

## Wealth Inequality, Growth and Openness – A Dynamic Panel Analysis

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This study investigates how trade openness and financial openness influence wealth inequality by considering heterogeneity across transitional and developed countries and employing dynamic panel data model with World Inequality Database (WID). In this study, the sample includes 40 countries over the period 1991-2019. To find out the differential effects we form a panel of the sample countries by separating them into low income countries, middle income countries, and upper income countries by following World Bank's classification. The data set spans a range of economies with very different characteristics. The three groups of panel countries allow us to analyse the effect of trade openness, financial openness and growth on wealth inequality, conditioned on the stage of development. In our sample, 15 countries are in the low-income group with GDP per capita below 35 per cent of the world GDP per capita, 15 countries are classified as middle income countries, and 10 countries are upper income developed countries.

Relationship between trade openness and income inequality is examined in many empirical studies by using macroeconomic data (Wood 1995, Borjas et al. 1997, Meschi and Vivarelli 2009, Jaumotte et al. 2013, Bergh and Nilsson 2014, Roser and Cuaresma 2016). In many studies the prediction of the Stolper-Samuelson theorem that trade openness decreases inequality in developing countries and increases inequality in developed countries has been supported (Winters et al. 2004, Jaumotte et al. 2013, Bergh and Nilsson 2014). While a large number of studies investigated how trade openness relates to income inequality, the empirical studies dealing with the relationship between trade openness and wealth inequality is absent in the literature. Even, to find out the effect of openness on income inequality, financial openness is considered by a few numbers of studies. A study by Jaumotte et al. (2008) investigated the link between financial openness and inequality along with the link between trade openness and inequality and found that financial openness results in an increase in income inequality. Also, it is well documented that economic growth alleviates poverty (Dollar and Kray 2004), although inequality may persists in the growth process (Deaton 2013). However, most of the studies in the literature on openness and inequality have focused on income inequality in developed countries. Thus, there is a scope of similar studies by taking wealth inequality as a response variable in transitional and developed countries as a sample in investigating relationship between openness and wealth inequality. Our study is an attempt in this direction by employing dynamic panel econometric model.

The experience of the past more than four decades of trade openness, financial liberalisation and spread of new technology across the globe reveals that economic growth peaked up and absolute poverty declined everywhere, but their impact on income or wealth distribution is not clear in the literature. We re-examine whether the effect of trade openness and financial openness on wealth inequality differs through the growth effect across these developing countries. The basic research question is whether trade openness or financial openness is likely to reduce wealth inequality. We have taken the ratio of sum of exports and imports to GDP as a measure of trade openness and the

ratio of foreign direct investment (FDI) to GDP as a measure of financial openness. The ratio of 10th to 90th percentile of wealth as defined in WID is used as inequality index. The control variables used in this empirical exercise are government spending to GDP ratio, and relative per capita GDP calculated as country's per-capita GDP relative to the world per capita GDP.

We regress inequality index on economic growth, relative per capita GDP, the government spending to GDP ratio, trade openness index, and foreign direct investment to GDP ratio in a dynamic panel setup by taking the full sample as well as separately for the countries classified as low income, middle income and upper income. We have estimated the model by taking country specific fixed effects by applying bias-corrected robust two step Generalised Method of Moments (GMM) as developed in Windmeijer (2005).

The key empirical results from our dynamic panel estimation are the following. Economic growth and relative income have significant effects on inequality for the full sample of countries. For middle income countries, relative per capita GDP improves inequality, while for low income countries growth has stronger effect in reducing inequality and for upper income countries growth increases inequality. Higher government spending reduces inequality for all countries. We find that financial openness promotes growth while increasing inequality. Our empirical results suggest that trade openness has negligible effects on inequality for low income countries, but has significant negative effect on inequality for middle income countries. For upper income developed countries, the effect of openness on wealth inequality is found to be positive. This empirical result can be explained by looking into the conditions in the labour markets by following the Stolper-Samuelson theorem. To some extent, our findings are in line with previous studies indicating that trade liberalisation reduces inequality and poverty in developing countries. By using changes in tariff revenue expressed as a percentage of total revenue as the measure of openness, Gourdon, Maystre, and de Melo (2008) found that trade openness has strong positive effects on inequality in countries where a high proportion of the labour force has little or no education.

The empirical analysis of this study suggests that the countries following structural adjustment programme in favour of capital intensive export sector promoted economic growth but not necessarily reduced wealth inequality. For countries where the export and domestic goods sectors both are labour-intensive, trade openness can promote growth without increasing inequality. The findings of this study have significant policy implications on market openness. The study raises the question whether financial openness is an effective avenue for a low income mineral rich country with low-skilled labour force to reduce inequality through growth effect. The findings also have implications on the roles of education, skills and technological progress in promoting growth and reducing inequality in low income countries.