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Governance over economics: Making globalisation good for the poor

By Dawood MAMOON [†]

Abstract. The paper employs different definitions of inequality/ equality and investigates how globalisation is associated with these welfare measures. The nations' proximity to post modernism development culture through international cooperation may enable countries to strengthen their social, economic, legal and political institutions. We find that adopting well developed institutional governance practices as matter of greater integration with modern 21st century governance culture creates thriving middle classes in developing countries enabling a downward pressure on inequality of incomes and wages. In contrast, integration of goods and services with world markets puts upward pressure on the wages of skilled in contrast with the unskilled causing industrial wage inequalities in both developed and developing countries. The paper recommends in line with the recent literature on pre mature de industrialisation phenomenon that countries may protect their local industries to provide jobs to locals and thus enable the gains of trade to be more equally distributed among the populations. This can be done by choosing the second best option towards global integration and that is to promote regionalism within geographical clusters.
Keywords. Globalisation, Governance, Middle class, Inequality.
JEL. F60, G30, G38.

> "No one should be worried about greater inequality so long as everybody's income is increasing. It is only with incomes of those who are poor that economists need to be concerned*: This is an argument not infrequently heard. As some one who has worked on the issues of inequality for more than twenty years, I had had a chance to see it expressed quite a few times" (Milanovic, 2003: 2).*

1. Introduction

Today it has become cliché to say that the world is a global village. One may ask, what are the social and economic characteristics of this global village when around the globe, information is just a click away for individuals or is increasingly available to them via their local, regional or global media outlets? As one looks through the eyes of the media, it seems that the world is ever dividing into conflicting political and social ideologies as different interest groups strive for different realities. Nevertheless here one can safely say that economics has been resolute to bring a single mutually acceptable point of reference to different stakeholders; connecting the concepts of fair globalisation with economic empowerment, freedom of speech, human rights and preservation of environment. Unlike in business ethics, in economics, not all is about profit making, but about maintaining efficiency while harnessing social harmony.

However, what is *good* economics is still a question to be given a wholesome answer. Economic freedom has leaded the world closer in many ways. One way is that global inequalities have become evident more than ever. The world is more

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dividing not only on basis of mere ideologies but more importantly there is unequal distribution of economic gains. Developed countries have gained more in recent decades than developing countries. But they also trade among each other freely and enjoy precedence of good institutions with populations who are on average more educated than the populations in developing countries. Developing countries on the other hand suffer from underdeveloped institutions and trade and commerce is still in many cases (i.e., Sub Saharan Africa) an underdeveloped concept and more so because of the presence of many internal conflicts based on ethnicity, language or religion. On average, developing countries are hostile among each other when compared to developed countries and that can be the legacy of cold war which ended in 1991 with dismantling of Union of Soviet Socialist Republics (USSR).[1]

Irrespective of negative fallout of cold war, and with the end of it in 1990s, a new era started which is now better known as the post Washington consensus period, which saw an increased call of globalisation by asking developing countries to decrease their protection in order to be an integral part of a growing global demand and supply chains. More trade and economic cooperation among developed and developing countries had been seen as one of the best ways through which incomes in developing countries would converge to the levels of their developed counterparts. The focus of recipes of development ever since had been on income generation. The question of distribution of incomes was largely never asked only until recently when there is a significant rise in global income inequality (i.e. see Milanovic, 2006; and Wade, 2004; for a detailed discussion on global income inequality). Rise in global inequalities is seen to be linked with prevalent inequalities among different strata of population within countries which stifle the potential of a country to grow or converge. (A discussion of intra-country inequality has already been carried out in chapter 3, and which is the focus of the larger thesis and this chapter also).

In most of the last 20 years, the criterion of good economic policy and the barometer of good governance focused itself on their effects on per capita income growth in developing countries. Economic efficiency models were transferred to many developing countries who had become adherents to the Washington consensus. Structural Adjustment Plan (SAP) is the most well known one of the recommended programs of economic development, which has been implemented in many developing countries with the help of Bretton Woods's institutions like the World Bank and the International Monetary Fund (IMF).

As per the good advice of Bretton Woods's institutions and in an effort to achieve economic efficiency, most developing countries dismantled their barriers to international trade in goods and services during the last 20 years. As a result, the size of world trade in goods and services dramatically increased. Success stories also emerged as an outcome of contemporary globalisation. China and India, witnessed unprecedented rise in their growth rates as well as significant poverty alleviation. However, for most countries, globalisation came with mixed experiences. Despite integration to the world economy, most countries of Latin America, Africa (sub-Saharan) and some in Asia failed to accomplish decent growth rates. In many countries in the South, poverty increased. Even if some grew at a decent rate, they failed to put a downward pressure on the increasing trends in poverty levels. For example, Pakistan, which recently witnessed a growth rate of eight per cent, has also witnessed increase in poverty levels from 30 per cent to 35 per cent as of 2005. Even in China and India, the falling poverty trends are not sustainable, as there is evidence of rapidly rising inequalities.

Irrespective of rising trends of poverty in some developing countries and rising within country inequalities in some, a more important fact is that many developing

[1] High military expenditures as a proportion to GDP in many developing countries indicates towards prevalent internal or external conflict, while high military expenditures are born at the cost of public exchequer by crowding out much needed development expenditures.

countries encountered conditions of severe economic collapse amid Structural Adjustment Plans. These include mostly the countries in Latin America like Argentina who embraced free market ideology far more intensively than any other country in the developing world. Surprisingly, Argentina had historically been far more developed per capita wise than countries like India, Pakistan, Bangladesh, Cambodia, or regions like Sub Saharan Africa or Mena countries, but instead of converging to the developed country incomes their path to development has seriously been hampered by significant economic collapse post 1980s economic reforms and they are stagnating ever since, still struggling with one macro-economic crises after another.

Where did they go wrong may tell a whole lot about where do most developing countries have gone wrong? It is a story of good policies but bad timing. The policies fail because larger determinants of development are not taken into account. A focus on income generation without looking at prevalent institutions may lead to economic disaster. Mamoon & Murshed (2017) have shown that institutions are as important as good economic policies (i.e. trade policy). Though the focus in chapter 2 was on income and its determinants, the debate needs to be extended to income distribution which can then capture such unequal outcomes which prevent some segments of the societies from gaining goods of economic gains (rising per capita income). In developing countries, other than being poor of the poorest, many are relatively poorer than the others because they are economically and socially excluded because of their ethnic origin, religion or geographical region. It is observed that when these developing countries generate more incomes through policies like integration, the incomes are further distributed un-equally.

This is the same phenomenon as global inequality; where some countries (regions) of the world have gained less than the other countries because of their geographical location, underdeveloped institutions or mere lack of economic capability (because of the presence of deep rooted informal markets). As mentioned above, with the exception of China and India, more developing countries have failed to alleviate poverty even though they have witnessed some short to medium term spurts in per capita income growth rates. The poor remained poor but rich got richer. Has income inequality prevented growth to trickle down to the poor?

In this retrospect, the problem of poverty cannot be separated from the way in which growth is achieved. Other than economic growth, what is the point of reference to economic development, especially when it is about ensuring equity?

Under global processes of production, where trading societies learn and coordinate among each other to find common ground for carrying out contemporary social norms that fit international standards and where business protects labour rights, promotes gender sensitivity, brings efficient social welfare systems while following best commerce practices, there are not one but a myriad combination of common institutions, which simultaneously play a role in facilitating each country's smooth exposure to global markets and international competition. Thus, it is important to look at the different institutional structures countries may have while working along with the surge of globalisation.

One of the most commonly quoted institutional factors for determining any country's intellectual, social, economic and cultural progress is the notion of *democracy*. Since all developed nations are well-practiced democracies, this notion generally forms the popular opinion that democracy is the first step to any country's progress. However to change the kaleidoscope a bit, one may also argue that it is their very own economic progress that has been able to sustain democracy in the West. It is a well-developed combination of social, legal, political and economic institutions, which has worked in an intricate net of coordination to sustain western economic progress, thus enabling the region to maintain its scientific niche. Where did the West really start it all? There are different answers for different times. To go down a timeline, say a hundred years, western economic

progress links to colonialism, which was an act of resource exploitation and dictatorial precedence in the garb of monarchies rather than following any course of democratic values. Today western economic models work under the prime of information accuracy and thus keep their edge over other regions based on their enhanced level of technology.

In developing countries, there is evidence of rapid economic progress leading to democracy or moving towards democratically aligned economic models of governance. China, South Korea and Taiwan have been growing under one-party dictatorships, the last two eventually turning completely to democracy. Today China is for the first time seriously emphasising property rights, to protect private ownership, within its own borders. Among the transition economies, Kazakhstan under Nazarbaev achieved rapid economic growth. Here one may assume that these countries performed well under market-friendly policies and thus successfully achieved robust economic performance. However, the analogy is not that simple and mere good economics is not enough to sustain economic progress.

In 2003, Pakistan had become one of the fastest growing economies in South Asia, even surpassing India, under General Musharraf, and finally moving towards democracy while for the first time in Pakistan's politically chequered history, nearly all political parties accepted the electoral verdict as an outcome of free and fair elections. However, the increase in political instability in the last years of Musharraf rule has already stifled the growth rates in the country and currently an economic and political crisis is looming asking whether the good policies of the dictators are sustainable or whether autocratic rules corrupt the prevalent institutions, irrespective of a possibility of short term economic good will, such that the period, which represents transition to democracy , would be mired with political upheavals which would eventually cause economic collapse. Sometimes, democratic transitions are risky and produce bad economic outcomes. (See Rodrik & Wacziarg, 2005; for a detailed discussion on this).

Thus market-friendly policies may not work in the absence of good institutions. In Russia, the lack of a supportive legal, regulatory and political apparatus has been responsible for the failure of the economy and its reform process. In Latin America, little attention paid to the mechanisms of social insurance and to the safety nets has resulted in dissatisfaction with market-oriented reforms. India, in comparison to the countries mentioned above, is not only the largest democracy in the world in terms of population, but the country is also one of the fastest growing economies in the world with a precedence of sound legal institutions. Due to robust legal institutions, the country is politically less volatile when compared to its neighbour Pakistan, even though both countries have seen an emergence of multiparty governance setups. However, because they are developing countries, much like those in Latin America, social institutions are underdeveloped, which means that a well-meaning democracy may not exist in India until economic progress reaches out to the masses and benefits the impoverished peripheries. It may also be the case that some institutions may be more important than others may. For example, even pro-market dictators can secure property rights as a matter of policy choice (Glaeser, 2004a). Similarly, stronger social institutions lead to improved government functioning: 'Education is needed for courts to operate and to empower citizens to engage with government institutions.' (Glaeser, 2004a)

Why market friendly policies may fail to work under developing countries? To achieve higher growth rates, economic freedom is a pre-requisite condition. Usually, economic freedom is determined by good economic policies, which as discussed above can be very well a prerogative of good leadership rather than good institutions, especially in case of developing countries. The fundamentals of good economic policies lie in promotion of private sector by implementing rules like private property rights and decreasing the burden of public exchequer. However, in developing countries the private gains may fail to follow equal distribution because of the presence of deep rooted social, ethnic and regional inequalities.

Only a democratic structure or prevalence of sound social, political and legal institutions may ensure or promote equal opportunities to private gains in unequal societies.

Thus reliance of economic growth by giving more weight to short term growth strategies is to promote a half baked development recipe which is bound to fail. Most governments have focussed on macro-economic gains. That is why policy advice post Washington Consensus on structural adjustment had a blind following by most developing countries, without asking whether good macro-economics is a sufficient condition for good development. Globalisation accused if increasing poverty as well as inequality in many countries, due to numerous cases of growth collapse. While at the same time, many suggest that the developing countries have not done enough to avoid disaster. Under the dynamic Hecksher-Ohlin model discussed in chapter 3, it may be that developing countries can not do enough under the biased competition environment prevailing in international markets due to certain protectionary policies of developed nations which is much evident by the political economy of the WTO (World Trade Organisation. (Stiglitz, 2006) Good economic policy advice has to accommodate indigenous limitation of each country. Currently international initiatives like WTO are becoming a symbol of protection than promoter of equal competition opportunities and the bias is seen in favour of the developed countries partly because the negative fall out of globalisation has been felt even in developed countries as most rich and middle-income countries are experiencing rising economic inequality generated by skill-biased technological change, international trade and other factors related to globalisation (Smeeding, 2002).

For India and China, it is equal distribution of economic gains which has become more relevant in recent times, while in Latin American countries like Argentina and Brazil, growth and distribution go hand in hand. So what are the key characteristics which matter equally good to income generation and re-distribution of income?

