How Does Democracy fare with Economic Welfare for a Trading Nation?

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ABSTRACT

The paper examines how political institutions in comparison to legal, social and economic institutions fare with different measures of inequality in a cross section framework. The empirical analysis suggests that countries which practice democracy are less prone to unequal outcomes especially when it comes to wage inequality and income inequality whereas autocracy is associated with higher level of wage inequalities but its impact on income inequalities are insignificant. Though under good economic management, even autocracies may redistribute incomes from the richest to the poorest, more generally an autocratic set up violates the median voter hypothesis. The results also show that political stability is more sensitive to inequalities than democracy and autocracy which is to say that the countries which are internally politically stable also form more equal societies.

JEL Codes: F-15, I-3, O1, N40
Key Words: Institutions, Trade Liberalisation, Redistribution, Wage Inequality

1. Introduction:

In an effort to achieve economic efficiency, most countries have dismantled their barriers to international trade in goods and services during the last couple of decades. As a result, the size of world trade in goods and services has dramatically increased. Few success stories have also emerged as an outcome of contemporary globalisation. China and India, have witnessed unprecedented rise in their growth rates as well as significant poverty alleviation. However for most countries, globalisation has come with mixed experiences. 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). Despite integration to the world economy, most countries of Latin America, Africa (i.e, Sub Saharan Africa) and some in Asia have failed to accomplish decent growth rates. In many countries in the South, poverty has increased. Even if some could grow at a decent rate, they have failed to put a downward pressure on the increasing trends in poverty levels. For example, Pakistan, which has recently witnessed a growth rate of 8 percent, has witnessed increase in poverty levels from 30 percent to 35 percent as of 2005. Even in China and India, the falling poverty trends are not sustainable, as there is an evidence of rapid rising inequalities.

Though the world after the very surge of colonialism transformed into a land of unequal opportunities, last century has witnessed a worse deal where global inequalities have partly lead to regional inequalities and then the come back of contemporary globalisation entailing post modernism had brought inequality to the very door step of each country where rural and urban divides have been ever increasing so much so that recently it has become of policy importance to consider inequality as a significant factor which may stifle growth promoting strategies and even reverse what good growth may bring to the society.

In the retrospect, the problem of poverty can not be separated from the way in which growth is achieved. So, 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 grounds for carrying out contemporary social norms which fits into international standards where business protects labour rights, promotes gender sensitivity, brings efficient social welfare system while following best commerce practices,

there are myriad of common institutions which simultaneously play a role in facilitating each country's smooth exposure to global markets and international competition.

One of the most commonly quoted institutional factor for determining any country's intellectual, social, economic and cultural progress is the so called 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 which has been able to sustain democracy in the West. Definitely it is well developed combination of social, legal, political and economic institutions which has worked in an intricate net of coordination to sustain Western economic progress and thus enabling the region to maintain its scientific niche. But where did the West really started it all? There are different answers for different times. For example, to go down in time line, say a 100 years, Western economic progress has been linked 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 culture.

In developing countries, there has been 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 to democracy whereas China now seriously pushing for property rights to protect private ownership in the country. Recently, Pakistan has become one of the fastest growing economies of the region, even surpassing India, under General Musharraf and eventually moving towards democracy in early 2008 whereas all

political parties, who participated in February, 2008 General Elections in Pakistan, accepting the electoral verdict as free and fair - a rare precedence in the country. Among the transition economies, rapid economic growth was achieved by Kazakhastan under Nazarbaev. Here one may conveniently assume that these countries while working under market friendly policies have successfully achieved robust economic performance which has then lead to stronger institutions. However the analogy is not that simple and mere good economics is not enough to sustain economic progress. Market friendly policies may not work in the absence of good institutions. The failure of Russian economy and its reform process can be attributed to the lack of a supportive legal, regulatory and political apparatus. In Latin America little attention has been paid to the mechanisms of social insurance and to the safety nets which has resulted in the dissatisfaction with market oriented reforms. India, in comparison to the countries mentioned above, is not only known as the largest democracy in the world due to the sheer size of its population but the country is also one of the fastest growing economies with a precedence of sound legal institutions. Due to robust legal institutions, the country is politically less volatile when compared to for example its neighbour Pakistan, even though both countries have in recent decades seen an emergence of multiparty governance setups. However, being developing countries as they are, much like Latin America, social institutions are underdeveloped which may mean that a well meaning democracy may still not exist in Indian case till economic progress reach out to the masses and benefits the impoverished peripheries. It may also be the case that some institutions may be more important than others. 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 (Ibid, 2004: 3)"

Thus to analyse what makes it tick for good economics where not only economic growth is achieved but its economic dividends are also distributed equally among different strata of population especially in case of developing countries, a cross section analysis of developed and developing countries has been carried out in this paper where different institutional variables along with different proxies of openness/trade policy working as a control group are employed while focusing their impact on inequality.

