Economic Security, Well Functioning Courts and a Good Government

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Abstract:

The paper defines economic security as a country's ability to re distribute incomes through a strong governance structure by practicing rule of law, eliminating corruption and a government that acts as a facilitator by formulating effective fiscal and monetary policy and regulation. The results suggest that courts that implement national laws effectively and punish corruption and a government that has balance budgets and investment friendly monetary policy ensures economic security by means of welfare friendly outcomes that favor the incomes of the poor and middle class. There is also evidence that redistribution takes place from rich to the poor. As a result income and wage inequalities fall down.

Key words: Governance, Redistribution, Inequality

1. Introduction:

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 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 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. 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 labor 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.

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 neighbor 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.

Why market friendly policies may fail to work in 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.

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

focused 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. Globalization is accused of 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 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 Organization. (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 favor of the developed countries partly because the negative fall out of globalization 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 globalization. (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. In this context, both institutions and trade may have a strong redistributive power.

The countries with poor institutions are 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 favor 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 and Kaufman 2002) Similarly, in several Latin American countries, the ruling elites, the military and large businesses impeded smaller business interests. Chong and Gradstein (2004), show that when the political bias in favor of the rich is large, income inequality and poor institutional quality may reinforce each other, confirming endogeneity between the two.

As mentioned, market outcomes (trade) and prevailing institutions are also correlated and endogenously determine income distribution. Trade opening in societies with weak institutions may lead to worse economic policies with rising inequalities unless and until poor institutions are controlled for by giving them ample time to develop. (Segura-Cayuela 2005) For example, the 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 which opened up rather vigorously without considering prevalent corrupt government structures (and other underdeveloped institutions) performed poorly. In such countries poverty and inequality increased while high trade deficits had occurred after trade liberalization accounting for a capital flight. (Yudaeva 2002) Rising inequalities as an outcome of bad policies (mismanagement or mistiming) may even lead to political upheavals against globalization and further integration.

Here we are concerned with legal and economic institutions representing good functioning courts and a government. 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. 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, privatization, banking reform and interest rate liberalization, securities and non-bank financial institutions.

The legal and economic 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) 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. (Ibid 1998)

In this paper we look at the relationship of these institutions with income distribution and redistribution capturing economic security in a country while taking integration as a control group.

Table 1: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)** http://www.wider.unu.edu /wiid/wiid.htm	117	(35.00)
UTIP-UNIDO Wage Inequality THEIL Measure, 1999	Theil99	- Same -	155	(0.099)
Lowest income decile, 1995	Low10	- Same -	117	(1.05)
Fifth income percentile/ First income percentile , 1995	High20/ Low20	- Same -	117	(2.28)
Third income percentile, 1995	Thrd20	- Same -	117	(2.22)
Highest income decile, 1995	High10	- Same -	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 and Warner (1995)	98	(0.165
Trade taxes/ trade, 1982	Txtrdg	Pritchett (1996)	54	(0.031)
Weighted average of total import charges, 1985	Totimpov85	Pritchett (1996) (Available for developing countries only)	76	(21.30)
Non trade barriers frequency on intermediate inputs, 1985	Owqi	Sachs and 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				
Courts				
Rule of Law, 1999 Range: 2.5 to -2.5	Rl	Kaufmann, Kraay and Mastruzzi (2003)	166	(0.937)
Control for Corruption, 1999 Range: 2.5 to -2.5	Ctc	Kaufmann, Kraay and Mastruzzi (2003)	159	(0.910)
Government				
Government effectiveness, 1999 Range: 2.5 to -2.5	Ge	Kaufmann, Kraay and Mastruzzi (2003)	157	(0.893)
Regulatory quality, 1999 Range: 2.5 to -2.5	Rq	Kaufmann, Kraay and Mastruzzi (2003)	166	(0.892)
Instruments				
Natural logarithm of predicted trade shares computed from a bilateral trade equation with 'pure geography' variables,	Lfrkrom	Frankel and Romer (1999)	163	(16.75)
Fraction of the population speaking English	Engfrac	Hall and 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 and Jones (1999)	185	(0.380)
Distance from the equator of capital city measured as abs (Latitude)/90	Disteq	Acemoglu, Johnson and Robinson (AJR) (2001)	208	(16.65)

2. Data and Methodology

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 globalization 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.

As table 1 suggests we use Kaufman et al's (2003) governance indicators. Rule of law (*Rl*) and Control for Corruption (*Ctc*) are categorized as legal institutions representing courts. Government effectiveness (*Ge*) and Regulatory quality (*Rq)* are economic institutions representing the government. As mentioned above, international trade is also a significant determinant of inequality. Thus international trade enters the regression model to enhance its explanatory power. 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 and Warner's (1995) openness index (O*pen80*) is utilised as a composite measure of trade policy.

Now, we need to select inequality measures (related with incomes) or re-distribution (of income) to enter the left hand side of the empirical model. Our first concern is to know how income inequality is generally determined in empirical literature. It is a difficult question because comparable and consistent measures of income inequality, whether on a household level or per head basis are difficult, almost implausible and generally even if obtained fail to provide adequate or accurate longitudinal and cross-country coverage. For this, recent literature on income inequality prefers global income inequality indicator over country specific ones (see Milanovic, 2006). Nonetheless, cross country income inequality indices representing global inequality are also prone to controversies. 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 inequalities with countries weighted by population has been found to be constant or falling since around 1980s. (See Wade, 2004)

As mentioned we are only interested in within country effects of inequality in order to partly differentiate between recent (post reform) evolution of within country inequality between

developed and developing countries. Despite its apparent weaknesses, to capture within country income inequality, we have little choice but to employ controversial and much criticized upon within country GINI income inequality index (*Gini*) which is available from UNU/WIDER World Income Inequality Database (WIID). (Atkinnson and Brandolini: 2001)

In addition to GINI we have employed other concepts of within country inequality. UTIP-UNIDO Theil measure (*Theil*) calculated by the University of Texas Inequality Project (UTIP) captures wage inequality between skilled and unskilled labor in manufacturing pay sector and available for both developed and developing countries. 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 and Kum 2002)

In order to add direct measures of redistribution into the empirical exercise, this chapter employs income deciles and percentiles derived from UNU/WIDER World Income Inequality Database (WIID). Institutions will be good for redistribution of resources if they are positively related with the incomes of the bottom 10 per cent (*low10*) and negatively related with 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*). 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 or Income Share = f (Institutions, Integration, Geography) .....   (1)