In developing countries, income inequalities can be affected in two ways. (1) Adopt policies which have a redistributive outcome by shifting gains from rich to the poor. (2) Or raise the share of income in sectors which mostly employ the poorer segments of the society. Both institutions and trade may have a strong redistributive power. For example, democracies, as against, oligarchic societies redistribute resources equally to all sections of the society. In a real democratic set-up voice of farmers and industry workers are weighed equally and policies are structured to raise the share of income for both manufacturing and farm industry. Outcomes like increased accountability, preservation of property rights and control for corruption may all have redistributive power. Trade can also lead to redistribution if developing countries are able to trade more in agriculture produce in international markets thus raising the returns to agriculture sector. However, if developing countries fail to compete in international markets, governments may adopt regulation policies which can protect their labour. The scope of protection of agriculture sector in developing countries by means of trade policy measures is limited. Nevertheless. However, more exports in agriculture is necessary for economic empowerment of the rural population whose livelihoods are directly connected with the performance of agriculture sector. Protection of agriculture sector is very common in developed countries, while it has been negatively affecting the farmers in developing countries. To remedy this problem, developing countries can increase trade among each in labor intensive agriculture produce causing rise in income share of agriculture in economic growth. Government measures such as subsidies can also be utilised to improve on farm activities. Subsidies on pesticides and alike, can improve the produce of agriculture sector significantly improving the livelihoods in rural areas So it is a combination of good institutions and trade, which eventually leads to inequality mitigation and redistribution.

To analyse what makes for good economics where not only economic growth is achieved but most importantly economic dividends are also distributed equally among different strata of the population, this paper conducts a cross-sectional analysis of developed and developing countries as a follow-up of Mamoon & Murshed (2017). In this paper also, different institutional variables, along with different proxies of openness\trade policy are employed while focussing on their impact on inequality.

2. Inequality as important as growth

After the surge of colonialism, the world became a land of unequal opportunities. The last century witnessed global inequalities partly lead to regional inequalities; and with the return of contemporary globalisation, post-modernism brought inequality to the doorstep of each country. Where rural and urban divides have been ever increasing so that it recently became of policy importance to consider inequality as a significant factor that may stifle growth promoting strategies and even reverse what good growth may bring to society. Income inequality has become as important as issue as per capita income growth because over the last twenty years it is observed that the distributions in poor, middle income and rich countries have grown more unequal.

To account for inequality trends recently observed in developing countries, one may start with observations of high levels of inequalities in most countries of Latin America. For example, due in part to the recession in the 1980s, which hit the poor harder than the rich, inequality in most Latin American countries, except three (Colombia, Uruguay and Costa Rica), witnessed sharp rises. Gini coefficients in Latin America ranged between 0.45 and 0.60 since the early 1950s, which are among the highest in the world. The severe polarisation of income has been due to highly unequal distribution of land and educational opportunities (Cornia *et al.* 2004). These prevalent inequalities are still stifling the economic potential of the region while institutions remain underdeveloped.

In China, income concentration has been rising rapidly since 1985 so that the Gini coefficient reached 0.43 by 1995 and remained more or less at the same level until recently. The widening of the urban-rural divide from faster expansion of urban activities amid China's active participation in international markets is responsible for the rise in income disparity. Among South-East Asian economies, the Gini coefficient for Indonesia increased to 0.38 by 1997 from 0.32 in 1987-90. In South Asia, inequality also followed a U-shape pattern, although less pronounced. In India, the experience of the 1990s points to a moderate rise in both urban and rural inequality and a larger rise in overall inequality due to a widening gap between urban and rural areas. In the 1990s, urban inequality rose to 0.36. The Gini coefficient in Pakistan rose from 0.39 in the 1960s to 0.41 in the 1990s. Much like India, the sharp rise in rural inequalities resulted in the rise in overall inequality. Inequality in sub-Saharan Africa has been among the highest in the world. There is some evidence of a falling urban-rural gap but there is rising intra-urban and at times intra-rural inequalities. For example in Tanzania, the Gini coefficient for rural inequality rose from 0.53 in the early 1980s to 0.76 in the early 1990s. Similarly for Kenya, the rural inequalities increased by nine points from 1980 to 1992 and stands at 0.49 (Cornia *et al.* 2004).

Rise in inequality is not only a developing country phenomemon: 'Canada excepted, all the countries of English settlement, led by the United States, have experienced big increases in income inequality over the past 20-30 years. In the United States, the top 1% of the families enjoyed a growth of after-tax income of almost 160 % over 1979-97, while families in the middle of the distribution had a 10% increase. Within the top 1% most of the gains have been concentrated in the top 0.1%. This is not a matter of reward to education. Inequality has expanded hugely among the college-educated. Whatever the causes, the fact is that the United States is now back to the same level of inequality of income as in the decades before1929, the era of the "robber barons" and the Great Gatsby. Income

distribution in the United Kingdom grew more unequal more quikly than even in the United States during the 1980s, and is now the most unequal of the big European countries' (Wade, 2004; 12).

3. Different types of institutions, integration, inequality and the endogeneity factors

There are different measures of inequality which may determine within country inequality and they have been widely discussed in recent literature. (See for example Wade, 2004; Milanovic, 2006). Most studies concentrate on the positive or negative effects of globalisation or integration on income distribution while employing diverse proxies of income distribution. Not many studies concentrate on the effects of institutions on inequality. There is a need to simultaneously model the effects of institutions and integration on income distribution. However, before any such analysis is carried out potential endogenieties between integration and institutions needs to be addressed, so that a statistically valid model is estimated. This section captures the inter connection between institutions, integration and inequality.

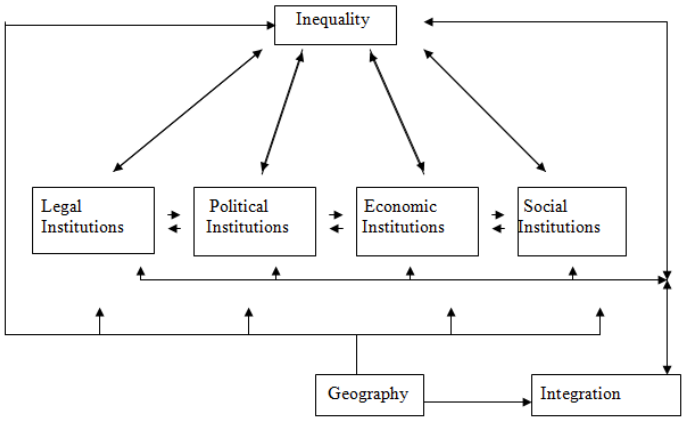

Figure 1. *Endogeneity between institutions, integration and inequality*

There are issues of two-way causality between inequality and institutions (see Keefer & Knack 2002; Chong & Gradstein 2004), and between different types of institutions as shown by Figure 1 and discussed below. Many recent studies (see Chen & Ravallion 2003; Cockburn 2001; Friedman 2000; Lofgren 1999), show that international trade relates significantly to inequality while institutions and integration are also endogenous. (Rodrik *et al.,* 2004) Any empirical analysis that takes institutions as a purely exogenous factor while analysing its effects on inequality may lead to mis-specification bias. Here one can conveniently assume that geography is a purely endogenous concept which may determine the distribution of income as effectively as it explains differences in per capita income growth rates.

Easterly (2001) and Keefer & Knack (2002) suggest that social polarisation negatively affects institutional quality. For example, rising inequalities may lead to political instability and even civil unrest. Chong & Gradstein (2004) find strong evidence of bidirectional causality between institutions and inequality. Inequality may affect the quality of institutions. For example high inequality will prevent the poor from investing in education or the ruling class may not invest in education so that the poor majority will not be politically active, thus undermining the development of necessary social and political institutions: 'High inequality can impede the economic performance of a country by obstructing the formation of governance structures that enhance productivity. Where this is the case, inequality is likely to be the result of a distribution of property rights that is inefficient as

well as inequitable. If so, there may be a plausible set of alternative distributions that are both more equitable and more efficient; i.e., which foster competition on the basis of a more level playing field.' (Roy & Weeks 2003: 3)

Brink (2008) also emphasised on addressing inequalities in a society to enable the institutions work better: ' Even the best institutions require (some more than others, depending not so much on their quality as on their design) a personal investment on the part of the claimant, sufficient to overcome the resistance of the respondent. Some basic capability on the part of the claimant is a precondition for the effective exercise of rights. Secondly, institutions are the result of political struggles that also require the investment of substantial personal resources, sufficient to overcome the resistance of those who can anticipate their consequences and would be adversely affected by them. Both the development and the operation of institutions respond to the core inequalities present in society. Until those inequalities are addressed, it is unlikely that a full democratic rule of law will take hold' (p23).

The countries with poor institutions are also likely to have high inequality. For example in Russia in the 1990s, a small group of entrepreneurs were successful in exploiting their political clout to promote their own interests, subverting the emergence of institutions committed to the protection of smaller shareholders and businesses. According to the Corruption Perceptions Index published by Transparency International, among the transition economies, Estonia is 28 and Hungary 31; whereas Russia is 79 and Ukraine 83. In these transition economies, poor performance of public institutions, absence of effective implementation on property rights, and presence of business regulation which favour of influential parties, absence of trust in the courts to resolve business disputes, tax evasion and higher levels of rent seeking have strong correlation with high inequality in the society. (Hellman & Kaufman, 2002) Similarly, in several Latin American countries, the ruling elites, the military and large businesses impeded smaller business interests giving rise to significant informal sector. Chong & Gradstein (2004), show that when the political bias in favour of the rich is large, income inequality and poor institutional quality may reinforce each other, indicating endogeneity between the two.

There may also be inter-linkages between various institutions. For example, nearly all developed countries are democracies and most developing countries are one-party systems, dictatorships or military regimes. The countries with lower levels of economic and human development tend to have lower levels of education, limited political rights, weak or non-existent political competition, lower level of economic freedom and openness, ethno-linguistic factionalism, lack of judicial independence and a free press, and high levels of permissiveness towards corruption.

Table 1. *Different Kinds of Institutions*

Institutions	What they Capture
Political Institutions:	Political stability, democracy, the separation of powers
Legal Institutions:	Laws and their enforcements
Economic Institutions:	Promotion of private wealth
Social Institutions:	Human motivations and social structure.

Before discussing in detail the interdependence of different institutions, it is important first to differentiate between them. There are four types of institutions identified: legal, political, economic and social (Williamson, 1999). A hierarchy of institutions are presented in Table 1. Social institutions capture socioeconomic conditions such as health, education and nutrition and can be analogous to human capital which has basis in its historic evolution. For example the reference of Glaeser *et al.* (2004a) towards the endogeniety between AJR settler mortality with settlers' human capital is one indication of long run transformation of social institution in developing countries. Legal institutions capture the transparency and fairness of the legal system, preservation of political rights of the citizens, state

legitimacy, freedom of speech, independence of judiciary, enforceability of contracts, police effectiveness, access to independent and impartial courts, confidence in judicial system in insuring property rights, prevention of improper practices in public sphere, control of corruption and so on. Political institutions represent political stability, democracy, autocracy or dictatorship or rules which promote political process, civil liberties and political rights. Economic institutions comprise state effectiveness at collecting taxes or other forms of government revenue. As well as, the ability to create, deliver and maintain vital national infrastructure, the ability to respond effectively to domestic economic problems; independence of government economic policies from pressure of special interest groups, trade and foreign exchange; competition policy, privatisation, banking reform and interest rate liberalisation, securities and non-bank financial institutions.

The legal, political, economic and social institutions are strong in developed countries while developing countries have mixed experiences. For example, the US and most advanced societies vigorously protect intellectual property rights, but this is not the case in many developing countries. (Rodrik, 1999) Engerman & Sokoloff (2002) link the development of public education, as a social institution, to democratisation as a political process in the US. They argue that while starting at a similar level of development in the 18th century, the US led the way in setting up a system of common schools and promoting literacy, whereas countries in South America and the Caribbean delayed implementing these processes. Gupta *et al.* (1998) find that if government officials use their authority for private gain and indulge in corruption, it affects the effectiveness of social spending and the formation of human capital by perpetuating an unequal distribution of asset ownership and unequal access to education. Corruption also affects government effectiveness as it weakens tax administration and can lead to tax evasion and improper tax exemptions. Higher corruption is associated with increased inequalities in education, land distribution and health spending. Wealthy urban elites can lobby the government for biased social expenditure towards higher education and tertiary health, which tends to benefit high-income groups (Gupta *et al.* 1998).

Furthermore, trade opening in societies with weak institutions may lead to worse economic policies (Segura-Cayuela, 2005). For example, those transition economies that implemented trade reforms slowly and where government institutions were able to perform well with time, smaller increases in inequality and smaller output decline occurred. However, the transition economies with weak government structures performed as 'passive globalisers' and the trade-to-GDP ratios in them were quite high, partly accounting for capital flight, while poverty and inequality increased (Yudaeva, 2002).

Inequalities may lead to political upheavals against globalisation and integration. Some developing countries may trade with developed countries because of common polity, whereas some countries cannot effectively trade because there lays ideological differences between governance structures. For example, despite Iran being an Oil rich country, do not trade with United States or Israel on ideological grounds while it may establish stronger trade relations with the competitors of United States e.g. Russia and Venezuela. Conflict and political instability also cause countries to trade less effectively with rest of the world causing negative externalities in terms of increased costs of trade. For-example Pakistan and India, despite being neighbours, have a history of conflict, and they do not trade with each other more, despite high costs incurred in terms of competitions and economic rivalry. India is traditionally a democracy, while Pakistan has scored usually low in democracy. Thus there is a strong correlation between inequality and trade through institutions.

