28.86 (0.000)	47.33 (0.000)	30.39 (0.000)	49 (0.000)	31.23 (0.000)	70.54 (0.000)
Sargan	1.09 (0.77)		1.04 (0.79)		1.69 (.64)	
Basman	0.91 (0.82)		0.86 (0.83)		1.39 (0.71)	
J Stat		0.91 (0.82)		0.96 (0.81)		1.26 (0.73)
R	0.23	0.22	0.25	0.24	0.30	0.27
Country	43	43	43	24	43	43

Note: 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 (***) indicate statistical significance at 1%, 5% and 10% levels respectively

Table 2 exhibits the replication of Table 1 for Non-OIC countries. The results in terms of sign and significance for inequality and growth are similar. However, overall, model does not fit better because rest of the control variables turn out to be insignificant. In order to overcome this problem and to obtain a more reliable comparative picture for poverty for both set of countries this study employs a parsimonious model that includes economic growth and income distribution as key variables along with globalization variables.

Table 3: 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)**	-2.03 (-2.05)**	-2.08 (-2.26)*
Openness to Trade	.056 (2.17)*	.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

Note: 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 (***) indicate statistical significance at 1%, 5% and 10% levels respectively

The panel regression results in Table 3 reports poverty model results for Non-OIC countries. The coefficient on growth is highly significant with correct sign and the value of coefficient fluctuates between -0.92 and 1.01. Similarly, coefficient on inequality is robustly significant with expected signs. The estimated coefficient on inflation is highly significant with positive sign and the size of coefficient is also robust around 0.7.

The estimated coefficient for government's role is -0.2 and robustly significant. It implies that a one standard deviation increase in government spending reduces poverty by 2%. In the case of openness to trade, results indicate that openness is harmful for poor in Non-OIC countries and leave them behind in the globalization process. The same finding has been observed on the role of FDI in Non-OIC countries. Overall, results for Non-OIC countries indicate that globalization accentuate not ameliorate poverty and among domestic factors economic growth is good for poor while both income inequality and inflation hurt poor people and increase their sufferings.

Table 4: Globalization and Poverty 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	.023 (0.92)	.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

Note: 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 (***) indicate statistical significance at 1%, 5% and 10% levels respectively

Finally, Table 4 reports results on globalization and poverty in OIC countries. Economic growth turns out to be robust and strong poverty reducing factor. However, inequalities are positively associated with poverty but not significant. Inflation is significant with positive sign. This finding is similar to Non-OIC countries. The estimated coefficient on government's role is insignificant. The role of openness to trade is positively associated with poverty, although it is not significant. A sharp contrast is noted on the role of FDI as it is inversely and significantly associated with poverty. Thus FDI inflows help in reducing poverty in Islamic countries.

6. Conclusion and Policy Implications

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

In OIC countries major findings are: First, growth elasticity of poverty is robustly significant with negative sign that implies

economic growth is good for poor. Second, the impact of inflation turns out robustly adverse for poor people. Third, the role of government is insignificant in reducing poverty. Hence, it implies that government does not play a significant role in picking the poor out of poverty traps. A disaggregation of government spending can help in understanding what types of government spending are important in the case of OIC countries. Since this study uses government spending as a control variable, it is not analysed in this study. Fourth, globalization in the form of FDI is pro poor.

The findings for economic growth and inflation in Non-OIC countries in terms of signs and level of significance are similar to OIC countries. However, growth elasticity of poverty is lower in this sample of countries. For globalization, results indicate that both openness to trade and FDI are harmful for poor actors of the economy. Thus adverse poverty consequences of globalization are more pronounced in Non-OIC countries. Another contrast has been found for the role of government in reducing poverty, the estimated coefficient is robustly significant with a negative sign. The evidence indicates that one standard deviation increase in government spending reduce poverty by 2%.

This analysis purposes following policy implications: First, OIC countries may focus more on the factors that attract FDI as evidences have clearly shown that FDI inflows ameliorate poverty in this sample of countries. Second, OIC countries may increase government spending to help poor in lines Non-OIC countries where the role of government is significant in reducing poverty. Third, OIC countries need to focus more growth than trade openness as evidences suggest that growth elasticity of poverty is high in this sample of countries and trade open does not help in reducing poverty.

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Appendix:

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 Openness	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.

Table 2: Descriptive Statistics in OIC Countries

Variable	Mean	Std. Dev.	Min	Max
Economic Growth	2.05	3.22	-9	9.19
Income Inequality	38.89	6.33	25.9	56
Human Capital	48.82	21.49	16	94.89
Population	2.13	0.82	-0.8	4.2
Government Spending	21.08	7.58	5.18	36.5
Inflation	16.98	25	1.43	170
GDP Per Capita	2731.48	2018.76	260	10023.17
Poverty	31.84	18.89	1	72.1
High Financial Intermediation	67.95	42.85	11	250.37
Openness to Trade	68.36	39.48	10.8	228.88

Table 3: Descriptive Statistics in Non-OIC Countries

Variable	Mean	Std. Dev.	Min	Max
Economic Growth	2.73	4.03	-10	13.19
Income Inequality	42.07	11	19.4	62.5
Human Capital	65.41	22.45	16	105.83
Population	1.15	1.14	-1	3.3
Government Spending	21.33	9.56	6.29	56
Inflation	25.54	43.37	-1	310
GDP Per Capita	5927.76	4524.11	412	25041.45
Poverty	25.58	19.8	0	74
High Financial Intermediation	63.58	36.43	10	211.33
Openness to Trade	72.73	38.34	13.05	174.4

Table 4: 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 5: 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

Table 6: List of OIC Countries

1	Algeria	12	Malaysia
2	Azerbaijan	13	Mauritania
3	Bangladesh	14	Morocco
4	Cameroon	15	Nigeria
5	Egypt	16	Pakistan
6	Indonesia	17	Philippines
7	Iran	18	Senegal
8	Ivory Coast	19	Tajikistan
9	Jordan	20	Tunisia
10	Kazakistan	21	Turkey
11	Kyrgyz Rep.	22	Uganda

Table 7: List of Non-OIC Countries

1	Argentina	23	Latvia
2	Armenia	24	Lesotho
3	Belarus	25	Lithuania
4	Brazil	26	Madagascar
5	Bulgaria	27	Mali
6	Chile	28	Mexico
7	China	29	Nepal
8	Colombia	30	Panama
9	Costa Rica	31	Paraguay
10	Czech Rep.	32	Peru
11	Dominican Rep	33	Poland
12	Ecuador	34	Romania
13	El Salvador	35	Russia
14	Estonia	36	Slovenia
15	Ethiopia	37	Sri lanka
16	Georgia	38	Thailand
17	Ghana	39	Ukraine
18	Honduras	40	Uruguay
19	Hungary	41	Venezuela
20	India	42	Vietnam
21	Jamaica	43	Zambia
22	Korea Rep.		