Corresponding to Eq. (1), the inequality model based on *Theil index* has 2 equations whereas each equation corresponds to a different institutional classification. The model specifications for *Gini*, *High20/Low20*, *Middle20*, *Low10* and *High10* contain the same 2 equations each with the same variable specifications**.**

$$Theil_{1i} = \alpha_1 + \beta_1 Courts_i + \chi_1 Integration_i + Geo + \varepsilon_{1i} \qquad (2)$$

$$Theil_{2i} = \alpha_2 + \beta_2 Government_i + \chi_2 Integration_i + Geo + \varepsilon_{2i} \qquad (3)$$

The variable $Theil_i$ is Theil index in a country i, $Courts_i$ and $Government_i$ are respectively measures for legal and economic institutions, whereas $Integration_i$ measures general openness in the economy or trade policy and ε_i is the random error term. Equations based on *Gini*, *High20/Low20*, *Middle20*, *Low20* and *High10* have similar specifications.

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. Frankel and Romer (1999) (FR) makes up for the instrument for all the outcome and incidence measures of trade barriers utilized in this chapter. FR instrument uses trade/GDP shares constructed based on a gravity equation for bilateral trade flows. Following, Hall and Jones (1999), the extent to which the primary languages of Western Europe are the first languages are taken as instruments for Legal 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 and 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.

According to Glaeser et al. (2004), 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. 2004: 8)

Following are the model specifications for first stage regressions based on IV:

$$Courts_i = \sigma_1 + \varsigma_1 Eng_i + \theta_1 Eur_i + \vartheta_1 FR_i + \tau_1 Disteq + E_{1i} \qquad (4)$$

$$Government_i = \sigma_2 + \varsigma_2 Eng_i + \theta_2 Eur_i + \vartheta_2 FR_i + \tau_2 Disteq + E_{2i} \qquad (5)$$

$$Integration_i = \sigma_3 + \varsigma_3 Eng_i + \theta_3 Eur_i + \vartheta_3 FR_i + \tau_3 Disteq + E_{3i} \qquad (6)$$

Where Eng_i and Eur_i are the instruments for legal (*LI*) and economic (*EI*) referring to fractions of population speaking English and European languages respectively. FR_i is instrument for integration. $Disteq_i$ is proxy for geography showing distance from the equator. At the second stage, the income share equations employ the predicted values of respective institutional, openness / trade policy variables.

3.   Results

3.1.   1st Stage Results

The first stage results are presented in table 2. 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. Here Low F-statistics for incidence based measures may indicate that instruments employed are weakly related with the regressors. Instruments work quite well for Legal and Economic institutions with F-statistic much higher than 10, and high R2, while all instruments are significantly related with all institutional regressors. Low F-statistics may not necessarily confers to weakness of instruments. Staiger and 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 chapter 2, needs to be carried out. Higher order asymptotic tests include (1) obtaining Craag and 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 endogeneity; and (4) Baum, Schaffer and Stillman's (2003) recommended test for heteroskedasticity robust 1st stage estimates 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. 2 and 3. In all these specification different definitions of inequality are utilized along with different specifications of Legal and Economic institutions and integration as regressors.

Table. 2. *First Stage Regression for Trade, Courts and Government*

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 international inputs and capital goods (Owti)	Trade taxes (Txtrdg)
Lfrkrom	0.533 (11.5)***	11.616 (7.9)***	19.811 (7.2)***	29.88 (7.4)***	46.47 (4.0)***	-1.02 (-0.8)	-0.078 (-3.4)***	0.0048 (0.98)
Engfrac	0.407 (2.1)**	19.71 (2.4)***	20.609 (2.2)**	29.78 (2.0)**	115.99 (2.9)***	-1.49 (-0.3)	-0.01 (-0.1)	0.001 (0.08)
Eurfrac	-0.208 (-1.9)*	-6.656 (-1.23)	-7.67 (-1.21)	-5.23 (-0.53)	-4.598 (-0.17)	-3.56 (-1.30)	-0.067 (-1.29)	-0.016 (-1.63)*
Disteq	-0.003 (-1.26)	-0.015 (-0.14)	-0.21 (-1.60)	0.052 (0.26)	-0.534 (-0.99)	-0.208 (-3.8)***	-0.002 (-2.1)**	-0.0007 (-3.8)***
N	122	82	84	85	82	85	85	52
F	39.00***	18.54***	15.9***	15.56***	7.12***	5.47***	5.36***	5.09***
R2	0.57	0.49	0.44	0.43	0.27	0.24	0.21	0.30

First Stage Results: Trade Policy, Courts and Government

	Weighted average of total import charges 1985 (Totimpov85)	Non trade barriers (Owqi)	Non tariff barriers 1987 (Ntarov87)	Sachs and Warner openness 1980 (Open80s)	Government Effectiveness (Ge)	Regulatory Quality (Rq)	Rule of law (Rl)	Control for Corruption (Ctc)
Lfrkrom	0.3739 (3.0)***	-0.036 (-0.9)	-18.08 (-3.0)***	0.195 (2.9)***	0.229 (2.9)***	0.081 (1.31)	0.238 (3.8)***	0.254 (3.3)***
Engfrac	-0.113 (-0.23)	-0.105 (-0.77)	4.254 (0.17)	-0.018 (-0.08)	0.573 (1.90)*	0.324 (1.32)	0.586 (1.9)*	0.832 (2.7)***
Eurfrac	0.164 (0.67)	-0.006 (-0.07)	-28.107 (-2.3)***	0.208 (1.43)	0.457 (2.5)**	0.572 (3.8)***	0.302 (1.6)*	0.0326 (1.8)*
Disteq	0.022 (2.9)***	-0.001 (-0.84)	-0.238 (-0.65)	0.010 (3.6)***	0.027 (7.3)***	0.014 (4.8)***	0.031 (8.3)***	0.030 (8.3)***
N	66	83	83	54	117	122	122	118
F	4.57***	0.73	7.21***	7.44***	22.2***	14.4***	24.9***	26.6***
R2	0.23	0.03	0.03	0.38	0.44	0.31	0.46	0.49

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

Table 3. *Multiple Tests for the Relevance and Quality of Instruments for Gini Index*