Table 2. *Summary Statistics*

Variables	Code	Source	Obs	Std. Dev
Dependent				
GINI Coefficient in Percentage Points as calculated by WIDER, 1995	Gini	UNU/WIDER World Income Inequality Database (WIID) [Retrieved from].	117	(35.00)
UTIP-UNIDO Wage Inequality THEIL Measure, 1999	Theil99	University of Texas Inequality Project (UTIP) [Retrieved from].	155	(0.099)
Lowest income decile, 1995	Low10	UNU/WIDER World Income Inequality Database (WIID) [Retrieved from].	117	(1.05)
Fifth income percentile/ First income percentile, 1995	High20/ Low20	UNU/WIDER World Income Inequality Database (WIID) [Retrieved from].	117	(2.28)
Third income percentile, 1995	Thrd20	UNU/WIDER World Income Inequality Database (WIID) [Retrieved from].	117	(2.22)
Highest income decile, 1995	High10	UNU/WIDER World Income Inequality Database (WIID) [Retrieved from].	117	(7.50)
Endogenous Independent				
Openness Variables				
(Exports +Imports)/GDP at current dollar prices, 1985	Lcopen	World Development Indicators	170	(0.589)
Import Penetration: overall, 1985	Impnov85	Pritchett (1996)	96	(21.08)
Import Penetration: overall, 1982	Impnov82	Pritchett (1996)	95	(23.85)
TARS trade penetration,: overall, 1985	Tars85	Pritchett (1996)	96	(36.91)
TARS trade penetration,: overall, 1982	Tars82	Pritchett (1996)	93	(83.10)
Trade Policy Variables				
Import duties as % imports,1985	Tariffs	World Development Indicators	99	(8.903)
Tariffs on international inputs and capital goods, 1985	Owti	Sachs & Warner (1995)	98	(0.165
Trade taxes/ trade, 1982	Txtrdg	Pritchett (1996)	54	(0.031)
Weighted average of total import charges, 1985	'otimpov85	Pritchett (1996) (Available for developing countries only)	76	(21.30)
Non trade barriers frequency on intermediate inputs, 1985	Owqi	Sachs & Warner (1995)	96	(0.24)
Non-tariff barriers Coverage: overall, 1987	Nontarr87	Pritchett (1996) (Available for developing countries only)	76	(36.305)
Sachs and Warner's composite openness index, 1980	Open80s	Edwards (1998)	61	(0.446)
Institutions				
Political				
Voice and Accountability, 1999 Range: 2.5 to -2.5	Va	Kaufmann, Kraay & Mastruzzi (2003)	170	(0.952)
Political stability, 1999 Range: 2.5 to -2.5	Ps	Kaufmann, Kraay & Mastruzzi (2003)	156	(0.954)
Democracy, 2000 Range = 0-10 (0 = low; 10 = high), Democracy Score: general openness of political institutions. The 11-point Democracy scale is constructed additively	Demo	Polity IV dataset)	123	(4.33)
Autocracy Range = 0 to -10 (0 = low; -10 = high), general closeness of political institutions. The 11-point autocracy scale is constructed additively	Auto	Polity IV dataset)	123	(3.69)
Legal				
Rule of Law, 1999 Range: 2.5 to -2.5	Rl	Kaufmann, Kraay & Mastruzzi (2003)	166	(0.937)
Control for Corruption, 1999 Range: 2.5 to -2.5	Ctc	Kaufmann, Kraay & Mastruzzi (2003)	159	(0.910)
Economic				
Government effectiveness, 1999 Range: 2.5 to -2.5	Ge	Kaufmann, Kraay & Mastruzzi (2003)	157	(0.893)
Regulatory quality, 1999 Range: 2.5 to -2.5	Rq	Kaufmann, Kraay & Mastruzzi (2003)	166	(0.892)
Social				
Average years of Schooling, 1999	Sch99	Baro & Lee (2001)	109	(2.914)
Instruments				
Natural logarithm of predicted trade shares computed from a bilateral trade equation with 'pure geography' variables,	Lfrkrom	Frankel & Romer (1999)	163	(16.75)
Fraction of the population speaking English	Engfrac	Hall & Jones (1999)	182	(0.236)
Fraction of the population speaking one of the major languages of Western Europe: French, German, Portugese or Spanish	Eurfrac	Hall & Jones (1999)	185	(0.380)
Drop out rate, 1990s	Drop90	Barro & Lee (1999)	125	(0.802)
Number of school days	Schday	Barro &d Lee (1999)	139	(23.43)
Distance from the equator of capital city measured as abs (Latitude)/90	Disteq	Acemoglu, Johnson & Robinson (AJR) (2001)	208	(16.65)

4. Data and methodology

The six governance indicators utilised in Mamoon & Murshed (2017) are the same employed here for the analysis. They are categorised as rule of law (*Rl*), political stability (*Ps*), regulatory quality (*Rq*), government effectiveness (*Ge*), voice and accountability (*Va*) and control of corruption (*Ctc*). This chapter divides them into four classifications based on their definitions considering *Rl*, and *Ctc* as legal institutions. *Ge* and *Rq* are economic institutions whereas Va and *Ps* is a proxy for Political institutions. This analysis adds two more political indicators namely, democracy (*Demo*) and autocracy (*Auto*) to the analysis from Polity dataset whereas, both range from 0 to 10. The analysis also includes average schooling years in the total population at 25 (*Sch*)) in order to capture the quality of social institutions.

As mentioned above, international trade is also a significant determinant of inequalities in countries across the globe; integration enters the regression model to enhance its explanatory power, while we can also test whether globalisation is a cause to rising inequalities. This paper incorporates not one but eight various concepts of integration based on outcome as well as incidence based measures of trade barriers. The ratio of nominal imports plus exports to GDP (*lcopen*) is the conventional openness indicator. Two other measures of openness are overall trade penetration (*tarshov*) derived from the World Bank's TARS system and overall import penetration (*Impnov*) respectively. Import tariffs as percentage of imports (*Tariffs*), tariffs on intermediate inputs and capital goods (*Owti*), trade taxes as a ratio of overall trade (*Txtrg*) and total import charges (*Totimpov*) can all be considered as good proxies for trade restrictiveness and have also been employed in this study. Other measures that capture restrictions in overall trade are non-tariff barriers. Overall non-tariff coverage (*Ntarfov*) and non-tariff barriers on intermediate inputs and capital goods (*Owqi*) are used here as two proxies for non-tariff barriers. Sachs & Warner's (1995) openness index (O*pen80*) is utilised as a composite measure of trade policy.

First, comparable and consistent measures of income inequality, whether on a household level or per head basis are difficult, almost implausible and generally fail to provide adequate or accurate longitudinal and cross-country coverage. For example, between-country world PPP income inequality using per capita GDPs, equal country weights (China=Uganda), through a GINI estimate has been found to have increased since 1980s. However between country world PPP income inequality with countries weighted by population has been found to be constant or falling since around 1980s (see Wade, 2004). For this, recent literature on income inequality prefers global income inequality indicator over country specific ones (see Milanovic, 2006). However we are more interested in country specific effects of inequality to differentiate between developed and developing countries. To capture income inequality this chapter employs GINI income inequality index (*Gini*) for both developed and developing countries from UNU/WIDER World Income Inequality Database (WIID).

However, there are many issues revolving around the calculation of GINI index which have also been presented in some detail in WIDER User Guide (2008): 'There are no easy ways to use income/consumption distribution data. Unlike national accounts data which are in principle comparable across countries, there is no agreed basis of definition for the construction of distribution data. Sources and methods might vary, especially across but within countries. This may be the case even if the data comes from the same source. In their influential article on the use of secondary data in studies on income distribution, Atkinnson & Brandolini (2001) discuss quality and consistency in income distribution data both within and across countries. They show how both levels and trends in distributional data can be affected by data choices. In light of this, it is not easy task to construct a secondary database with distribution data. Regardless of different views, the collection of inequality observations is restricted to what in practice is available. In most industrialised countries inequality and poverty are assessed with reference to

income, not consumption (Deaton & Zaid, 2002). This tradition is followed in much of Latin America. By contrast, most Asian and African surveys have always collected detailed consumption data. The fact that distribution data can be based on both income and consumption is the first step stone in the construction of comparable statistics. In WIID (reference to WIDER data base) we strived to collect observations with reference to both income and consumption, whenever possible' (p.4).

These are introductory lines of the user manual which have quite nicely summarised the problem faced with the collection of comparable data to construct within country GINI index across a set of countries. To address this critique of data problem faced with the measures of income distribution, this chapter has also employed other concepts of inequality. UTIP-UNIDO Theil measure (*Theil*) calculated by the University of Texas Inequality Project (UTIP) captures wage inequality between skilled and unskilled labour in manufacturing pay sector and available for both developed and developing countries. Several factors motivate this decision. On the data methodological front manufacturing pay, based on UNIDO Industrial Statistics provides indicators of inequality that are more stable, more reliable and more comparable across countries because UNIDO measures are based on a two or three digit code of International Standard Industrial Classification (ISIC), a single systematic accounting framework. Furthermore, for nearly 40 years most countries around the world have measured manufacturing pay with reasonable accuracy as a matter of official routine. (Galbraith & Kum 2002). However, literature also relates rise in wage inequality with the behaviour of relative factor supplies (see Acemoglu, 2003).

The same study, nevertheless, indicates that changes in relative demand may also cause changes in relative sill premia, through at least four distinct effects:

1. Own technology development by different countries with different degrees of skill bias.
2. Lack of technical capabilities in some countries to adapt to most recent skilled-bias technologies.
3. Efficiency in adoption of more skilled biased technologies from a global technology frontier.
4. Different trading regimes with different levels of trade opening affecting the demand of skills differentially.

Different degrees of skill bias, or a countries potential to adapt to most recent skilled bias technologies or its efficiency in choosing skilled bias technologies from global technology frontier may all be determined by prevalent institutions. For-example, efficient economic and political institutions would enable the countries to adopt or benefit from skill biased technologies thus raising the demand for skills. This can all be done to achieve better growth rates. For-example, countries like India and China, where a significant population has been educated and skilled in urban clusters, a skilled bias technical progress is underway. This factor has resulted in outsourcing of jobs from the developed countries to India and china's business capitals. The skill premia has significantly gone up, while the relative price of low skilled has fallen down. For-example within the manufacturing sector, low skilled wage usually rise at a far less proportion than skilled labor wage. In most cases, the low skill wage is stagnant because of excess supply of low skilled. The excess supply is sustained by continuously increasing trends of migration from rural to urban.

Some studies argue that international trade play a limited role in the increase in the relative demand for skills (see i.e., Acemoglu 2002). However, such works focus more on wage patterns in developed countries and the evidence of trade in determining skill premia for developed countries is limited since they are leaders in technology whereas technology leaders may not generally import new technologies from other countries and thus technical change for all such technology leaders is an indigenous process. The skill biased technical diffusion effect through trade in developed countries is only possible when they trade among

each other. However, for the larger world, which mostly comprises of developing countries, trade is one of the significant sources of technical change especially in the presence of lax intellectual property rights. Acemoglu (2002) suggest that most developing countries are in any case unprepared to utilise most of the technologies adopted by developed countries and thus the scope of technical change through trading with developed countries remain very limited. Here the case of China and India may refute this hypothesis as they have been able to adopt and transfer relatively sophisticated technologies. In recent times, more and more Indian and Chinese enterprises are appearing in the list fortune 500 companies. Further opening up of India and China to world markets post 1990 has brought significant technical change in both countries which must have a significant relationship with a rise in skill premia. Currently many Indian multinationals are incorporating new technologies for indigenous use. For example, TATA has been offering to build the cheapest car in the world, the production of which has only been delayed because of relocation of production plant to another location due to a dispute over procured land for the plant in State of Bengal. However, one should also note here that early grounds were prepared in India and China in 1970s and 1980s by practicing high protection of industrial sector to catch up to new technologies which are increasingly practiced today in businesses. With skill bias technical change, both countries have witnesses rise in skill premia as India and China are emerging as technology leaders among other less developed countries in Asia.

Acemoglu (2002) scepticism over trade than technical change affecting skill premia is more of an empirical contention and especially for the case of U.S. In another paper though, Acemoglu (1999), already introduce a dynamic model to discuss the possibility of rise in skill premia for both developed and developing countries due to trade between each other which would bring additional technological diffusion effect to developing countries and skill-biased technical change in developed countries. The paper explains its motivation in favour of rise in relative wage inequality among skilled and unskilled, due to trade between developed and developing countries, by incorporating technical change as the dynamic externality: 'increased international trade will have an effect on skill premia by changing the nature of technologies that are being developed, as well as its more direct standard effect. Under most plausible circumstances, trade between U.S and the LDCs (Least Developed Countries) will induce skill-biased technical change in the U.S., and will cause a large increase in U.S. skill premia. Contra to the standard models, this induced technology effect also implies that trade may increase skill premia in the LDCs' (p.26).

Similarly, by drawing comparison of globalisation with soccer, Milanovic (2003b) comes up with an interesting analogy which can partly explain the skill bias in high growth oriented manufacturing sector activities across the globe and its unequal outcomes within countries. As in soccer today where the quality of the game has arisen with the rise in players' skills with matching salaries and where best players are paired to only play with those who are also among the best; to compete in global markets, countries have to raise the share of skills (good jobs) in their population to match the skills (good jobs) in the developed countries because skilled intensive production activities may only take place where appropriate skills are present and these activities in addition to directly benefiting these skills with a high premium, also benefit the country through technology spill over effects which improves the growth potential of the country. India and China have successfully transformed a significant portion of population which can match the rising global skill demand (good jobs) and thus these skilled labor are directly benefiting from globalisation. The solution can vary. In the short run, one solution is to protect low wage labor through regulations such that high wage (good) jobs and low-wage (bad) jobs can co-exist (Acemoglu, 2001a).

