

# Growth, Trade Openness and Remittances: Lessons for Developing Countries

Muhammad Tariq Majeed, PhD Student  
University of Glasgow, UK.  
[m.tariq.majeed@gmail.com](mailto:m.tariq.majeed@gmail.com)

## 1. Introduction

● Romer (1989), Alesina et al. (2000), and Bond et al. (2005) argue that openness to trade extend market size that allows countries to better capture economies of scale. A high degree of foreign competition puts the pressure on governments to commit to reform programs (Sachs and Warner, 1995).

● Some theoretical studies, on the other hand, suggest a negative impact of increased trade on economic growth. If some economies specialize in those sectors where comparative disadvantage holds then increased trade can hamper long run economic growth (Grossman and Helpman, 1990, 1991). Similarly, Redding (1999) points out that trade openness might contribute adversely to long-run growth, if an economy specializes in those sectors where dynamic comparative disadvantages hold.

● Trade might contribute negatively in long-run growth, if economies specialize in those sectors where learning by doing and innovation opportunities have largely exhausted (Lucas, 1988). In such type of economies protection in selected sectors can foster long term economic growth.

## 2. Research Questions

(1) Does the relationship between trade and growth depends on income inequality?

(2) What is the impact of international remittances on economic growth?

(3) How does the trade-growth relationship depend on remittances?

## 3. Model

In order to estimate the links between inequality and growth in the data, this study follows a standard empirical growth equation:

$$(y_{it} - y_{it-1}) = \delta y_{it-1} + \lambda op_{it} + \omega' x_{it} + \beta g_{it-1} + v_i + u_t + \varepsilon_{it} \dots 1$$

Where average growth rate of per capita GDP at 1993 prices & PPP adjusted, g is a measure of inequality in the previous period; x represents a set of control variables other than lagged income, op is a measure of openness,  $v_i$  is a country specific unobservable effect, and  $u_t$  is a time specific factor and  $\varepsilon_{it}$  is an i.i.d. error term.

$$(y_{it} - y_{it-1}) = \delta y_{it-1} + \lambda op_{it} + \omega' x_{it} + \beta_1 g_{it-1} + \beta_2 Edu_{it} + \beta_3 Inv_{it} + \beta_4 Inf_{it} + \beta_5 g * op_{it} + \beta_6 HFI_{it} + v_i + u_t + \varepsilon_{it} \dots 2$$

Equation two includes an interactive term of income inequality and trade openness to test the importance and role of initial inequality in shaping the trade-growth relationship.

## 4. Data and Estimation Procedure

The data for the study has been taken from World Development Indicators (2009), International Financial Statistics (2009) and UNDP. The sample includes 65 developing countries over the period 1965-2008. I have used OLS, Fixed Effects, Random Effects and GMM estimator for estimation of growth equations.

### 4.1 Descriptive Statistic of Variables

	Growth	Inequality	Investment	Inflation	Education	Openness
Mean	2.489	41.412	22.640	23.79	60.22	75.53
Median	2.800	40.300	22.000	9.673	61.00	68.15
Maximum	13.193	62.500	45.000	310	104.06	228.88
Minimum	-10.000	23.200	7.0000	0.1383	16.00	13.64
Std. Dev.	3.879	9.7407	6.0058	39.590	23.40	39.20
Observations	261	261	261	261	261	261
Countries	65	65	65	65	65	65

## 5. Results

**Table 1: Parameter Estimates for Economic Growth, Trade and Income Inequality.**

Variables	OLS	FE	RE	RE	GMM
Initial Inequality	0.07 (2.32)**	0.16 (1.99)**	0.14 (3.13)*	0.14 (2.99)	0.76 (6.69)*
Initial Income	-0.83 (-4.27)*	-2.89 (-4.06)*	-2.06 (-5.87)*	-0.15 (-2.99)*	-4.47 (-6.47)*
Investment	0.26 (9.81)*	0.29 (5.91)*	0.270 (5.64)*	0.278 (5.09)*	0.18 (3.42)*
Inflation	-0.035 (-7.89)*	-0.04 (-3.48)*	-0.037 (-5.90)*	-0.039 (-5.49)*	-0.098 (-3.06)*
Education	0.038 (4.72)*	0.049 (2.33)*	0.067 (3.97)*	0.07 (4.13)*	0.103 (2.02)*
Openness	0.016 (0.99)	0.06 (1.56)	0.05 (2.12)*	0.05 (2.16)**	0.38 (6.17)*
Inequality* Openness	-0.001 (-2.18)*	-0.001 (-1.18)	-0.001 (-2.65)*	-0.001 (-2.74)*	-0.01 (-5.39)*
HFI	0.29 (0.94)	-	-	0.26 (0.44)	1.53 (2.52)*
R-squared	0.46	0.67	0.42	0.43	0.69
Observations	330	330	330	330	330
Countries	65	65	65	65	65

**Table 2: Parameter Estimates for Economic Growth, Trade and Remittances**

Variables	Dependent Variable: Economic Growth				
Initial Inequality	0.05 (2.36)*	0.05 (2.37)*	0.04 (2.05)*	0.11 (3.11)*	0.09 (2.92)*
Initial Income	-1.82 (-5.79)*	-1.68 (-5.51)*	-1.55 (-4.87)*	-1.71 (-5.27)*	-1.59 (-5.31)*
Remittances	-0.09 (-2.90)*	-0.098 (-3.90)*	-0.082 (-3.06)*	-0.06 (-2.22)*	-0.06 (-2.38)*
Investment	0.29 (8.24)*	0.25 (7.77)*	0.27 (8.02)*	0.27 (7.98)*	0.26 (8.10)*
Inflation		-0.03 (-5.07)*	-0.04 (-5.77)*	-0.034 (-5.48)*	-0.03 (-4.53)*
Education	0.06 (5.11)*	0.06 (5.37)*	0.06 (5.48)*	0.06 (5.31)*	0.06 (4.49)*
Openness			-0.01 (-1.76)***	0.033 (1.89)***	0.04 (2.46)*
Inequality* Openness				-0.001 (-2.76)*	-0.001 (-3.14)*
Government					-0.09 (-4.16)*
F-Stat	22.47 (0.000)	31.62 (0.000)	27.50 (0.000)	25.24 (0.000)	26.18 (0.000)
R-squared	0.28	0.39	0.40	0.42	0.45
Observations	265	265	265	265	265
Countries	65	65	65	65	65

## 6. Conclusion

● This study finds out positive relationship between trade and growth in both short run as well as long run.

● However, this relationship is substantially influenced by the domestic context in terms of prevalence of high income inequalities. The study identifies high income inequalities in developing countries as the likely reason for a strong negative relationship between openness to trade and economic growth.

● Finally, the study shows that remittances play a negative and significant role in impacting economic growth.