Endogenous Dependent Variable: **GINI Coefficients in Percentage Points as calculated from consumption expenditure by WIDER (Gini)**	N	Relevance				Exogeneity
		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, Courts and Government (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
1 Nominal Trade Shares, Government Effectiveness (Lcopen, Ge)	90	Robust	0.00	73.53**	5.03***	(0.918) 0.146
2 Nominal Trade Shares, Regulatory Quality (Lcopen, Rq)	96	Robust	0.00	68.52**	4.97***	(0.929) 0.019
3 Nominal Trade Shares, Rule of Law (Lcopen, Rl)	96	Robust	0.00	92.08**	4.79***	(0.988) 0.116
4 Nominal Trade Shares, Control for Corruption (Lcpopen, Ctc)	92	Robust	0.00	69.77**	4.60***	(0.943) 0.102
5 Import Penetration, 1985, Rule of Law (Impnov85, Rl)	69	Robust	0.00	62.63**	2.49*	(0.585) 0.268
6 Import Penetration, 1982, Rule of Law (Impnov82, Rl)	69	Robust	0.00	95.07**	17.74***	(0.874) 11.532 (0.0031)***
7 TARS trade Penetration, 1985, Rule of Law (Tarshov85, Rl)	69	Robust	0.00	52.35**	2.49*	0.162 (0.922)
8 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 and Courts (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
9 Import duties, Rule of Law (Tariff, Rl)	71	Robust	0.37	3.14**	19.52***	0.778 (0.677)
10 Tariffs on International Inputs and Capital Goods, Rule of Law (Owti, Rl)	71	Robust	0.078	6.79**	2.62**	2.28 (0.319)
11 Trade Taxes, Rule of Law (Txtrdg,Rl)	46	Robust	0.072	6.99**	18.20***	0.943 (0.624)
12 Weighted Average of Total import Charges, 1985, Rule of Law (Totimpov85, Rl)	52	Robust	0.019	9.91**	0.92	0.06 (0.970)
13 Non Trade Barriers, Rule of Law (Owqi,Rl)	70	Robust	0.846	0.81	3.30***	0.928 (0.628)
14 Non Tariff Coverage, 1987, Rule of Law (Ntarfov87, Rl)	52	Robust	0.042	8.27**	0.92	1.762 (0.414)
15 Sachs and Warner Openness, 1980, Rule of Law, (Open80s, Rl)	48	Robust	0.00	7.97**	1.92*	3.45 (0.178)

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

Table 4. *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, Courts and Government (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
16	Nominal Trade Shares, Government Effectiveness (Lcopen, Ge)	117	Robust	0.00	91.62	3.38**	(0.589) 1.46
17	Nominal Trade Shares, Regulatory Quality (Lcopen, Rq)	122	Robust	0.00	58.87	3.54***	(0.48) 1.69
18	Nominal Trade Shares, Rule of Law (Lcopen, Rl)	122	Robust	0.00	101.83	3.54***	(0.42) 1.72
19	Nominal Trade Shares, Control for Corruption (Lcpopen, Ctc)	118	Robust	0.00	107.42	3.30**	(0.42) 1.76
20	Import Penetration, 1985, Rule of Law (Impnov85, Rl)	85	Robust	0.00	75.48	5.28***	(0.578) 1.094
21	Import Penetration, 1982, Rule of Law (Impnov82, Rl)	84	Robust	0.00	60.64	4.87***	(0.612) 0.981
22	TARS trade Penetration, 1985, Rule of Law (Tarshov85, Rl)	85	Robust	0.00	66.09	5.28***	(0.511) 1.339
23	TARS Trade Penetration, 1982, Rule of Law (Tarshov82, Rl)	82	Robust	0.00	28.20	5.08***	(0.266) 0.329
	Endogenous Independent Variables: Trade Policy and Courts (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
24	Import duties, Rule of Law (Tariff, Rl)	85	Robust	0.71	1.37	6.46***	6.289 (0.04)**
25	Tariffs on International Inputs and Capital Goods, Rule of Law (Owti, Rl)	85	Robust	0.06	7.41	4.86***	5.596 (0.06)*
26	Trade Taxes, Rule of Law (Txtrdg,Rl)	52	Robust	0.08	6.74	3.47***	4.23 (0.12)
27	Weighted Average of Total import Charges, 1985, Rule of Law (Totimpov85, Rl)	66	Robust	0.02	9.52	3.12***	3.97 (0.13)
28	Non Trade Barriers, Rule of Law (Owqi,Rl)	83	Robust	0.83	0.86	4.71***	0.074 (0.96)
29	Non Tariff Coverage, 1987, Rule of Law (Ntarfov87, Rl)	66	Robust	0.08	6.73	3.12***	6.69 (0.03)**
30	Sachs and Warner Openness, 1980, Rule of Law, (Open80s, Rl)	54	Robust	0.11	5.93	4.86***	6.769 (0.033)**

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 High20/Low20*

	Endogenous Dependent Variable: **Fifth Income Percentile/ First Income Percentile (High20/Low20)**	N	1st Stage heteroskedasticity-robust	Relevance			Exogeneity
				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, Courts and Government (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
31	Nominal Trade Shares, Government Effectiveness (Lcopen, Ge)	90	Robust	0.00	73.53**	8.41***	5.85 (0.054)*
32	Nominal Trade Shares, Regulatory Quality (Lcopen, Rq)	96	Robust	0.00	68.52**	8.33***	12.546 (0.002)***
33	Nominal Trade Shares, Rule of Law (Lcopen, Rl)	96	Robust	0.00	92.08**	8.33***	5.237 (0.072)*
34	Nominal Trade Shares, Control for Corruption (Lcpopen, Ctc)	92	Robust	0.00	69.77**	8.10***	10.155 (0.269)
35	Import Penetration, 1985, Rule of Law (Impnov85, Rl)	69	Robust	0.00	62.63**	7.25***	2.463 (0.292)
36	Import Penetration, 1982, Rule of Law (Impnov82, Rl)	69	Robust	0.00	95.07**	2.93**	2.415 (0.298)
37	TARS trade Penetration, 1985, Rule of Law (Tarshov85, Rl)	69	Robust	0.00	52.35**	2.95**	2.378 (0.304)
38	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 and Courts (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
39	Import duties, Rule of Law (Tariff, Rl)	71	Robust	0.37	3.14**	5.92***	1.563 (0.457)
40	Tariffs on International Inputs and Capital Goods, Rule of Law (Owti, Rl)	71	Robust	0.078	6.79**	9.75***	3.829 (0.146)
41	Trade Taxes, Rule of Law (Txtrdg,Rl)	46	Robust	0.072	6.99**	8.16***	1.956 (0.376)
42	Weighted Average of Total import Charges, 1985, Rule of Law (Totimpov85, Rl)	52	Robust	0.019	9.91**	5.55***	4.602 (0.101)
43	Non Trade Barriers, Rule of Law (Owqi,Rl)	70	Robust	0.846	0.81	9.02***	1.497 (0.368)
44	Non Tariff Coverage, 1987, Rule of Law (Ntarfov87, Rl)	52	Robust	0.040	8.27**	5.55***	0.264 (0.876)
45	Sachs and Warner Openness, 1980, Rule of Law, (Open80s, Rl)	48	Robust	0.046	7.97**	7.37***	1.791 (0.408)