As contended by Acemoglu (2002), United States and United Kingdom, who are leaders in technology among other developed nations, have been witnessing a rise in skill premia which in contrast to India and China may not have lot to do

with international trade. However, the downward pressure on the relative wages of lower skilled is partly attributed to job outsourcing to developing countries by many business enterprises located in these Western technology leaders, most of whom have found many urban commerce havens in South Asia and East Asia where skilled labour, only relative to local market standards, is employed in outsourced job market. However, one may note that without efficient technology transfer by developed countries to (or adoption by) the developing ones and by already creating skills among strata of urban population through investment in education, outsourcing business would not have been a cost efficient one. And in the first place, to make technology transfer and adoption possible, trade between developed and developing countries have been a pre-requisite. Thus technical bias change and trade go hand in hand for both developed and developing countries to determine skill premium as is rightly modelled by Acemoglu (1999).

Trade and Globalisation, may also lead to rise in wage inequality because many developing countries pay protection premium to skilled labor in order to pursue a local path to technological development. While availability of cheap and relatively unskilled labor in global technical frontier may cause a downward pressure on wages of unskilled relative to skilled in developed countries as developed countries try to retain their niche in technology and more and more economic activity require higher skills which would then always follow excess demand of more refined skills in the context of local and global factor supply market. Thus production technologies would always move places relative to their skill intensity globally and locally to find cost effective supply of labour which best matches their skill requirement. While international trade would provide the basic frame work for the very possibility of relocation of these these production technologies. In a technology driven world the returns to relative skills would always be high irrespective of production location.

The possibility to find a negative relationship between wage inequality and trade for developing countries would come about if trade between them increase, especially among countries which are at similar technical frontier but their access to technology is unequal: some are ready to adopt more skill biased technologies than the others. A detailed discussion of this scenario has already been presented, discussing the trading opportunities and its skill bias fallout in presence of economic cooperation between say China and Thailand. Further more, by increasing the mean level of education; developing countries can offset the negative effects of trade on labor markets (Mamoon & Murshed, 2008).

And as discussed before, in addition to the trade side, institutional side also play an important role. Like income inequality, there may also be a strong connection between good institutions and smooth labour markets. Thus such questions are also important: Are more educated societies with better legal, political and economic institutions more capable to absorb the upward pressure which is put by technical bias on relative factor returns? Does the presence of good institutions form grounds for technical change with overall fewer distortions in labor market returns? If yes then good institutions would be expected to put a down ward pressure on wage inequality.

To take a step further from empirical literature on inequality which focus on GINI and to make the analysis more intensive empirically for the robustness of the results, this chapter also employs income deciles and percentiles derived from UNU/WIDER World Income Inequality Database (WIID) as other proxies of inequality. Institutions or integration will be guilty of inequality if it has a negative impact on the incomes of the bottom 10 per cent (*low10*) and positive impact on the income of the top 10 per cent (*high 10)*. Income groups are also divided into quintiles anticipating the effect of institutions to be negative for the ratio between the top 20 per cent and bottom 20 per cent (*high20/low*20) and positive for the middle-income groups (*Middle20*) are included. The exercise on income deciles and percentiles will shed light on how institutions and integration relate to income distribution. Of special interest is how quality of institutions relates to the incomes

of the middle-class or the ones living in the bottom income share. Each country observation for all inequality measures come from the last year for which data is available and in most cases represent inequality in the mid-1990s. Our basic inequality and income share equations would look like:

Inequality = f (Institutions, Integration, Geography) (1)
Income Share= f (Institutions, Integration, Geography) (2)

Corresponding to Eq. (1), the inequality model based on *Theil index* has eight equations whereas each equation corresponds to a different institutional or integration classification. The model specifications for *Gini*, *High20/Low20*, *Middle20*, *Low10* and *High10* contain the same eight equations each with the same variable specifications.

$$Theil_{1i} = \alpha_1 + \beta_1 LI_i + \chi_1 Open_i + Geo + \varepsilon_{1i} \quad (3)$$
$$Theil_{2i} = \alpha_2 + \beta_2 PI_i + \chi_2 Open_i + Geo + \varepsilon_{2i} \quad (4)$$
$$Theil_{3i} = \alpha_3 + \beta_3 EI_i + \chi_3 Open_i + Geo + \varepsilon_{3i} \quad (5)$$
$$Theil_{4i} = \alpha_4 + \beta_4 SI_i + \chi_4 Open_i + Geo + \varepsilon_{4i} \quad (6)$$
$$Theil_{5i} = \alpha_5 + \beta_5 LI_i + \chi_5 TP_i + Geo + \varepsilon_{5i} \quad (7)$$
$$Theil_{6i} = \alpha_6 + \beta_6 PI_i + \chi_6 TP_i + Geo + \varepsilon_{6i} \quad (8)$$
$$Theil_{7i} = \alpha_7 + \beta_7 EI_i + \chi_7 TP_i + Geo + \varepsilon_{7i} \quad (9)$$
$$Theil_{8i} = \alpha_8 + \beta_8 SI_i + \chi_8 TP_i + Geo + \varepsilon_{8i} \quad (10)$$

The variable $Theil_i$ is Theil index in a country i, LI_i, PI_i, EI_i, and SI_i are respectively measures for legal, political, economic and social institutions, whereas $Open_i$ measures general openness in the economy and TP_i is a measure for trade policy and ε_i is the random error term. Equations based on *Gini*, *High20/Low20*, *Middle20*, *Low20* and *High10* have similar specifications.

As discussed, there are potential endogeneity problems between institutions and integration and between institutions and inequality itself. Therefore the institutional, trade policy and openness proxies presented here were first regressed on a set of instruments. This chapter takes the same set of instruments which were used in chapter 2 to instrument for openness/ trade policy, institutions and human capital which is considered as a social institution in this analysis. Frankel & Romer (1999) (FR) makes up for the instrument for all the outcome and incidence measures of trade barriers utilised in this chapter. FR instrument uses trade/GDP shares constructed based on a gravity equation for bilateral trade flows. Following, Hall & Jones (1999), the extent to which the primary languages of Western Europe are the first languages are taken as instruments for Legal, Political and Economic institutions. Hall and Jones argue that the instruments do not correlate with the error term. Though, it is good to briefly mention again that Acemolgu, Johnson & Robinson (2001) (AJR) identify the mortality of European settlers as a potential instrument. Using two ex post assessments of institutional quality -risk of expropriation by the government and constraints on the executive- as measures of institutions, they showed that settler mortality is a strong predictor of institutions. However, there are two drawbacks for the AJR instrument as mentioned in Mamoon & Murshed (2017). According to Glaeser *et al.* (2004a), AJR instrument of settler mortality fails to be orthogonal to the error term. 'Settler mortality is strongly correlated not just with ancient, but also with the modern, decease environment, suggesting that it might be the decease environment, rather than history, that matters for economic development. Secondly, settler mortality is

strongly correlated with human capital accumulation, suggesting that it cannot be used as an instrument for institutions.' (Glasear *et al.* 2004a: 8) Also the data for AJR instrument is only available for 64 countries. Although Rodrik *et al.* (2004) extended it to 80 countries; it still covers a relatively low number when compared to 'the extent to which the primary languages of Western Europe are spoken as first languages today,' which covers as many as 140 countries.

Since years of schooling for proxy for social institutions, dropout rates (*drop90*) and school days in a year (*Schday*) are employed as instruments. As in Rodrik *et al.* (2004) and Hall & Jones (1999), 'distance from the equator', here is another instrument (proxy for geography) also employed by Hall & Jones (1999). The IV analysis in chapter 2 has already established the statistical validity of these instruments. However, here the instruments enter first stage of the analysis under slightly different specifications. For Legal, Political and Economic institutions, the regression models corresponds to specification in Mamoon & Murshed (2017) when human capital was absent. In this paper, *Sch99* and *Alter* corresponds to Social institutions and thus a new specification has been introduced where Social institutions would enter different inequality equations with a combination of different outcome based (openness, Open) or incidence based (trade policy, TP) respectively. Following is the model specifications for first stage regressions based on instruments:

$$LI_i = \sigma_1 + \varsigma_1 Eng_i + \theta_1 Eur_i + \vartheta_1 FR_i + \tau_1 Disteq + \mathrm{E}_{1i} \quad (11)$$

$$PI_i = \sigma_2 + \varsigma_2 Eng_i + \theta_2 Eur_i + \vartheta_2 FR_i + \tau_2 Disteq + \mathrm{E}_{2i} \quad (12)$$

$$EI_i = \sigma_3 + \varsigma_3 Eng_i + \theta_3 Eur_i + \vartheta_3 FR_i + \tau_3 Disteq + \mathrm{E}_{3i} \quad (13)$$

$$Open_{1i} = \sigma_4 + \varsigma_4 Eng_i + \theta_4 Eur_i + \vartheta_4 FR_i + \tau_4 Disteq + \mathrm{E}_{4i} \quad (14)$$

$$TP_{1i} = \sigma_5 + \varsigma_5 Eng_i + \theta_5 Eur_i + \vartheta_5 FR_i + \tau_5 Disteq + \mathrm{E}_{5i} \quad (15)$$

$$SI_i = \sigma_6 + \varsigma_6 Drop90_i + \theta_6 Schday_i + \vartheta_6 FR_i + \tau_6 Disteq + \mathrm{E}_{6i} \quad (16)$$

$$Open_{2i} = \sigma_7 + \varsigma_7 Drop90_i + \theta_7 Schday_i + \vartheta_7 FR_i + \tau_7 Disteq + \mathrm{E}_{7i} \quad (17)$$

$$TP_{2i} = \sigma_8 + \varsigma_8 Drop90_i + \theta_8 Schday_i + \vartheta_8 FR_i + \tau_8 Disteq + \mathrm{E}_{8i} \quad (18)$$

Where Eng_i and Eur_i are the instruments for legal, economic and political institutions referring to fractions of population speaking English and European languages respectively. *Drop90* is Annua Drop out rates and *Schday is number of schooling days*. Both are instruments for average years of schooling and adult literacy rate. FR_i an instrument for openness and trade policy. $Disteq_i$ a proxy for geography showing distance from the equator. At the second stage, the income share equations employ the predicted values of respective institutional, openness and trade policy variables.

5. Results

5.1. 1st Stage results

The first stage results are presented in table 3. All instruments seem to work quite well for the outcome based (openness) measures of trade barriers and high R-square and F-statistic show that instruments significantly explain the variation in trade shares. However for incidence based (trade policy) measures of trade barriers, F-statistics have declined and range between 7 and 5. For tariffs on international inputs and capital goods (Owti), weighted average for total import charges (*Totimpov85*), Non-tariff barrier coverage (*Nontarr87*) and Sachs and Warners composite openness index (Open80), the FR instrument is significant. FR trade shares are weekly related with import duties (Tariffs) and trade taxes (Txtrdg). For NTBs, instruments are insignificant in all cases, while F-statistics is

mere 0.73. Instruments work quite well for Legal, Political, Economic and Social institutions with F-statistic much higher than 10, and high R2, while all instruments are significantly related with all institutional regressors. Low F-statistics for incidence based measures may indicate that instruments employed are weakly related with the regressors.

Discussion on relevance and validity of instruments has already been carried out in chapter 2 and suggests that low F-statistics may not necessary confers to weakness of instruments. Staiger & Stock (1997) rule of thumb of F-test to be equal to or greater than 10 for the good fit of instruments may only hold in case of one instrument and one regressor. When the number of instruments are moderate or large, higher order asymptotic tests, which are already proposed in Mamoon & Murshed (2017), needs to be carried out. Higher order asymptotic tests include (1) obtaining Craag & Donald (1993) critical values to reject 2SLS bias and (2) Anderson-Rubin test of joint significance of endogenous regressors for relevance of instruments; (3) Hansen or Sargan over identification test statistics for erogeneity; and (4) Baum, Schaffer and Still's recommended test for heteroskedasticity robust 1st stage estimate for reducing omitted variable bias. To carry out all these tests, the author refers to IV stage analysis where these higher order asymptotic testing is done and made it available for many of the 2SLS specifications which are run under Eq. 3, 4, 5, 6, 7, 8, 9, and 10. In all these specification different definitions of inequality are utilised along with different specifications of Legal, Political, Economic, Social institutions and integration as regressors.