2. Institutions, Inequality and Endogeneity

There are issues of two way causality between inequality and institutions (i.e., see Keefer and Knack, 2002; Chong and Gradstein, 2004), between different types of institutions. Many recent studies (i.e., see Chen and Ravallion , 2003; Cockburn, 2001; Friedman, 2000; Lofgren, 1999) show that international trade is significantly related with inequality while institutions and integration are also endogenous (i.e., Rodrik et al, 2004). Any empirical analysis which takes institutions as a pure exogenous factor while analysing its effects on inequality may lead to miss-specification bias. Here on the line of Ridrik et al (2004), we assume geography is a pure endogenous concept.

Chong and Gradstein (2004) find strong evidence of bi-directional 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. Easterly (2001) and Keefer and Knack (2002) suggests that social polarisation negatively affects institutional quality. For example, rising inequalities may lead to political instability and even civil unrest.

The countries with poor institutions are also likely to have high inequality. For example in Russia in the 1990s, a small group of entrepreneurs exploited their political power to promote their own interests, subverting the emergence of institutions committed to the protection of smaller share holders and businesses. In transition economies, weak performance of public institutions, infringement of property rights in favour of influential parties, lower willingness to use courts to resolve business disputes, lower level of tax compliance and higher levels of bribery all have been strongly correlated with inequality (Hellman and 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 and 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 endogeniety 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 either run under one party system, 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, the lack of judicial independence and a free press and high levels of permissiveness towards corruption.

Before discussing the interdependence of different institutions we would first like to differentiate between them. We identify four types of institutions: 1) Legal, 2) Political, 3) Economic and 4) Social. Legal institutions capture the transparency and fairness of legal system, 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 etc. Political institutions represent political stability, democracy, autocracy or dictatorship. Economic institutions include state effectiveness at collecting taxes or other forms of government revenue, states ability to create, deliver and maintain vital national infrastructure, states ability to respond effectively to domestic economic problems, independence of government economic policies from pressure from special interest groups, trade and foreign exchange system, competition policy, privatisation, banking reform and interest rate liberalisation, securities market and non bank financial institutions etc. Social Institutions capture socio economic conditions such as health, education and nutrition etc.

The Legal, political, economic and social institutions are strong in developed countries and for developing countries there are mixed experiences. For example, intellectual property rights are protected vigorously in the US and most advanced societies, but not in many developing countries (Rodrik, 1999). Engerman and Sokoloff (2002) link the development of public education as a social institution to the democratization as a political process in US. According to them, while starting at about the similar level of development in the 18nth century, US led the way in setting up a system of common schools and promoting literacy, where as in countries in South America and the Caribbean these processes were much delayed. Gupta et al (1998) finds that if government officials use their authority for private gain and indulge in corruption that 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 the government effectiveness as it weakens tax administration and can lead to tax evasion and improper tax evasion and improper tax exemptions.

Higher corruption is associated with increases in inequalities in education, land distribution and health spending. Wealthy urban elites can lobby the government to bias social expenditure toward higher education and tertiary health, which tend to benefit high income groups (Ibid, 1998).

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

3. Data and Methodology:

Much recently Kaufman et al (2002) formulated aggregate governance indicators for six dimensions of governance covering 175 countries. They relied on 194 different measures of governance drawn from 17 different sources of subjective governance data constructed by 15 different sources including international organizations, political and business risk rating agencies, think tanks and non governmental organizations. The governance indicators have been oriented so that higher values correspond to better outcomes on a scale from -2.5 to 2.5. They are categorized as rule of law (*Rl*), political stability (*Ps*), regulatory quality (*Rq*), government effectiveness (*Ge*), voice and accountability (*Va*) and control of corruption (*Ctc*). We divide them into four classification based on their definitions. We consider *Rl*, *Va* and *Ctc* as legal institutions.

Ge and *Rq* are dubbed as economic institutions whereas *Ps* is taken as a proxy for Political institutions. We add two more political indicators namely democracy (*Demo*) and autocracy (*Auto*) to our analysis from Polity dataset whereas, both ranging from 0 to 10. We have also included social institutions in our analysis. Average Schooling Years in the total population at 25 (*Sch*) and Adult literacy rate (*Altr*) capture the quality of social institutions.