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 Mid20*

	Endogenous Dependent Variable: **Third Income Percentile (Mid20)**	N	1st Stage heteroskedasticity-robust	Maximal 2SLS Bias (b)	Relevance — Cragg-Donald N*minEval stat. Chi-sq(3)	Anderson-Rubin test of joint significance of endogenous regressors F-Statistic	Exogeneity — Sargan statistic (overidentification test of all instruments) Chi-Sq(2)
	Endogenous Independent Variables : Openness, Courts and Government (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
46	Nominal Trade Shares, Government Effectiveness (Lcopen, Ge)	90	Robust	0.00	73.53**	19.49***	14.334 (0.0008)***
47	Nominal Trade Shares, Regulatory Quality (Lcopen, Rq)	96	Robust	0.00	68.52**	18.78***	22.543 (0.000)***
48	Nominal Trade Shares, Rule of Law (Lcopen, Rl)	96	Robust	0.00	92.08**	18.78***	11.946 (0.0025)***
49	Nominal Trade Shares, Control for Corruption (Lcpopen, Ctc)	92	Robust	0.00	69.77**	18.41***	13.925 (0.001)***
50	Import Penetration, 1985, Rule of Law (Impnov85, Rl)	69	Robust	0.00	62.63**	16.67***	7.951 (0.018)**
51	Import Penetration, 1982, Rule of Law (Impnov82, Rl)	69	Robust	0.00	95.07**	17.02***	8.349 (0.015)**
52	TARS trade Penetration, 1985, Rule of Law (Tarshov85, Rl)	69	Robust	0.00	52.35**	16.67***	7.114 (0.028)**
53	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 and Courts (Instruments= Disteq, Lfrkrom, Engfrac, Eurfrac)						
54	Import duties, Rule of Law (Tariff, Rl)	71	Robust	0.37	3.14**	19.37***	0.997 (0.607)
55	Tariffs on International Inputs and Capital Goods, Rule of Law (Owti, Rl)	71	Robust	0.078	6.79**	22.43***	3.910 (0.142)
56	Trade Taxes, Rule of Law (Txtrdg,Rl)	46	Robust	0.072	6.99**	16.92***	0.297 (0.862)
57	Weighted Average of Total import Charges, 1985, Rule of Law (Totimpov85, Rl)	52	Robust	0.019	9.91**	6.77***	8.673 (0.013)**
58	Non Trade Barriers, Rule of Law (Owqi,Rl)	70	Robust	0.846	0.81	20.23***	2.144 (0.342)
59	Non Tariff Coverage, 1987, Rule of Law (Ntarfov87, Rl)	52	Robust	0.040	8.27**	6.77***	1.037 (0.597)
60	Sachs and Warner Openness, 1980, Rule of Law, (Open80s, Rl)	48	Robust	0.046	7.97**	21.25***	3.783

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

3.2. 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* for some selected number of combinations of these regressors. Relevance 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 3 provides results for *Gini*. Instruments pass the relevance test for any of the combinations of institutions and integration except for *Owqi*. *Owqi* fails relevance test for not only *Gini*, but also for *Theil* in table 4, *High20/Low20* in table 5 and *Mid20* in table 6. 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* whenever, Legal, and Economic 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. The persistent of the presence of endogeniety in specifications where nominal trade shares enter as a regressor to reconfirm 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 present specifications. In case of trade policy, over-identification tests are generally passed for all those trade policy proxies that have 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. Tables 3, 4, 5 and 6 also show that for all combinations of regressors and for all dependent variables heterskedasticity robust estimates are utilized.

3.3. IV Results on Institutions

Due to the 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 only results for institutions.

3.3.1. Courts

As explained above, control for corruption and rule of law are considered as legal institutions representing courts. Rule of law broadly defines it self as measures to enforce public and private contracts for protection of public and private property through implementation of property rights and provisions for dispute settlement through an efficient judicial system. Control for corruption measures nepotism, rent seeking behavior, state capture of private resources or dishonest courts. Both definitions of legal institutions are quite endogenous to each other.

Barreto (1996) finds that corruption correlates positively and significantly with inequality, implying that increased income inequality is associated with greater corruption. Tanzi (1995) argues that the benefits from corruption are likely to accrue to the better-connected individuals in society, who mostly belong to high-income groups. It has been further contended that corruption creates incentives for higher investment in capital-intensive projects and lower investment in labor intensive projects (UNDP 1997), thus increasing wage inequality. Gupta et al. (1998) show that a worsening of the corruption index of a country by one standard deviation (2.52 points on a scale of 0 to 10) is associated with an increase in the GINI coefficient of about 4.4 points.