Table. 3. *First Stage Regression*

First Stage Results: Openness and Trade Policy

	Nominal Trade share (lcopen)	Import penetrations 1985 (Impnov85)	Import penetrations 1982 (Impnov82)	TARS trade penetration 1985 (Tarshov85	TARS trade penetration 1982 (Tarshov82	Import duties as % Imports (Tariffs)	Tariffs on internationa l inputs and capital goods (Owti)	Trade taxes (Txtrdg)	Weighted average of total import charges 1985 (Totimpov 85)	Non trade barriers (Owqi)	Non tariff barriers 1987 (Ntarov87)	Sachs and Warner openness 1980 (Open80s)
Lfrkrom	0.533	11.616	19.811	29.88	46.47	-1.02	-0.078	0.0048	0.3739	-0.036	-18.08	0.195
	(11.5)***	(7.9)***	(7.2)***	(7.4)***	(4.0)***	(-0.8)	(-3.4)***	(0.98)	(3.0)***	(-0.9)	(-3.0)***	(2.9)***
Engfrac	0.407	19.71	20.609	29.78	115.99	-1.49	-0.01	0.001	-0.113	-0.105	4.254	-0.018
	(2.1)**	(2.4)***	(2.2)**	(2.0)**	(2.9)***	(-0.3)	(-0.1)	(0.08)	(-0.23)	(-0.77)	(0.17)	(-0.08)
Eurfrac	-0.208	-6.656	-7.67	-5.23	-4.598	-3.56	-0.067	-0.016	0.164	-0.006	-28.107	0.208
	(-1.9)*	(-1.23)	(-1.21)	(-0.53)	(-0.17)	(-1.30)	(-1.29)	(-1.63)*	(0.67)	(-0.07)	(-2.3)***	(1.43)
Disteq	-0.003	-0.015	-0.21	0.052	-0.534	-0.208	-0.002	-0.0007	0.022	-0.001	-0.238	0.010
	(-1.26)	(-0.14)	(-1.60)	(0.26)	(-0.99)	(-3.8)***	(-2.1)**	(-3.8)***	(2.9)***	(-0.84)	(-0.65)	(3.6)***
N	122	82	84	85	82	85	85	52	66	83	83	54
F	39.00***	18.54***	15.98***	15.56***	7.12***	5.47***	5.36***	5.09***	4.57***	0.73	7.21***	7.44***
R2	0.57	0.49	0.44	0.43	0.27	0.24	0.21	0.30	0.23	0.03	0.03	0.38

First Stage Results: Economic, Legal, Political and Social Institutions

	Voice and Accountability (Va)	Political Stability (Ps)	Government Effectiveness (Ge)	Regulator y Quality (Rq)	Rule of law (Rl)	Control for Corruption (Ctc)	Democrac y (Demo)	Autocracy (Auto)	Average years of schooling, 1999 (Sch99)
Lfrkrom	0.154	0.234	0.229	0.081	0.238	0.254	0.364	0.108	-0.274
	(2.0)**	(2.7)**	(2.9)***	(1.31)	(3.8)***	(3.3)***	(0.83)	(0.28)	(-1.01)
Engfrac	0.621	0.395	0.573	0.324	0.586	0.832	2.623	-0.505	
	(2.0)**	(1.09)	(1.90)*	(1.32)	(1.9)*	(2.7)***	(1.5)	(-0.33)	
Eurfrac	0.698	0.478	0.457	0.572	0.302	0.0326	4.79	-4.73	
	(3.7)***	(2.4**	(2.5)**	(3.8)***	(1.6)*	(1.8)*	(4.7)***	(-5.2)***	
Drop90									-0.049
									(-4.4)***
Schday									-0.0092
									(-0.68)
Disteq	0.029	0.032	0.027	0.014	0.031	0.030	0.085	-0.051	0.0761
	(7.8)***	(6.3)***	(7.3)***	(4.8)***	(8.3)***	(8.3)***	(4.8)***	(-2.81)***	(4.8)***
N	122	116	117	122	122	118	108	108	85
F	27.1***	40.4***	22.2***	14.4***	24.9***	26.6***	16.4***	12.7***	22.1***
R2	0.48	0.59	0.44	0.31	0.46	0.49	0.38	0.33	0.52

Notes: t- Values in the parenthesis. ***, **, * denotes significance at 1%, 5 % and 10% levels respectively

5.2. IV Results

5.2.1. Relevance and exogeniety of instruments

This section undertakes relevance and exogeniety tests under higher order asymptotic framework for the institutional and integration regressors for *GINI, Theil*, *High20/Low20* and *Mid20* some selected number of combinations of these regressors. Relvance and exogeniety tests are also carried out for *Low10* and *High10*, but they are not presented here as the results obtained by former tests would already provide enough information to conclude whether instruments have worked well.

Table 4 provide results for *Gini* Index. Instruments strongly pass the relevance test for any of the combinations of institutions and integration except for *Owqi. Owqi* fails relevance test for not only *Gini* Index, but also for *Theil* index in table 5, *High20/Low20* in table 4.6 and *Mid20* in table 7. This is expected as we already know from 1st stage results that all instruments have been insignificant in case of *Owqi,* while the F-statistic was approximating to 0.

Instruments have been found to be weakly related with *Taiffs* for *Theil99*. For other dependent variables also like *Gini*, *High20/Low20* and *Mid20*, the 2SLS bias in case of *Tariffs* is large. This is also in line with 1st stage results, where most instruments fail to significantly explain Tariffs with the only exception of *Disteq*.

The 2nd stage regressions have suffered more from the problem of endogeniety, especially in case of *High20/Low20* and *Mid 20* when ever, Legal, Political, Economic and Social institutions enter with outcome based (openness) measures of trade barriers. This brings us back to the analysis by Rodrik *et al.* (2004), which was run on per capita income differences and problem of endogeniety was present in all regressions. High20/Low20 and Mid20 are also estimates of incomes but based on percentiles instead of taking incomes of all groups and utilising an average: as in case of per capita income which is average income of all households. The persistent of the presence of endogeniety in specifications where trade shares enter as a regressor indicates the increased possibility that such specifications may suffer from omitted variable bias. Nevertheless, no presence of 2SLS bias which is seen to approximate to 0, in all cases where openness is the regressor show that IV analysis is superior to simple OLS.

In case of trade policy, exogeniety tests are generally passed for all those trade policy proxies which have also passed the Cragg-Donald maximal 2SLS bias test of relevance. Only in case of *Theil99* few trade policy proxies such as *Owti*, *Ntarfov* and *Open80s* in addition to *Owqi* fail over-identification tests. Though the presence of endogeniety between regressors and the error term is not good news for the empirical analysis, it has come as a good news for the theoretical validation of the very regressions which analyse the role of trade in determining wage inequality because it refutes the assertion put forward by Acemoglu (2002) that trade is only weekly related with technology bias which creates increase demand for skilled labor. Presence of endogeniety suggest that trade policies in both developed and developing countries are inter connected with the adoption of skill bias technologies in more ways then what is generally perceived in literature. The theoretical discussion carried out in section 4.4 to this effect also validates the above finding. Table 4, 5, 6 and 7 shows that for all combinations of regressors and for all dependent variables heterskedasticity robust estimates are utilised.

Table 4. *Multiple tests for the relevance and quality of instruments for Gini index*

			Relevance				Exogeneity
	Endogenous Dependent Variable: GINI Coefficients in Percentage Points as calculated from consumption expenditure by WIDER (Gini)	N	1st Stage heteroskedasticity-robust	Maximal 2SLS Bias (b)	Cragg-Donald N*minEval stat. Chi-sq(3)	Anderson-Rubin test of joint significance of endogenous regressors F-Statistic	Sargan statistic (overidentification test of all instruments) Chi-Sq(2)
	Endogenous Independent Variables : Openness, Institutions (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
1	Nominal Trade Shares, Voice and Accountability (Lcopen, Va)	97	Robust	0.00	107.83**	4.95***	0.063 (0.969)
2	Nominal Trade Shares, Political Stability (Lcopen, Ps)	89	Robust	0.00	65.24**	4.83***	0.170 (0.918)
3	Nominal Trade Shares, Government Effectiveness (Lcopen, Ge)	90	Robust	0.00	73.53**	5.03***	0.146 (0.929)
4	Nominal Trade Shares, Regulatory Quality (Lcopen, Rq)	96	Robust	0.00	68.52**	4.97***	0.019 (0.988)
5	Nominal Trade Shares, Rule of Law (Lcopen, Rl)	96	Robust	0.00	92.08**	4.79***	0.116 (0.943)
6	Nominal Trade Shares, Control for Corruption (Lcpopen, Ctc)	92	Robust	0.00	69.77**	4.60***	0.102 (0.9505)
7	Nominal Trade Shares, Democracy (Lcopen, Demo)	90	Robust	0.00	53.05**	5.05***	0.031 (0.984)
8	Nominal Trade Shares, Autocracy (Lcopen, Auto)	90	Robust	0.00	46.43**	5.05***	0.016 (0.992)
9	Nominal Trade Shares, Average Years of Schooling (Lcopen, Sch99)	73	Robust	0.00	74.84**	2.39*	1.072 (0.585)
10	Import Penetration, 1985, Rule of Law (Impnov85, Rl)	69	Robust	0.00	62.63**	2.49*	0.268 (0.874)
11	Import Penetration, 1982, Rule of Law (Impnov82, Rl)	69	Robust	0.00	95.07**	17.74***	11.532 (0.0031)***
12	TARS trade Penetration, 1985, Rule of Law (Tarshov85, Rl)	69	Robust	0.00	52.35**	2.49*	0.162 (0.922)
13	TARS Trade Penetration, 1982, Rule of Law (Tarshov82, Rl)	68	Robust	0.00	73.80**	16.61***	10.942 (0.004)***
	Endogenous Independent Variables: Trade Policy, Institutions (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
14	Import duties, Rule of Law (Tariff, Rl)	71	Robust	0.37	3.14**	19.52***	0.778 (0.677)
15	Tariffs on International Inputs and Capital Goods, Rule of Law (Owti, Rl)	71	Robust	0.078	6.79**	2.62**	2.28 (0.319)
16	Trade Taxes, Rule of Law (Txtrdg,Rl)	46	Robust	0.072	6.99**	18.20***	0.943 (0.624)
17	Weighted Average of Total import Charges, 1985, Rule of Law (Totimpov85, Rl)	52	Robust	0.019	9.91**	0.92	0.06 (0.970)
18	Non Trade Barriers, Rule of Law (Owqi,Rl)	70	Robust	0.846	0.81	3.30***	0.928 (0.628)
19	Non Tariff Coverage, 1987, Rule of Law (Ntarfov87, Rl)	52	Robust	0.042	8.27**	0.92	1.762 (0.414)
20	Sachs and Warner Openness, 1980, Rule of Law, (Open80s, Rl)	48	Robust	0.00	7.97**	1.92*	3.45 (0.178)

Notes: t- Values in the parenthesis. ***, **, * denotes significance at 1%, 5 % and 10% levels respectively

Table 5. *Multiple tests for the relevance and quality of instruments for Theil99*

			Relevance				Exogeneity
	Endogenous Dependent Variable: UTIP – UNIDO Wage Inequality THEIL Measure, 1999 (Theil99)	N	1st Stage heteroskedasticity-robust	Maximal 2SLS Bias (b)	Cragg-Donald N*minEval stat. Chi-sq(3)	Anderson-Rubin test of joint significance of endogenous regressors F-Statistic	Sargan statistic (overidentification test of all instruments) Chi-Sq(2)
	Endogenous Independent Variables : Openness, Institutions (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
1	Nominal Trade Shares, Voice and Accountability (Lcopen, Va)	122	Robust	0.00	113	3.92***	1.738 (0.419)
2	Nominal Trade Shares, Political Stability (Lcopen, Ps)	116	Robust	0.00	72.73	3.23**	1.058 (0.589)
3	Nominal Trade Shares, Government Effectiveness (Lcopen, Ge)	117	Robust	0.00	91.62	3.38**	1.46 (0.48)
4	Nominal Trade Shares, Regulatory Quality (Lcopen, Rq)	122	Robust	0.00	58.87	3.54***	1.69 (0.42)
5	Nominal Trade Shares, Rule of Law (Lcopen, Rl)	122	Robust	0.00	101.83	3.54***	1.72 (0.42)
6	Nominal Trade Shares, Control for Corruption (Lcpopen, Ctc)	118	Robust	0.00	107.42	3.30**	1.76 (0.41)
7	Nominal Trade Shares, Democracy (Lcopen, Demo)	108	Robust	0.00	68.23**	3.86***	1.877 (0.391)
8	Nominal Trade Shares, Autocracy (Lcopen, Auto)	108	Robust	0.00	47.94**	3.86***	1.393 (0.498)
9	Nominal Trade Shares, Average Years of Schooling (Lcopen, Sch99)	108	Robust	0.00	85.17**	6.85***	2.647 (0.266)
10	Import Penetration, 1985, Rule of Law (Impnov85, Rl)	85	Robust	0.00	75.48	5.28***	1.094 (0.578)
11	Import Penetration, 1982, Rule of Law (Impnov82, Rl)	84	Robust	0.00	60.64	4.87***	0.981 (0.612)
12	TARS trade Penetration, 1985, Rule of Law (Tarshov85, Rl)	85	Robust	0.00	66.09	5.28***	1.339 (0.511)
13	TARS Trade Penetration, 1982, Rule of Law (Tarshov82, Rl)	82	Robust	0.00	28.20	5.08***	0.329
	Endogenous Independent Variables: Trade Policy, Institutions (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
14	Import duties, Rule of Law (Tariff, Rl)	85	Robust	0.71	1.37	6.46***	6.289 (0.04)**
15	Tariffs on International Inputs and Capital Goods, Rule of Law (Owti, Rl)	85	Robust	0.06	7.41	4.86***	5.596 (0.06)*
16	Trade Taxes, Rule of Law (Txtrdg,Rl)	52	Robust	0.08	6.74	3.47***	4.23 (0.12)
17	Weighted Average of Total import Charges, 1985, Rule of Law (Totimpov85, Rl)	66	Robust	0.02	9.52	3.12***	3.97 (0.13)
18	Non Trade Barriers, Rule of Law (Owqi,Rl)	83	Robust	0.83	0.86	4.71***	0.074 (0.96)
19	Non Tariff Coverage, 1987, Rule of Law (Ntarfov87, Rl)	66	Robust	0.08	6.73	3.12***	6.69 (0.03)**
20	Sachs and Warner Openness, 1980, Rule of Law, (Open80s, Rl)	54	Robust	0.11	5.93	4.86***	6.769 (0.033)**