As we mention above, international trade is also a significant determinant of inequalities in countries across the globe, integration enters our regression model to enhance its explanatory power. We incorporate not 1 but 12 various concepts of openness and trade policy in our regression model in order to carry out a robustness check for our results on institutions.

To capture inequality we not only take GINI income inequality index (*Gini*) from UNU/WIDER World Income Inequality Database (WIID) but also we employ UTIP-UNIDO Theil measure (*Theil*) calculated by University of Texas Inequality Project (UTIP) which captures wage inequality between skilled and unskilled labour. This is motivated by several considerations. First, comparable and consistent measures of income inequality, whether on a household level or per head basis are difficult, almost implausible and generally fails to provide adequate or accurate longitudinal and cross-country coverage. On the other hand, inequality of 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, manufacturing pay has been measured with reasonable accuracy as a matter of official routine in most countries around the

world for nearly forty years (Galbraith and Kum, 2002). Further more we take income deciles and percentiles from UNU/WIDER World Income Inequality Database (WIID) as other proxies of inequality. Institutions or Integration will be guilty of inequality if it has the negative impact on the incomes of bottom 10 percent (*low10*) and positive impact on the income of the top 10 percent (*high 10)*. We also take income groups divided into quintiles where the effect of Institutions is anticipated to be negative for the ratio between top 20 percent and bottom 20 percent (*high20/low*20) and positive for the middle income groups (*Middle20*). The exercise on income deciles and percentiles will further shed light on how institutions and integration are related with income distribution. Especially, we are interested to know how quality of institutions is related with the incomes of the middle class or the ones living in bottom of income share. Each country observation for all inequality measures is taken for the latest year for which data is available and in most cases represent inequality in mid 1990s.

Our basic inequality and income share equations would look like:

Inequality = f (Institutions, Integration, Geography) ……..... *(1)*

and Income Share= f (Institutions, Integration, Geography)……(2)

Corresponding to equation 1, our inequality model say based on *Theil index* has 1 equation, whereas it corresponds to different institutional or integration classification. Then, the model specifications for *Gini*, *High20/Low20*, *Midlle20*, *Low10* and *High10* contain same classification of endogenous variable combinations**.**

$$Theil_{1i} = \alpha_1 + \beta_1 I_i + \chi_1 Trade_i + \varepsilon_{1i} \ldots\ldots\ldots\ldots\ldots (3)$$

The variable $Theil_i$ is Theil Index in a country i, I_i respectively measures for legal, political, economic and social institutions, whereas $Trade_i$ measures general openness or trade policy in the economy and ε_i is the random error term. Please refer to appendix 1 for information on institutional and trade variables and their definitions.

As we have discussed, there are potential endogenity problems between institutions and integration and between institutions and inequality itself. To this effect we have first regressed our institutional, trade policy and openness proxies on a set of instruments. Frankel and Romer (1999) suggests that we can instrument for openness by using trade/GDP shares constructed on the basis of a gravity equation for bilateral trade flows. Following Dollar and Kraay (2003) and Hall and Jones (1999), we use 'fractions of the population speaking English (*Engfrac*) and Western European languages as the first language (*Eurfrac*)' as an instrument for legal, economic and political institutions. Since we are using years of schooling and adult literacy rate as a proxy for social institutions we looked for instruments which can capture the qualitative and quantitative properties in education sector. Total public spending on education (as a percentage of GDP) and primary public-teacher ratio are the two instruments proposed by Mamoon and Murshed (2005). The former instrument captures the quality of education and the later instrument captures the quantity of education. As in Rodrik et al (2004), we employ 'distance from the equator' as another instrument (proxy for geography) also employed by Hall and Jones (1999).

4. Results:

As mentioned above, we have utilised 3 proxies for political institutions namely, *political stability*, *democracy* and *autocracy*. Political stability generally measures for conflict: (i) Military coup risk (ii) Major insurgency Rebellion (iii) Political terrorism (iv) Political Assassination (v) Civil War (vi) Major Urban Riot (vii) New government honors commitments of previous government (Kaufman et al, 2002).

There is a rich literature which suggests inequality as a cause of conflict and civil violence. For example, Murshed and Gates (2003) find one of the causes of conflict in Nepal is persistent prevalent inequalities in the region: 'It has also to be remembered that poverty, the lack of employment opportunities and other forms of horizontal inequality assist Maoist recruitment and retention, making life in Maoist cadres a relatively attractive options (p.10).' Justino (2004) shows that redistributive policies have played an important role in the prevention and reduction of internal unrest in India and have been a central factor in preventing smaller scale conflicts from escalating into violent civil wars. Though many recent studies show that conflict and civil unrest is endogenous to prevalent inequalities, it may also be that these conflicts further deepen inequalities in the society.