Table 7 Rule of Law

Independent Variabl es	Dependent Variables					
	Wage Inequality (Theil)	Income Inequality (Gini)	High20/Low20	Middle20	Low10	High10
Rule of Law (Lcopen)	-0.02	-7.30	-5.08	1.82	0.48	-5.75
	(-1.48)	(-5.01)***	(-3.44)***	(5.59)***	(3.03)***	(-5.14)***
Rule of Law (Impnov85)	-0.04	-7.35	-5.49	1.81	0.48	-5.61
	(2.30)**	(-4.17)***	(-2.76)***	(4.48)***	(2.50)**	(-4.04)***
Rule of Law (Impnov82)	-0.03	-7.23	-5.23	1.77	0.49	-5.55
	(-1.80)*	(-4.48)***	(-2.91)***	(4.81)***	(2.79)***	(-4.39)***
Rule of Law (Tarshov85)	-0.04	-7.62	-5.66	1.86	0.52	-5.79
	(-2.49)**	(-4.18)***	(-2.77)***	(4.46)***	(2.63)***	(-4.05)***
Rule of Law (Tarshov82)	-0.04	-7.32	-5.31	1.79	0.50	-5.61
	(-2.43)**	(-4.37)***	(-2.82)***	(4.69)***	(2.75)***	(-4.26)***
Rule of Law (Open80s)	-0.02	-11.58	-9.05	2.43	1.09	-8.32
	(-0.70)	(-3.42)***	(-2.15)**	(3.76)***	(2.68)***	(-3.60)***
Rule of Law (Tariffs)	0.02	-18.23	-10.64	3.44	2.24	-12.07
	(0.33)	(-2.38)***	(-1.85)*	(2.51)***	(2.00)**	(-2.41)**
Rule of Law (Owti)	-0.05	-10.45	-6.22	2.31	0.97	-7.69
	(-2.22)**	(-3.57)***	(-2.51)**	(3.69)***	(2.78)***	(-3.44)***
Rule of Law (Txtrdg)	0.02	-15.05	-9.16	3.37	1.31	-11.24
	(0.74)	(-2.17)**	(-2.17)**	(2.95)***	(2.26)**	(-2.85)***
Rule of Law (Totimpov85)	0.007	-6.84	-8.57	1.59	0.61	-5.06
	(0.18)	(-1.37)	(-1.30)	(1.42)	(1.14)	(-1.30)
Rule of Law (Owqi)	-0.09	-3.25	-1.09	1.13	0.17	-3.05
	(-1.04)	(-0.53)	(-0.24)	(1.06)	(0.33)	(-0.76)
Rule of Law (Ntarfov87)	0.02	-16.03	-12.71	2.82	1.38	-9.71
	(0.48)	(-1.72)*	(-1.60)	(1.80)*	(1.58)	(-1.72)*

-***, **, * corresponds to 1%, 5% and 10% level of significance respectively.

- Control variables are in parentheses in the first column

Less corruption can only be practiced through an effective system of property rights and the rule of law. Rule of law provides protection and safety to people and their businesses. The society is respectful to law only when they see that the justice system is fair which treats people equally. A corrupt justice system may shield dishonest elites from re-distribution. Fairness of legal system is more important than fair political process where democracy is about equal access and power for all who have voted. Elections show participation of interest groups that mobilize masses to their own interest and thus the outcome may still depict the hold of power of the few upon the interest of many. In contrast only fair judicial system can ensure effective accountability. In some cases democratic politics has actually played a role in undermining rule of law by disfavoring underprivileged groups (Ahnen, 2007).

Rule of law ensures transparency of the political process: 'an effective democratic legal order provides the necessary underpinnings for elections to be truly free and fair, and thus for democracy to exist at all' (O' Donnell 2001; 71). Re-distribution is ensured when political power is equally distributed (populist democracy) against oligharic society where political power remains with the few ruling elites. However the causality from democracy to redistribution runs through enforcement of property rights (Acemoglu, 2003).

The relationship between good legal institutions and other institutions in redistribution is highly correlated. Thus, it remains important to disentangle the effects to determine relative relevance of different areas of governance in inequality mitigation. Democratic political institutions may also be relevant, and no less than rule of law, to capture redistribution among different income groups while social institutions play a key role to ensure that equality prevails in a society, especially when countries open up to increased international trade. Glaser (2004) and Williamson (1999) argue that causality goes from social institutions to legal institutions because only well developed (educated) societies can enable the courts to function effectively and more people would respect rule of law. Nevertheless, legal institutions, in comparison to political or social institutions and in context of their strong correlation with each other, cannot be considered less important, if not more important. Brinks (2008) quite nicely summarize the problem as he tries to disentangle effects of different institutions on inequality:

Does it mean institutional differences ultimately do not matter and all the focus on judicial and legal reform is misguided? Clearly not. The inquisitorial nature of Uruguay's system makes judges more prosectorial, giving victims a stronger, less impartial ally) if simultaneously raising due process concerns). Institutional change can be effective precisely when it builds lateral support for the claims and the claimants at issue, taking into consideration the respondent's capacity for and modes of resistance. In the context of criminal prosecutions for rights violations, states could create more effective internal controls within the police and more protections for whistle blowers. Special-purpose prosecutorial agencies with independent investigative resources would be dramatic improvement. In short, one can imagine a series of improvements to state apparatus that could help; this is, essentially, the process of developing lateral support for the substantive right in question. The precise nature of the lateral support

required, however, will vary with nature of the right conferred and with the situation of the claimant-respondant dyad' (p.22)

Table 8 Control for Corruption

Independent Variables	Dependent Variables					
	Wage Inequality (Theil)	Income Inequality (Gini)	High20/Low20	Middle20	Low10	High10
Control for Corruption (Lcopen)	-0.02 (-1.44)	-3.390 (-4.84)***	-5.39 (-3.31)***	1.87 (5.47)***	0.46 (2.76)***	-5.88 (-5.03)***
Control for Corruption (Impnov85)	-0.03 (-2.21)**	-6.481 (-3.95)***	-5.01 (-2.52)***	1.64 (4.32)***	0.37 (2.05)**	-5.01 (-3.88)***
Control for Corruption (Impnov82)	-0.02 (-1.71)*	-6.458 (-4.32)***	-4.81 (-2.69)***	1.62 (4.72)***	0.41 (2.42)**	05.02 (-4.29)***
Control for Corruption (Tarshov85)	-0.03 (-2.41)**	-6.72 (-3.93)***	-5.20 (-2.52)***	1.69 (4.29)***	0.41 (2.15)**	-5.19 (-3.87)***
Control for Corruption (Tarshov82)	-0.04 (-2.41)**	-6.51 (-4.16)***	-4.88 (-2.60)***	1.64 (4.55)***	0.41 (2.35)**	-5.04 (-4.12)***
Control for Corruption (Open80s)	-0.02 (-0.70)	-11.32 (-3.07)***	-9.33 (-1.89)*	2.47 (3.32)***	1.03 (2.34)**	-8.38 (-3.25)***
Control for Corruption (Tariffs)	0.05 (0.57)	-22.77 (-1.78)*	-13.10 (-1.45)	4.32 (1.87)*	2.77 (1.54)	-15.19 (-1.81)*
Control for Corruption (Owti)	-0.05 (-2.19)**	-10.22 (-3.26)***	-6.29 (-2.19)**	2.35 (3.31)***	0.91 (2.44)**	-7.74 (-3.11)***
Control for Corruption (Txtrdg)	0.02 (0.94)	-12.50 (-3.09)***	-7.56 (-2.12)**	2.84 (3.20)***	1.04 (2.30)**	-9.89 (-3.09)***
Control for Corruption (Totimpov85)	0.02 (0.34)	-0.13 (-0.03)	-5.13 (-0.73)	0.33 (0.30)	-0.32 (-0.59)	-0.27 (-0.07)
Control for Corruption (Owqi)	-0.10 (-0.94)	-1.26 (-0.17)	0.12 (0.02)	0.79 (0.63)	-0.10 (-0.14)	-1.78 (-0.36)
Control for Corruption (Ntarfov87)	0.04 (0.34)	-16.14 (-1.30)	-15.14 (-1.33)	2.82 (1.37)	1.06 (1.02)	-9.29 (-1.29)