Notes: t- Values in the parenthesis. ***, **, * denotes significance at 1%, 5 % and 10% levels respectively

Table 6. *Multiple Tests for the Relevance and Quality of Instruments for High20/Low20*

			Relevance				Exogeneity
	Endogenous Dependent Variable: Fifth Income Percentile/ First Income Percentile (High20/Low20)	N	1st Stage heteroskedasticity-robust	Maximal 2SLS Bias (b)	Cragg-Donald N*minEval stat. Chi-sq(3)	Anderson-Rubin test of joint significance of endogenous regressors F-Statistic	Sargan statistic (overidentification test of all instruments) Chi-Sq(2)
	Endogenous Independent Variables : Openness, Institutions (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
1	Nominal Trade Shares, Voice and Accountability (Lcopen, Va)	97	Robust	0.00	107.83**	8.65***	9.459 (0.008)***
2	Nominal Trade Shares, Political Stability (Lcopen, Ps)	89	Robust	0.00	65.24**	8.05***	5.894 (0.052)**
3	Nominal Trade Shares, Government Effectiveness (Lcopen, Ge)	90	Robust	0.00	73.53**	8.41***	5.815 (0.054)*
4	Nominal Trade Shares, Regulatory Quality (Lcopen, Rq)	96	Robust	0.00	68.52**	8.33***	12.546 (0.002)***
5	Nominal Trade Shares, Rule of Law (Lcopen, Rl)	96	Robust	0.00	92.08**	8.33***	5.237 (0.072)*
6	Nominal Trade Shares, Control for Corruption (Lcpopen, Ctc)	92	Robust	0.00	69.77**	8.10***	10.155 (0.006)***
7	Nominal Trade Shares, Democracy (Lcopen, Demo)	90	Robust	0.00	53.05**	8.71***	13.916 (0.001)***
8	Nominal Trade Shares, Autocracy (Lcopen, Auto)	90	Robust	0.00	46.43**	8.71***	15.919 (0.0003)***
9	Nominal Trade Shares, Average Years of Schooling (Lcopen, Sch99)	73	Robust	0.00	74.84**	7.34***	2.624 (0.269)
10	Import Penetration, 1985, Rule of Law (Impnov85, Rl)	69	Robust	0.00	62.63**	7.25***	2.463 (0.292)
11	Import Penetration, 1982, Rule of Law (Impnov82, Rl)	69	Robust	0.00	95.07**	2.93**	2.415 (0.298)
12	TARS trade Penetration, 1985, Rule of Law (Tarshov85, Rl)	69	Robust	0.00	52.35**	2.95**	2.378 (0.304)
13	TARS Trade Penetration, 1982, Rule of Law (Tarshov82, Rl)	68	Robust	0.00	73.80**	2.78**	2.242 (0.326)
	Endogenous Independent Variables: Trade Policy, Institutions (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
14	Import duties, Rule of Law (Tariff, Rl)	71	Robust	0.37	3.14**	5.92***	1.563 (0.457)
15	Tariffs on International Inputs and Capital Goods, Rule of Law (Owti, Rl)	71	Robust	0.078	6.79**	9.75***	3.829 (0.146)
16	Trade Taxes, Rule of Law (Txtrdg,Rl)	46	Robust	0.072	6.99**	8.16***	1.956 (0.376)
17	Weighted Average of Total import Charges, 1985, Rule of Law (Totimpov85, Rl)	52	Robust	0.019	9.91**	5.55***	4.602 (0.101)
18	Non Trade Barriers, Rule of Law (Owqi,Rl)	70	Robust	0.846	0.81	9.02***	1.497 (0.368)
19	Non Tariff Coverage, 1987, Rule of Law (Ntarfov87, Rl)	52	Robust	0.040	8.27**	5.55***	0.264 (0.876)
20	Sachs and Warner Openness, 1980, Rule of Law, (Open80s, Rl)	48	Robust	0.046	7.97**	7.37***	1.791 (0.408)

Notes: t- Values in the parenthesis. ***, **, * denotes significance at 1%, 5 % and 10% levels respectively

Table 7. *Multiple tests for the relevance and quality of instruments for Mid20*

			Relevance				Exogeneity
	Endogenous Dependent Variable: Third Income Percentile (Mid20)	N	1st Stage heteroskedasticity-robust	Maximal 2SLS Bias (b)	Cragg-Donald N*minEval stat. Chi-sq(3)	Anderson-Rubin test of joint significance of endogenous regressors F-Statistic	Sargan statistic (overidentification test of all instruments) Chi-Sq(2)
	Endogenous Independent Variables : Openness, Institutions (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
1	Nominal Trade Shares, Voice and Accountability (Lcopen, Va)	97	Robust	0.00	107.83**	18.79***	22.109 (0.000)***
2	Nominal Trade Shares, Political Stability (Lcopen, Ps)	89	Robust	0.00	65.24**	19.45***	13.469 (0.0012)***
3	Nominal Trade Shares, Government Effectiveness (Lcopen, Ge)	90	Robust	0.00	73.53**	19.49***	14.334 (0.0008)***
4	Nominal Trade Shares, Regulatory Quality (Lcopen, Rq)	96	Robust	0.00	68.52**	18.78***	22.543 (0.000)***
5	Nominal Trade Shares, Rule of Law (Lcopen, Rl)	96	Robust	0.00	92.08**	18.78***	11.946 (0.0025)***
6	Nominal Trade Shares, Control for Corruption (Lcpopen, Ctc)	92	Robust	0.00	69.77**	18.41***	13.925 (0.001)***
7	Nominal Trade Shares, Democracy (Lcopen, Demo)	90	Robust	0.00	53.05**	21.00***	26.038 (0.000)***
8	Nominal Trade Shares, Autocracy (Lcopen, Auto)	90	Robust	0.00	46.43**	21.00***	29.529 (0.000)***
9	Nominal Trade Shares, Average Years of Schooling (Lcopen, Sch99)	73	Robust	0.00	74.84**	26.10***	0.380 (0.827)
10	Import Penetration, 1985, Rule of Law (Impnov85, Rl)	69	Robust	0.00	62.63**	16.67***	7.951 (0.018)**
11	Import Penetration, 1982, Rule of Law (Impnov82, Rl)	69	Robust	0.00	95.07**	17.02***	8.349 (0.015)**
12	TARS trade Penetration, 1985, Rule of Law (Tarshov85, Rl)	69	Robust	0.00	52.35**	16.67***	7.114 (0.028)**
13	TARS Trade Penetration, 1982, Rule of Law (Tarshov82, Rl)	68	Robust	0.00	73.80**	16.96***	7.855 (0.019)**
	Endogenous Independent Variables: Trade Policy, Institutions (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
14	Import duties, Rule of Law (Tariff, Rl)	71	Robust	0.37	3.14**	19.37***	0.997 (0.607)
15	Tariffs on International Inputs and Capital Goods, Rule of Law (Owti, Rl)	71	Robust	0.078	6.79**	22.43***	3.910 (0.142)
16	Trade Taxes, Rule of Law (Txtrdg,Rl)	46	Robust	0.072	6.99**	16.92***	0.297 (0.862)
17	Weighted Average of Total import Charges, 1985, Rule of Law (Totimpov85, Rl)	52	Robust	0.019	9.91**	6.77***	8.673 (0.013)**
18	Non Trade Barriers, Rule of Law (Owqi,Rl)	70	Robust	0.846	0.81	20.23***	2.144 (0.342)
19	Non Tariff Coverage, 1987, Rule of Law (Ntarfov87, Rl)	52	Robust	0.040	8.27**	6.77***	1.037 (0.597)
20	Sachs and Warner Openness, 1980, Rule of Law, (Open80s, Rl)	48	Robust	0.046	7.97**	21.25***	3.783 (0.151)

Notes: t- Values in the parenthesis. ***, **, * denotes significance at 1%, 5 % and 10% levels respectively

5.2.2. Results on Institutions

Due to sheer number of specifications for which the regressions are carried out for six different dependent variables, it is not possible to present results for both institutions and integration together in single table. Thus, in order to cover all specifications, we discuss results by summarising them into different categories. First we provide results of institutions, divided into 4 categories as Legal, Political, Economic and Social. In later sections, results for integration would be separately discussed.

Table 8 provides detailed results on various definitions of institutions. It is observed that rule of law and control of corruption are the most relevant institutions that help create a more equal society in developed as well as developing countries. Democracy also ensures equality by following median voter hypothesis. In contrast, Government regulation is relevant for inequality mitigation but it is not the most important institution. These results fit nicely with the governance policies in developed and developing countries and their welfare outcomes. For example, in China inequality trends especially in manufacturing pays have been rising that can be partly explained by the Chinese government's early emphasis on strengthening free market economic institutions by introducing property rights and promoting more competition domestically and internationally within the private sector. Corruption was rampant until recently, when President Xi government clamped down on corruption focusing on government officials. This step may enable China to have equal distribution of gains among Chinese population from private sector induced and export led economic growth. Mamoon & Murshed (2017) explains that focus on growth may have led countries like China to prioritise development of economic institutions over legal or political institutions because economic institutions are more closely related with economic growth. However, this trend has been changing recently. More and more governments are investing in the development of legal and political institutions.

5.2.3. Results on integration and inequality

'Globalisation and Inequality' has recently become a hot topic of debate. Trade liberalisation is evidently among many of other pro-market measures, which countries take to integrate with world markets and thus benefit from factors like technological spill-overs. Effects of pro market measures like capital market integration and financial liberalisation has already been captured in the last section through variables like regulatory quality. The results show that, at best, a weak relationship is present between regulatory quality and income distribution or wage inequality.

Mamoon & Murshed (2017) already establishes the importance of trade as a key variable of interest in understanding rise and fall in this measure of inequalities in developing countries. A brief discussion which has been carried out in earlier sections suggests that inequalities (especially skilled bias wage inequality) are also rising in developed countries and, other than indigenous technical bias, there may be some external factors, which may determine the rising trend in inequalities in developed countries, whereas international trade may be an important one of such factors.

Since the inequality models analysed in this chapter many trade measures (both outcome based and incidence based), a rich set of information is obtained on the link between integration and income or wage inequality for both developed and developing countries. This section presents this information referring to many specifications already analysed in last section, while focusing only on institutions and their effects of inequality. Here the author will analyze the correlations between different measures of trade openness and trade policy with *Gini* and *Theil99*, while institutions would serve as control variables for the robustness of the results. The results on the relationship between trade and relative share of different income groups will not be covered here to avoid excess of information. Nevertheless, openness is found to be significantly related with incomes in developing countries. Branko (2005), using Panel data and under a more

comprehensive model specifications by adding variables like foreign direct investment, looks at the impact of openness on the relative income shares of low and high deciles and finds that for poor (least developed) countries openness benefits the rich, whereas for countries who belong to relatively higher income groups within developing countries, openness does appear to favour poor and the middle class.

Dollar (2005) undertakes a comprehensive study to investigate the effects of globalisation on poverty and inequality for the post reform period (1980). Apart from showing that poverty trends have declined in developing countries post 1980 reforms, the paper manages to find no general trend towards higher inequalities within developed and developing countries. In comparison, rise in inequalities is more pronounced in manufacturing sector pay, though wages only constitute a small part of household income in developing countries. The focus of Dollar (2005) has been on global inequality which he finds to be on declining trends. However, there are many studies who have refuted this claim (i.e, see Milanovic 2006; 2005; and Wade, 2004). The claims on significant poverty reduction amidst high growth rates in developing countries has also been refuted since many studies are able to show that excluding India and China from the sample may capture rising trends in poverty in many developing countries. Whether developing countries, who faced increasing trends in poverty, have been unsuccessful globalisers and categorising India and China as success stories of free market reform is a generalisation which can then easily be questioned and thus the claim that 'globalisation has been pro poor' (Milanovic, 2003).

In this section, the author would look at the issue of within country income inequality and its relationship, if any, with international trade while controlling for Legal, Political, Economic and Social institutions which have been analysed in last section.