-***, **, * corresponds to 1%, 5% and 10% level of significance respectively. Control variables are in parentheses in the first column

Tables 7 and 8 show the results for legal institutions. The results suggest that legal institutions significantly affect income inequalities for both developing and developed countries and the relationship is negative. High coefficients of *Gini* and incidence of significance at 1% level in 9 out of 12 instances when rule of law and control for corruption has been found to be significantly related with *Gini*, suggest that good legal institutions play a vital role in decreasing within country income inequalities. Legal institutions are also negatively and significantly related with wage inequality, however low coefficients indicate limited role played by legal institutions in effecting the skill premia in favor of unskilled. Results based on the ratio of income percentiles (*High20/Low20*), show that rule of law and control for corruption have strong redistributive power. The relationship between legal institutions and income of the middle-income groups (*Middle20*) as well as low-income groups for *Rl* and *Ctc* is positive and significant. This means that good quality legal institutions do not only reach out to the middle income groups but they are also altruistic to the poorest of the poor. The evidence quite robustly suggests that redistribution of income takes place from the richest to the middle-class or lower middle-class as both proxies of the legal institutions are negatively related with *High10* and *High20* in 9 out of 12 cases and the relationship is mostly significant at 1 %. The high coefficients for *High10* and low coefficients of *low10* may confer that more effective

redistribution takes place from the richest to the middle income or lower middle income group, whereas lowest income group is relatively less sensitive to this redistribution process. It may not be sound legal institutions that can really lift the poor from the bottom of the pyramid but it is good economic policies which can ensure higher GDP growth, which may more effectively trickle down to improve the incomes of the poorest of the poor through targeted development strategies e.g. micro finance.

3.3.2. The Government

Government effectiveness (*Ge*) measures outcomes like bureaucratic delays, states ability to formulate and implement national policy initiatives, effectiveness in collecting taxes other other government revenue, maintenance of government infrastructure, responsiveness to economic problems, decentralisation, and independence from pressure from interest groups, sound social development policies and pro-business orientation. Regulatory quality (*Rq*) captures outcomes like price liberalization, trade and foreign exchange system, competition policy, commercial law effectiveness, privatization, financial regulations and banking reforms, interest rate liberalization, and promotion of market friendly regulatory framework.

Table 9
Government Effectiveness

	Dependent Variables					
Independent Variables	Wage Inequality (Theil)	Income Inequality (Gini)	High20/Low20	Middle20	Low10	High10
Government Effectiveness (Lcopen)	-0.025 (-1.54)	-8.60 (-5.00)***	-6.56 (-3.61)***	2.19 (5.63)***	0.552 (2.97)***	-6.817 (-5.17)***
Government Effectiveness (Impnov85)	-0.039 (-2.34)**	-8.03 (-4.19)***	-6.47 (2.87)***	2.02 (4.56)***	0.49 (2.40)**	-6.17 (-4.13)***
Government Effectiveness (Impnov82)	-0.028 (-1.86)*	-7.86 (-4.47)***	-6.13 (-2.99)***	1.97 (4.84)***	0.51 (2.67)***	-6.08 (-4.43)***
Government Effectiveness (Tarshov85)	-0.04 (2.55)**	-8.31 (-4.17)***	-6.67 (-2.89)***	2.08 (4.53)***	0.53 (2.49)**	-6.37 (-4.12)***
Government Effectiveness (Tarshov82)	-0.04 (-2.53)**	-7.87 (-4.30)***	-6.21 (-2.90)*	1.98 (4.68)***	0.51 (2.57)***	-6.07 (-4.25)***
Government Effectiveness (Open80s)	-0.05 (-1.30)	-11.85 (-2.69)***	-11.46 (-1.89)*	2.72 (3.02)***	0.96 (2.00)**	-8.91 (-2.92)***
Government Effectiveness (Tariffs)	0.07 (0.39)	-25.83 (-1.59)	-15.53 (-1.36)	4.99 (1.69)*	3.11 (1.38)	-17.08 (-1.63)
Government Effectiveness (Owti)	-0.07 (-2.40)**	-13.23 (-3.11)***	-8.17 (-2.29)**	3.02 (3.25)***	1.12 (2.44)**	-9.79 (-3.04)***
Government Effectiveness (Txtrdg)	0.04 (0.94)	-14.73 (-2.74)***	-8.72 (-1.93)*	3.40 (2.80)***	1.18 (2.09)**	-11.76 (-2.71)***
Government Effectiveness (Totimpov85)	-0.01 (-0.13)	1.62 (0.31)	-4.59 (-0.63)	0.18 (0.16)	-0.48 (-0.84)	0.75 (0.19)
Government Effectiveness (Owqi)	-0.09 (-1.08)	-3.11 (-0.48)	-1.47 (-0.33)	1.26 (1.16)	0.04 (0.07)	-3.28 (-0.80)
Government Effectiveness (Ntarfov87)	-0.05 (-0.47)	-21,39 (-1.11)	-17.76 (-1.27)	3.42 (1.30)	1.19 (0.98)	-10.64 (-1.21)

-***, **, * corresponds to 1%, 5% and 10% level of significance respectively.

- Control variables are in parentheses in the first column

Every effective government must maintain a sustainable fiscal policy, which includes a deficit that is manageable in the short-term, and the associated public debt it creates being serviceable. More concentration of resources on social sector is always pro-poor. Capital market liberalization and broader financial sector reforms are necessary to integrate with global markets. Decentralization is important for effective implementation of government policies at grass roots level which can promote redistribution through effective social development. Incorporation of effective tax structure where value added tax gives way to a more pro-poor tax system is at the heart of good fiscal policy. (Roy and Weeks 2003) Inflation in many developing countries is an outcome of political decisions when government has a lax monetary policy and is unable or unwilling to increase taxes. High inflation has a negative distribution effect. In developed countries sometimes, monetary policy outcomes relate to increased inequalities. Khalifa (2005) shows that a positive shock to Federal Reserve fund rates in the US induced a larger and more persistent increase in the unemployment ratio of the low skilled relative to that of high skilled, indicating that low skilled bear the brunt of the increase in unemployment after a contractionary policy. The results in table 9 show that government effectiveness is significantly and negatively related with *High10*, *Gini* and *Theil99*. The coefficients for *Gini* and *High10* are large while significant is mostly achieved at 1% level for *Gini* and *High10*. This indicates that government policies like decentralization, effective tax structure and implementation of social development policies significantly decrease income inequality and also redistribute income from the elite to lower segments of the society. Effective governments are more democratic in nature as well: ' Decentralization can be defined as meaningful authority devolved to local unites of governance that are accessible and accountable to the local citizenry, who enjoy full political rights and liberty.' (Blair, 2000; 21) While the democratization and empowerment of administrative bodies can enhance participation of such groups that have been marginalized before thus bringing more potential for social development and improvement of livelihood opportunities for these marginalized. Table 9, shows that effective governments are positively and significantly related with the incomes of the bottom deciles and medium percentile establishing its strong redistributive power.

In contrast to government effectiveness, the results on regulatory quality in inequality mitigation and redistribution of wealth are not that encouraging. (See table 10) *Rq* mostly remains non responsive to *Gini* and *Theil99*. There is even an instance when *Rq* enters into the *Gini* equation with the wrong sign while it is significant at 5 % - highest level achieved in any of the cases for *Gini*.

Though, some signs of redistribution are present from richest to middle class, but for incomes of the poorest, *Rq* is mostly insignificant. However, the wrong signs of the coefficients of *Rq*, which are highlighted in grey, suggests that regulatory quality actually disfavor the poor. On the hindsight this may be an expected result. Regulatory quality captures outcomes like trade and financial (capital market) liberalization which has been increasingly related with crises and growth failures recently. This extract which is taken from the Nobel Prize lecture of Joseph Stiglitz tells about a thin line that exists between a good economic policy and the bad ones.

'They (IMF) actually promoted contractionary fiscal policies for countries facing an economic downturn - and they advocated polices like capital market liberalization, for which there was little evidence that growth was promoted, while there was ample evidence that such policies generated instability.' (Stiglitz, 2001)

Most developed and developing countries have encountered exchange rate crises, capital market crises and financial recessions in last few decades. Thus what regulatory quality may also be picking up is increased risk of crises which integrated capital markets and free or floating exchange rate regimes put on countries. There is a strong correlation between capital market crisis and financial liberalization. (See Kawai and Takagi, 2008; for detailed literature review on risk of financial crises and capital market management) Measures to open capital markets put developing countries at a higher risk of financial crises.

United States Sub prime mortgage crises has transformed into a global financial crises while factors like oil price hike and staple food inflation has added up to the welfare distorting effect of the crises for developing many countries who are now facing increased inflationary pressures which are mostly beyond the control of monetary policy. Thus regulatory quality, which has been very relevant to income generation, has been found to be less relevant for inequality mitigation.

Table 10 Regulatory Quality

Independent Variables	Dependent Variables					
	Wage Inequality (Theil)	Income Inequality (Gini)	High20/Low20	Middle20	Low10	High10
Regulatory Quality (Lcopen)	-0.03	-3.44	-4.48	1.72	0.10	-5.01
	(-1.44)	(-1.31)	(-1.93)*	(3.10)***	(0.40)	(2.65)***
Regulatory Quality (Impnov85)	-0.04	-4.69	-4.72	1.44	-0.07	-3.75
	(-1.73)*	(-1.53)	(-1.48)	(2.05)**	(-0.23)	(-1.54)
Regulatory Quality ity (Impnov82)	-0.03	-5.54	-5.30	1.71	0.05	-4.73
	(-1.37)	(-1.89)*	(-1.73)*	(2.52)***	(0.16)	(-2.30)**
Regulatory Quality (Tarshov85)	-0.05	-4.41	-4.66	1.39	-0.09	-3.53
	(-1.92)*	(-1.40)	(-1.40)	(1.92)*	(-0.28)	(-1.41)
Regulatory Quality (Tarshov82)	-0.05	-4.86	-5.00	1.53	0.02	-4.09
	(-2.13)**	(-1.64)*	(-1.60)	(2.24)**	(0.07)	(-1.74)*
Regulatory Quality (Open80s)	-0.02	4.71	-4.44	-0.14	-1.22	2.34
	(-0.36)	(0.67)	(-0.62)	(-0.10)	(-1.43)	(0.47)
Regulatory Quality (Tariffs)	0.04	3.53	-3.09	-4.40	-0.46	3.50
	(0.46)	(0.30)	(-0.32)	(-0.15)	(-0.40)	(0.36)
Regulatory Quality (Owti)	-0.05	0.35	0.47	0.25	-0.73	0.50
	(-1.57)	(0.06)	(0.10)	(0.18)	(-1.01)	(0.10)
Regulatory Quality (Txtrdg)	0.15	-26.61	-16.89	6.64	1.67	-22.75
	(1.19)	(-1.74)*	(-1.36)	(1.82)*	(1.21)	(-1.77)*
Regulatory Quality (Totimpov85)	-0.005	10.33	3.60	-1.87	-1.47	7.49
	(-0.11)	(1.99)**	(0.56)	(-1.66)	(-2.40)**	(1.91)*
Regulatory Quality (Owqi)	-0.08	4.84	3.93	0.53	-0.32	2.56
	(-1.23)	(0.37)	(0.45)	(0.17)	(-0.15)	(0.27)
Regulatory Quality (Ntarfov87)	-0.13	5.85	-3.70	-1.00	-0.97	4.48
	(-1.15)	(0.68)	(-0.37)	(-0.58)	(-1.03)	(0.74)

-***, **, * corresponds to 1%, 5% and 10% level of significance respectively.

- Control variables are in parentheses in the first column

4. Conclusions:

Courts that ensure rule of law and take action against corruption also guarantee that raise in per capita income also favor the lower income groups. That is true for both developed and developing countries. Effective monetary and fiscal policy that can check inflationary trends and practice positive real interest rates would eventually benefit the poor. However regulation is found to be generally insensitive towards economic welfare. This may be because governments generally regulate institutions to the benefit of market forces. Though, this does not necessarily mean that regulation policies create inequalities as we find in our analysis that fails to establish any significant relationship of regulatory quality with various measures of inequality used in the paper.