Table 9; show the results for openness with income inequality. There is no evidence of a significant relationship between openness and within country income inequality except for two cases (columns 3 and 4). Institutions are significantly and negatively related with income inequalities. Reducing the sample to developing countries only makes insignificance of trade more pronounced. The relative significance of institutions has also declined. Nevertheless, social institutions captured by average years of schooling, significantly decrease inequality for developing countries and the relationship is significant at 5% level. High values of coefficients for Sch99 suggest that education is highly effective in inequality mitigation. Further confidence comes from the statistical validity of the results for Sch99 because model specifications (coloumn 6 and 12) with *Sch99* do not suffer from endogeiniety which has been observed in case of *Rl, Va* or *Ge*. (All such cases are highlighted in grey) Another interesting observation comes forth. For a larger sample, including developed and developing countries, democracy is significantly and negatively related with the *Gini,* telling that democracies are more likely to put a downward pressure on income inequality. However when the sample is reduced for developing countries only (columns 9 and 10), the signs change in favour of autocracy. Now democracy is positively and significantly related with *Gini* and autocracy, which was insignificant for the larger sample, is significantly and negatively related with inequality. The result is simple to interpret. Democracies in developing countries are associated with higher income inequality and autocracies are associated with less income inequality. There are several reasons why democratic experience in developing countries is related with higher income inequality and why autocracies may in fact show a negative relationship. First and foremost, there is a direct link between democracy and higher inequality because there is evidence that transition to a democracy in many developing countries have produced political instability, ethnic conflict and resultantly poor economic outcomes. (Kaplan, 2000; Zakaria, 2003; and Rodrik & Wacziarg, 2005) In literature there is also a distinction between real democracy (Populist democracy) and oligarchic society (Acemoglu, 2003b). In real

democracy, the political power is more equally distributed among different social and income groups of the society and thus the poorer segments can use their political voice to implement pro poor tax system in the country. Also in a real democracy, implementation of property rights prevent barriers to entry as against oligarchic society, which may look like a democracy by holding elections but political power lies with economic elites who create monopoly positions in the domestic markets for their businesses and violate property rights. In this context, an autocratic set up, where the leaders have effectively implemented property rights and significantly improved the level playing field for all social groups to carry out good business practices, may lead to decrease in income inequality (Glaser *et al.,* 2004a; and 2004b). Secondly, as explained by Gradstein *et al.,* (2001), culture and social value system also has a very important role to play in inequality mitigation: 'For Muslim, Buddhist/ Hindu and Confucian societies, democracy has either hardly discernible, or even a positive, effect on inequality. Yet these societies seem to possess some features which make them intrinsically more equal that the Judeo-Christian societies. It could be - although our empirical test does not account for that -that, the same "desired" level of inequality which in the Judeo-Christian societies is achieved through expanded franchise and government-sponsored redistribution, is implemented in the Muslim, Buddhist/Hindu, and Confucian societies, informally, through family and ethnic ties' (p35).

The results in table 9 and 10 give credence to such analysis because results for *Demo* and *Auto* do not change even if Africa is excluded from the developing country sample. Instead, the results become more pronounced (columns 13, 14, 27 and 28), with improved coefficients and significance level for both *Demo* and *Auto* to suggest that the cause of unequal distribution of resources in developing countries is much more than the risky transitions to democracy as is also suggested by Rodrik (2005). It seems to matter what kind of democracies these developing countries implement and practice and what kind of societies they make up.

Table 10, shows the results based on trade policy (*Owti*). They are similar to the ones already discussed above for *Lcopen*. For the larger sample of developed and developing countries, decrease in tariffs rates on international inputs and capital goods bring a significant decrease in income inequality. However, the as for *Lcopen*, results remain highly case sensitive. *Owti* is only significant for 2 (columns 17 and 18) specifications out of total number of 14 specifications including the ones which represent results for reduced samples (developing country only). On basis of these results we cannot claim with surety that trade is significantly related with income inequality.

Insignificant results on the relationship between trade and inequality should not be taken as evidence in favour of globalisation or against it. What the results at best show is that the very construction of Gini, and related methodological problems (also mentioned at the start of the chapter), have a part to play in these results. Further more, despite the sophistication of the analysis, the major deficiency in the kind of analysis done in this section would remain the very limited number of observations utilised for *Gini* against to what has been available by WIDER dataset. The author only includes one yearly observation for every country to best suite the cross section methodology employed in this manuscript. That has significantly decreased the degrees of freedom. This could have been avoided under a Panel analysis. For a Panel of countries, observations for *Gini* go as high as 5313.

However, it is also important to note here is that a panel analysis may not necessarily lead to different results as many studies (i.e, Dollar, 2005) have already utilised such methodology to find no evidence of significant relationship between trade and income inequality. Yet again, such results can always be questioned on the basis of model specifications and certain case sensitivities. Finally, similar to Dollar (2005), our results contribute to the empirical debate and motivate further research into this topic.

Table 11 presents results for wage inequality. It is clear that general openness indicators as well as trade policy measures lead to higher wage inequality in both developed and developing countries. However the only exception is import taxes. Implementing import taxes by protecting local industry has egalitarian effects. This is in line with recent literature on premature de industrialisation that suggests that developed countries have witnessed rise in inequality partly explained by active globalisation that has reversed industrialisation and thus causing political and economic upheavals in favour of anti globalisation movements.

Table 9. *Gini and Openness (Lcopen)*

Dependent Variables	Dependent Variable : Gini													
	(Developed + Developing)						(Developing Only)						(Developing) Minus Africa	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Openness														
Nominal Trade Shares (Lcopen)	-0.49	-2.11	-4.71	-5.22	1.22	-0.59	-0.59	-1.08	-0.10	1.33	-1.26	0.67	-0.93	1.09
	(-0.2)	(-0.8)	(-1.6)*	(-1.8)*	(0.4)	(-0.19)	(-0.2)	(-0.3)	(-0.03)	(0.37)	(-0.3)	(0.1)	(-0.2)	0.27
Institutions														
Legal														
Rule of law(Rl)	-7.30						-6.44							
	(-5.0)***						(-1.3)							
Political														
Voice and Accountability (Va)		-5.46						1.40						
		(-4.0)***						(0.5)						
Democracy (Demo)			-0.71						1.35				2.28	
			(-1.8)*						(2.4)**				(3.2)***	
Autocracy (Auto)				0.369						-1.59				-2.80
				(0.7)						(-2.6)**				(-3.5)***
Economic														
Government Effectiveness (Ge)					-8.60						7.64			
					(-5.0)***						(0.9)			
Social														
Average years of schooling (Sch99)						3.80						-4.27		
						(-2.7)***						(-2.2)**		
N	95	96	89	89	89	72	70	71	66	66	64	52	44	44
F-Statistics	13.27***	8.96***	3.14**	1.67	12.62***	9.16***	0.88	0.21	2.87*	3.35	0.44	2.27	5.10*	6.10
R-Square	0.16	0.14	0.03	0.02	0.16	0.15	0.16	0.01	0.11		0.19	0.00	0.36	0.34
2SLS Bias	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.000	0.000	0.000	0.208	0.009	0.000	0.000
Sargan (p)	0.001***	0.000***	0.000***	0.000***	0.000***	0.876	0.001***	0.000***	0.011***	0.025**	0.000***	0.817	0.072*	0.187

Notes: ***, **, * denotes significance at 1%, 5 % and 10% levels respectively; Standard errors corrected for as run Durbin–Wu–Hausman test (augmented regression test) for endogeneity (see Davidson & MacKinnon. 1993).

Table: 10 *Gini and Trade Policy (Owti)*

Independent Variables	Dependent Variable : Gini													
	(Developed + Developing)								(Developing Only)				(Developing Only) Minus Africa	
	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Trade Policy														
Tariffs on intermediate inputs and capital goods (Owti)	-30.05 (-1.04)	3.73 (0.2)	56.50 (1.9)*	66.69 (2.4)**	-48.34 (-1.1)	16.57 (0.6)	-25.02 (-1.1)	-18.61 (-1.10)	-9.18 (-0.5)	-12.46 (-0.7)	-32.26 (-1.1)	-1.29 (-0.1)	3.38 (0.1)	-0.69 (-0.03)
Institutions														
Legal														
Rule of law(Rl)	-0.45 (-3.5)***						-7.13 (-1.3)							
Political														
Voice and Accountability (Va)		-5.80 (-2.0)**						2,61 (0.80)						
Democracy (Demo)			0.33 (0.4)						1.31 (2.2)**				2.34 (2.5)**	
Autocracy (Auto)				-1.13 (-0.9)						-1.68 (-2.5)**				-3.01 (-2.8)***
Economic														
Government Effectiveness (Ge)					-13.23 (-2.8)***						-4.01 (-0.58)			
Social														
Average years of schooling (Sch99)						-2.77 (-2.6)***						-3.29 (2.1)**		
N	70	71	68	51	68	59	53	54	51	51	51	44	34	34
F-Statistics	17.07***	11.80***	3.57**	2.79*	13.57***	14.13***	0.98	1.22	2.79*	3.26**	0.64	2.12	3.16**	3.88**
R-Square	0.18	0.18	0.59	0.15	0.48	0.06	0.45	0.11	0.15	0.22	0.40	0.57	0.06	0.52
2SLS Bias	0.073	O124	0.155	0.027	0.166	0.051	0.041	0.001	0.027	0.019	0.144	0.029	0.181	0.123
Sargan (p)	0.036**	0.000***	0.002**	0.037**	0.028**	0.346	0.027**	0.005***	0.038**	0.092*	0.009***	0.504	0.185	0.336

Notes: ***, **, * denotes significance at 1%, 5 % and 10% levels respectively; Standard errors corrected for as run Durbin–Wu–Hausman test (augmented regression test) for endogeneity (see Davidson & MacKinnon. 1993).

Table 11. *openness / trade policy (All Specifications)*

	Dependent Variable: Theil index								
	1	2	3	4	5	6	7	8	9
	Institutions serve as control variables and are presented in the parenthesis below								
Independent Variables									
Nominal Trade Shares (Lcopen)	0.032	0.036	0.039	0.029	0.039	0.039	0.041	0.035	0.013
	(1.54)	(1.68)***	(1.77)***	(1.39)	(1.82)***	(1.78)***	(1.70)***	(1.41)	(0.89)
Import Penetrations (Impnov85)	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.0002
	(2.66)*	(2.87)*	(2.88)*	(2.48)**	(3.01)*	(2.86)*	(2.57)*	(2.28)**	(0.38)
Import Penetrations (Impnov85)	0.001	0.002	0.002	0.0002	0.002	0.002	0.002	0.002	0.0003
	(2.68)*	(2.91)*	(2.92)*	(2.63)*	(3.06)*	(2.93)*	(2.67)*	(2.41)**	(0.42)
TARS trade penetration (Tars85)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0001
	(2.84)*	(3.06)*	(3.08)*	(2.66)*	(3.24)*	(3.06)*	(2.75)*	(2.44)**	(0.32)
TARS trade penetration (Tars85)	0.0005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0002
	(2.62)*	(2.56)*	(2.65)*	(2.44)**	(2.74)*	(2.59)*	(2.20)**	(1.98)**	(0.43)
Sachs and Warners Openness (Open80s)	0.007	-0.033	-0.025	-0.062	0.052	0.030	-0.007	-0.047	0.047
	(0.51)	(-0.41)	(-0.28)	(-0.08)	(0.46)	(0.28)	(-0.09)	(-0.84)	(0.60)
Tariffs on intermediate inputs and capital goods (Owti)	-0.004	0.008	0.012	0.007	0.015	0.004	-0.004	-0.001	0.006
	(-0.34)	(0.80)	(0.89)	(1.11)	(0.55)	(0.37)	(-0.96)	(-0.63)	(0.81)
Trade taxes (Txtrdg)	-0.230	-0.324	-0.302	-0.149	-0.425	-0.366	-0.136	-0.058	-0.129
	(-1.34)	(-1.53)	(-1.50)	(-0.86)	(-1.78)***	(-1.63)	(-0.96)	(-0.49)	(-0.86)
Total import charges (Totimpov85)	4.810	2.281	2.504	4.509	2.986	2.441	5.713	4.364	1.079
	(1.50)	(1.84)***	(1.91)***	(1.63)	(1.75)***	(2.03)**	(1.46)	(1.39)	(1.76)***
Non trade barriers (Owqi)	-0.003	-0.002	-0.002	-0.002	-0.002	-0.002	-0.003	-0.003	-0.001
	(-2.32)**	(-1.82)***	(-1.70)***	(-2.31)**	(-1.84)***	(-2.04)**	(-2.56)*	(-2.33)**	(-1.18)
Non trade barriers (Owqi)	-0.800	-1.082	-1.243	-0.522	-1.101	-1.010	-0.487	-0.264	0.050
	(-1.03)	(-0.92)	(-0.85)	(-0.98)	(-0.95)	(-0.94)	(-1.01)	(-0.94)	(0.27)
Non tariff barriers (Ntarfov87)	-0.002	-0.001	-0.0005	-0.002	-0.002	-0.002	-0.002	-0.002	-0.003
	(-1.64)	(-0.82)	(-0.26)	(-1.66)***	(-1.04)	(-1.30)	(-2.09)**	(-2.12)**	(-0.73)

Notes: -*, **, *** corresponds to 1%, 5% and 10% levels of significance respectively - Control variables are in parentheses

6. Conclusions

This chapter has analysed the effects of different institutions on inequality. Although the literature is limited on the subject, what there is, suggests that there are two-way causalities between institutions and inequality. To explore this it was necessary to solve the problem of endogeneity by utilising a rich set of instruments and employing higher order validation techniques of relevance and exogeniety, and thus a very fine econometric analysis is carried out to understand the role of good institutions, which represent a vast set of legal, political, economic and social outcomes, in inequality mitigation and redistribution. Furthermore, the rich model specification also enabled the analysis to shed light on the link between trade and inequality which is also subject of great interest for many studies lately.