References:

Acemoglu, D. (2003) 'The Form of Property Rights: Oligarchic vs. Democratic Societies,' NBER Working Papers 10037, National Bureau of Economic Research, Inc.

Acemoglu, D., S. Johnson and J. A. Robinson (2001) 'The Colonial Origins of Comparative Development: An Empirical Investigation', *American Economic Review* 91(5): 1369-1401, http://emlab.berkeley.edu/users/chad/e236c_f04/ajr2001.pdf

Ahnen, R. E. (2007) 'The Politci of Police Violence in Democratic Brazil,' Latin American Politics and Society 49 (1): 141-64

Atkinson, A.B. and A. Brandolini (2001) 'Promise and Pitfalls in the Use of "Secondary" Data-Sets: Income Inequality in OECD Countries as a Case Study', *Journal of Economic Literature*, 39 (3): 771-799

Barreto, R.A. (1996) 'Endogenous Corruption, Inequality and Growth: Econometric Evidence', Mimeo, Boulder, CO: University of Colorado (September).

Baum, C. F., M. E. Schaffer and S. Stillman (2003) 'Instrumental Variables and GMM: Estimation and Testing' The Stata Journal , 3(1) pp.1-31

Blair, H. (2000) 'Participation and Accountability at the Periphery: Democratic Local Governance in Six Countries,' *World Development* 28 (1), pp. 21-39

Brinks, D. M. (2008) 'Inequality, Institutions, and the rule of law: The social and Institutional Bases of Rights', Working Paper N0. 351
http://kellogg.nd.edu/publications/workingpapers/WPS/351.pdf

Chong, A. and M. Gradstein (2004) 'Inequality and Institutions', Inter-American Development Bank, Working Paper No. 506 (April).

Cragg, J. G. and S. G. Donald (1993) 'Testing Indentifiability and Specification in Instrumental Variable Models,' *Econometric Theory*, (9) pp. 222-240

Edwards, S. (1998) 'Openness, Productivity and Growth: What Do We Really Know?', *Economic Journal* 108: 383-98.

Frankel, J. and D. Romer (1999) 'Does Trade Cause Growth?', *American Economic Review* 89(3): 379-99.

Galbraith, J.K. and H. Kum (2002) 'Inequality and Economic Growth: Data Comparisons and Econometric Tests', UTIP Working Paper No. 21, The University of Texas at Austin.

Glaeser, E.L., R. La Porta,, F. Lopez-de-Silanes and A. Shleifer (2004) 'Do Institutions cause Growth', *Journal of Economic Growth* 9(3): 271-303.

Gupta, S., H. Davoodi and R. Alonso-Terme (1998) 'Does Corruption Affect Income Inequality and Poverty?', IMF Working Paper, WP/98/76 (May).

Hall, R.E, and C. Jones (1999) 'Why do Some Countries Produce So Much More Output per Worker than Others?', *Quarterly Journal of Economics* 114: 83-116.

Hellman, J. and D. Kaufmann (2002) *The Inequality of Influence*, Washington DC: World Bank.

Kawai, M. and S. Takagi (2008) ' A Survey of Literature on Managing Capital Inflows' ADB Institute Discussion Paper No. 10
http://www.adbi.org/files/dp100.managing.capital.flows.lit.survey.pdf

Kaufman, D., A. Kraay and Z. Lobaton (2003) 'Governance Matters III: Governance Indicators for 1996-2002', Policy Research Working Paper 2772, Washington DC: World Bank, http://www.worldbank.org/wbi/governance/pdf/govmatters3.pdf

Khalifa, S. (2005) 'Monetary Policy, the Skill Premium, and Unemployment Across Skills', Working Paper (December),
http://www.econ.jhu.edu/jobmarket/2005/khalifa/Chapter2Khalifa.pdf

Milanovic, B. (2006) "Global Income Inequality," World Economics, World Economics, NTC Economic & Financial Publishing, PO Box 69, Henley-on-Thames, Oxfordshire, United Kingdom, RG9 1GB, vol. 7(1), pages 131-157

O'Donnell, G. A. (2001) ' Democracy, Law and Comparative Politics,' *Studies in Comparative International Development.* 36 (1), pp.7-36

Pritchett, L. 'Measuring outward orientation in LDCs: Can it be done?,' Journal of Development Economics, Elsevier, vol. 49, No. 2, 1996, pp. 307-335

Rodrik, D. (1999) 'Institutions for High Quality Growth: What they are and How to Acquire them', IMF Conference on Second Generation Reforms (October).

Roy, R. and J. Weeks (2003) 'Making Fiscal Policy Work for the Poor', Mimeo, UNDP.

Sachs, J.D. and A. Warner (1995) 'Economic Reform and Process of Global Integration', Brookings Papers on Economic Activity 1: 1-118.

Segura-Cayuela, R. (2005) 'Inefficient Policies, Inefficient Institutions and Trade', Job Market Paper, Cambridge, MA: MIT (November).

Smeeding, M.T. (2002) 'Globalisation, Inequality and the Rich Countries of the G-20: Evidence From the Luxembourg Income Study (LIS)', Social Policy Research Centre (SPRC) Discussion Paper No. 122 (December).

Staiger, D and H. J. Stock, (1997) "Instrumental Variables Regression with Weak Instruments," Econometrica, Econometric Society, vol. 65(3), pages 557-586

Stiglitz, J. (2006) 'Making Globalisation Work', WW *Norton*, September, 2006.

Stiglitz, J. (2001) 'Autobiography', Nobel Prize

Tanzi, V. (1995) 'Corruption: Arms Length Relationships and Markets', in Gianluca Fiorentini and Sam Peltzman (eds), *The Economics of Organised Crime*, Cambridge, UK: Cambridge University Press.

Wade, R. (2004) 'Is globalization reducing poverty and inequality?' *World Development* 32 (4) pp. 567-589.

Williamson, O. (1999) 'The New Institutional Economics: Taking Stock, Looking Ahead', *Journal of Economic Literature*, 38, pp. 595-613

UNDP (1997) Human Development Report.

Yudaeva, K. (2003) 'Globalisation and Inequality in CIS Countries: Role of Institutions', GDN Conference Paper (January).