The results reconfirmed that good quality institutions lead to decreases in inequality. It also appears that voice and accountability and political stability are more important than democracy. In line with previous studies, the current findings suggest that it may not matter much whether a country is working under a democracy or autocracy if it is about income inequality, but good policies enacted by the country's leaders determine the welfare-enhancing effects through preservation of property and other rights. Good leadership, which not only follows more market friendly policies, also keeps institutional development at the fore of their policy choice and is keen for economic development to succeed. For developing countries, transition to democracies also comes with higher risks of political stability which in turn lead to greater income inequality. Culture and social set up capture democratic outcomes more than democracy itself in developing countries. Societies who highly value equality may redistribute income from rich to the poor even if the larger political set is autocratic in the country. However, autocracies are significantly related with wage inequality, where as democracies may pay higher wages on average in the manufacturing sector.

Table 8 summarises the results of institutions based on relative significance, and shows that rule of law, control for corruption, political stability, government effectiveness and education are the key institutional outcomes which if secured can ensure equal societies. If education is more equally distributed among the population, relative wages of skilled and unskilled labour will have the least amount of distortions, especially when the country opens up to international trade. Among economic institutions, regulation is less important when compared to government's independent fiscal and monetary policy, its effective capacity to decentralise and its pro-business orientation. Table 8 also shows that the middle-class comes out to be the main beneficiary of good quality institutions over any other income group as *Middle20* equations give the most significant results.

Regarding integration, the findings indicate that openness generally relates to higher wage inequality, although its impact on income inequality is relatively insignificant. This result is also in line with recent literature. However, the findings strongly suggest that levels of trade or trade policies may carry significant positive effects on wage inequality. Especially, international competition by revoking import taxes lead to higher wage inequality. To remedy for rising wage inequalities in developing countries, the analysis favour more regional trade among developing countries where trade may bring labour intensive technical change in the economies of participant countries as has been the case in Europe, where countries trade among each other more due to the EU (European Union), when in comparison with U.S. For example, in countries like China and India, the pace of development suggest that both countries are fast climbing the technology ladder and would form significant pockets of services' sector-oriented high technology dependent production areas, which may draw similarities with developed nations in both supply and demand and relative factor prices. Trade within developing countries may seek to exploit such emerging pockets. Countries like Pakistan may also increasingly join in if regional economics is a priority and conflicts of interest are resolved or set aside for preparation of economic grounds for social harmony within their populations.

Appendix.

Table 8. *Significance count of institutions*

Independent Variables / Dependent Variables	Gini	Theil	High20/Low20	Middle20	Low10	High10	Cases of Significance by rows	Total cases of correct signs
Legal Institutions								
Rule of Law (Rl)	10 out of 12	5 out of 12	9 out of 12	10 out of 12	9 out of 12	10 out of 12	53 out of 72	53 out of 53
(Negative sign)	(10 out of 10)	(5 out of 5)	(9 out of 9)	(0 out of 10)	(0 out of 9)	(10 out of 10)		
Control of Corruption (Ctc)	9 out of 12	5 out of 12	8 out of 12	9 out of 12	8 out of 12	9 out of 12	48 out of 72	48 out of 48
(Negative sign)	(9 out of 9)	(5 out of 5)	(8 out of 8)	(0 out of 9)	(0 out of 8)	(9 out of 9)		
Economic Institutions								
Government Effectiveness (Ge)	8 out of 12	5 out of 12	8 out of 12	9 out of 12	8 out of 12	8 out of 12	46 out of 72	46 out of 46
(Negative sign)	(8 out of 8)	(5 out of 5)	(8 out of 8)	(0 out of 9)	(0 out of 8)	(8 out of 8)		
Regulatory Quality (Rq)	4 out of 12	3 out of 12	2 out of 12	6 out of 12	1 out of 12	5 out of 12	21 out of 72	19 out of 21
(Negative sign)	(3 out of 4)*	(3 out of 3)	(2 out of 2)	(0 out of 6)	(1 out of 1)*	(5 out of 5)		
Political Institutions								
Political Stability (Ps)	9 out of 12	5 out of 12	8 out of 12	9 out of 12	8 out of 12	9 out of 12	48 out of 48	48 out of 48
(Negative sign)	(9 out of 9)	(5 out of 5)	(8 out of 8)	(0 out of 9)	(0 out of 12)	(9 out of 9)		
Voice and Accountability (Va)	7 out of 12	5 out of 12	5 out of 12	7 out of 12	2 out of 12	7 out of 12	33 out of 72	31 out of 33
(Negative sign)	(7 out of 5)	(5 out of 5)	(5 out of 5)	(0 out of 7)	(1 out of 2)*	(7 out of 7)		
Democracy (Dem)	5 out of 12	3 out of 12	4 out of 12	7 out of 12	1 out of 12	5 out of 12	25 out of 72	23 out of 25
(Negative sign)	(5 out of 5)	(3 out of 3)	(4 out of 4)	(0 out of 7)	(1 out of 1)*	(4 out of 5)*		
Autocracy (Aut)	1 out of 12	3 out of 12	0 out of 12	3 out of 12	2 out of 12	2 out of 12	11 out of 72	9 out of 11
(Negative signs)	(1 out of 1)	(0 out of 12)	(0 out of 0)	(3 out of 3)	(0 out of 2)*	(2 out of 2)		
Social Institutions								
Average Schooling Years (Sch)	11 out of 12	9 out of 12	6 out of 12	6 out of 12	5 out of 12	6 out of 12	43 out of 72	43 out of 43
(Negative sign)	(9 out of 9)	(9 out of 9)	(6 out of 6)	(0 out of 7)	(0 out of 5)	(6 out of 6)		
Cases of Significance (by columns)	64 out of 120	51 out of 120	51 out of 120	68 out of 120	47 out of 120	62 out of 120	-	-

Notes: * Observation made that a variable has entered the equation significantly but with a wrong sign; Significance is observed at 1%, 5% and 10% levels.

Country List for Gini		
Aruba	Guyana	Peru
Armenia	Hong Kong, China	Philippines
Australia	Honduras	Papua New Guinea
Austria	Croatia	Poland
Azerbaijan	Hungary	Portugal
Burundi	Indonesia	Paraguay
Belgium	India	Romania
Burkina Faso	Ireland	Russian Federation
Bangladesh	Israel	Rwanda
Bulgaria	Italy	Senegal
Belarus	Jamaica	Sierra Leone
Bolivia	Jordan	El Salvador
Brazil	Japan	Slovak Republic
Central African Republic	Kazakhstan	Slovenia
Canada	Kenya	Sweden
Chile	Kyrgyz Republic	Swaziland
China	Cambodia	Thailand
Cote d'Ivoire	Korea, Rep.	Tajikistan
Cameroon	Lao PDR	Turkmenistan
Colombia	St. Lucia	Trinidad and Tobago
Costa Rica	Sri Lanka	Tunisia
Czech Republic	Lesotho	Turkey
Germany	Lithuania	Tanzania
Denmark	Luxembourg	Uganda
Dominican Republic	Latvia	Ukraine
Algeria	Morocco	Uruguay
Ecuador	Moldova	United States
Egypt, Arab Rep.	Madagascar	Uzbekistan
Spain	Mexico	Venezuela, RB
Estonia	Malta	Vietnam
Ethiopia	Mongolia	Yemen, Rep.
Finland	Mozambique	Zambia
France	Mauritania	Zimbabwe
United Kingdom	Malaysia	
Georgia	Niger	
Ghana	Nigeria	
Guinea	Nicaragua	
Gambia, The	Netherlands	
Guinea-Bissau	Norway	
Equatorial Guinea	Nepal	
Greece	Pakistan	
Guatemala	Panama	

Country List for Theil99			
Afghanistan	Dominican Republic	Sri Lanka	Russian Federation
Angola	Algeria	Lesotho	Rwanda
Albania	Ecuador	Lithuania	Saudi Arabia
Netherlands Antilles	Egypt, Arab Rep.	Luxembourg	Sudan
United Arab Emirates	Eritrea	Latvia	Senegal
Argentina	Spain	Macao, China	Singapore
Armenia	Ethiopia	Morocco	Solomon Islands
Australia	Finland	Moldova	El Salvador
Austria	Fiji	Madagascar	Somalia
Azerbaijan	France	Mexico	Sao Tome and Principe
Burundi	Gabon	Marshall Islands	Suriname
Belgium	United Kingdom	Macedonia, FYR	Slovak Republic
Benin	Georgia	Malta	Slovenia
Burkina Faso	Ghana	Myanmar	Sweden
Bangladesh	Guinea	Mongolia	Swaziland
Bulgaria	Gambia, The	Northern Mariana Islands	Seychelles
Bahrain	Guinea-Bissau	Mozambique	Syrian Arab Republic
Bahamas, The	Equatorial Guinea	Mauritania	Togo
Bosnia and Herzegovina	Greece	Mauritius	Thailand
Belize	Guatemala	Malawi	Tonga
Bolivia	Hong Kong, China	Malaysia	Trinidad and Tobago
Brazil	Honduras	Namibia	Tunisia
Barbados	Croatia	Nigeria	Turkey
Bhutan	Haiti	Nicaragua	Tanzania
Botswana	Hungary	Netherlands	Uganda
Central African Republic	Indonesia	Norway	Ukraine
Canada	India	Nepal	Uruguay
Chile	Ireland	New Zealand	United States
China	Iran, Islamic Rep.	Oman	St. Vincent and the Grenadines
Cote d'Ivoire	Iraq	Pakistan	Venezuela, RB
Cameroon	Iceland	Panama	West Bank and Gaza
Congo, Rep.	Israel	Peru	Samoa
Colombia	Italy	Philippines	Yemen, Rep.
Cape Verde	Jamaica	Papua New Guinea	Yugoslavia, Fed. Rep.
Costa Rica	Jordan	Poland	South Africa
Cuba	Japan	Puerto Rico	Congo, Dem. Rep.
Cyprus	Kenya	Korea, Dem. Rep.	Zambia
Czech Republic	Kyrgyz Republic	Portugal	Zimbabwe
Germany	St. Kitts and Nevis	Paraguay	
Denmark	Korea, Rep.	French Polynesia	
	Kuwait	Qatar	
	Liberia	Romania	
	Libya		

Country List for Weighted Average of total Import Charges, 1985(Totimpov85) (Available for Developing Countries Only)	
Angola	Sri Lanka
Argentina	Morocco
Antigua and Barbuda	Madagascar
Burundi	Mexico
Benin	Malawi
Burkina Faso	Malaysia
Bangladesh	Nigeria
Bahrain	Nicaragua
Bahamas, The	Nepal
Belize	Oman
Bolivia	Pakistan
Brazil	Peru
Barbados	Philippines
Central African Republic	Papua New Guinea
Chile	Paraguay
China	Qatar
Cote d'Ivoire	Sudan
Cameroon	Senegal
Congo, Rep.	Singapore
Colombia	Sierra Leone
Costa Rica	El Salvador
Cuba	Syrian Arab Republic
Cayman Islands	Thailand
Algeria	Trinidad and Tobago
Ecuador	Tunisia
Egypt, Arab Rep.	Turkey
Ghana	Tanzania
Guinea	Uganda
Grenada	Uruguay
Guatemala	St. Vincent and the Grenadines
Guyana	Venezuela, RB
Hong Kong, China	Yemen, Rep.
Haiti	Congo, Dem. Rep.
Indonesia	Zambia
India	Zimbabwe
Iran, Islamic Rep.	
Jamaica	
Jordan	
Kenya	
Korea, Rep.	
Kuwait	

Country List for Non Tariff Barrier Coverage, 1987 (Nontarr87)(Available for Developing Countries Only)	
Angola	Sri Lanka
Argentina	Morocco
Antigua and Barbuda	Madagascar
Burundi	Mexico
Benin	Malawi
Burkina Faso	Malaysia
Bangladesh	Nigeria
Bahrain	Nicaragua
Bahamas, The	Nepal
Belize	Oman
Bolivia	Pakistan
Brazil	Peru
Barbados	Philippines
Central African Republic	Papua New Guinea
Chile	Paraguay
China	Qatar
Cote d'Ivoire	Sudan
Cameroon	Senegal
Congo, Rep.	Singapore
Colombia	Sierra Leone
Costa Rica	El Salvador
Cuba	Syrian Arab Republic
Cayman Islands	Thailand
Algeria	Trinidad and Tobago
Ecuador	Tunisia
Egypt, Arab Rep.	Turkey
Ghana	Tanzania
Guinea	Uganda
Grenada	Uruguay
Guatemala	St. Vincent and the Grenadines
Guyana	Venezuela, RB
Hong Kong, China	Yemen, Rep.
Haiti	Congo, Dem. Rep.
Indonesia	Zambia
India	Zimbabwe
Iran, Islamic Rep.	
Jamaica	
Jordan	
Kenya	
Korea, Rep.	
Kuwait	

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