For example, the results of our institutional model for inequality (see table ٦; appendix 1) indicates that political stability is one of the key factors to a more equal society and it is especially favourable to the wages of the unskilled population. Furthermore, politically stable societies not only redistribute incomes to the middle income groups but they also benefit the lowest segments of the society equally. However, in comparison to political stability index, democracy has a weak relationship with inequality. The average effects of

democracy on inequality have generally been insignificant. This is inline with the existing evidence which doesn't find any robust relationship between democracy and inequality in a cross country regression. 'Indeed a casual inspection of recent events in East Europe as well as in East Asia casts doubts that any such simple relationship may exist. It has been argued that, in the East European countries, democratization of the 90's actually resulted in an increase income inequality. Similarly, some of the East Asian countries such as South Korea, Taiwan, Singapore have had among the most egalitarian income distributions in the world, yet their political record is far from democratic. (Gradstein et al, 2001: 1)'. According to Glaeser et al (2004b), it is good leadership that matters and not whether a country has democratic setup or ruled under a dictatorship. Nevertheless, our results do show that democracy seem to favour middle class more than anybody else confirming the median voter argument that democratised countries with greater inequality of factor income tend to redistribute more to the less affluent (Milanovic, 2000). Furthermore, Democracy appears to be better option than autocracy as any cases of significance as is shown in table ווו indicate that on average for the comity of nations, democracy is good for decreasing wage inequalities, where as autocracy seems to move in opposite direction.

So what lessons can we draw from these results? Should it be that a country may compromise on democracy and follow a rather politically repressed system lead by a dictatorial rule? Both questions are very applicable to developing countries where most of the underperforming economies are lead by dictatorial setups whether it is Asia, Africa or Latin America. However as mentioned above there are salient exceptions too where it seems that the definition of Western democracy has not been fulfilled but an enlightened model of economic management has been adopted and success has been achieved as far as growth dividends are concerned. So how one may contrast such exceptions with the

ones where autocracy has lead to repressed market structures? Is it all about market efficiency to defend autocratic structure if one may wish to? Our results put some light to these questions if equity and not only growth is the objective for a developing country policy apparatus. If some how less democratic political system may strengthen legal, social and economic institutions and promote political stability, it would not matter whether a western model of democracy be implemented by its word and spirit or some case specific combination of political and social methodologies are adopted. Definitely democracy is not a sufficient condition in itself for contributing towards equity or even economic progress of a country. Rather democracy is just another part of the jigsaw puzzle which may only fit in properly at its right time when other institutional variables have evolved appropriately to support its conceptual application. Most democracies must have been autocracies or near autocracies when the political process in any country started out and this simply means mere concentration on democracy is futile to find solutions for institutional or macro economic progress. Rather democracy can be considered as a notion suggesting an objective and well developed end for the confirmation of economic, social, cultural and scientific development rather than a mean to an end. However, in today's rapidly transforming world where some developing countries may benefit from global markets more than others, they would find themselves under increasing pressure from their populations to transform into a more democratised system of governance once they witnessed higher level of economic and institutional development. In such scenarios, countries which may be doing good under well defined autocratic set ups may not only just have to decide to bring Western models of democracy to align their social development with global standards, but most importantly they have to decide about the timings of such critical transitions so that the economic progress they have achieved is well sustained as any abrupt changes may carry higher risks.

Table ש provides the results for different categories of institutions on the basis of significance count. The results suggest that wage inequality *Theil* is more sensitive to legal institutions than overall income distribution *Gini*. Results based on the ratio of income percentiles *High20/Low20* and income deciles show that voice and accountability, rule of law and control for corruption all have a strong redistributive power. The relationship between legal institutions and income of the middle income groups *Middle20* as well as low income groups especially for *Rl* and *Ctc* is positive and significant. This means that welfare effects of good quality legal institutions do not only reach out to the middle income groups but legal institutions are also altruistic to the poorest of the poor as the evidence suggests that redistribution of income takes place from the richest to the middle class or lower middle class as all the three proxies of legal institutions are negatively and significantly related with the incomes of the richest 10 percent or 20 percent in most of the cases. On the other hand, government effectiveness is also negatively and significantly related with wage inequality between skilled and unskilled. However, the relationship is weak at best with *Gini*. Though it doesn't mean that effectiveness of government policies don't carry redistributive effects. Our results show that if the governments which work in the interest of public; they have a significant and positive effect on the incomes of the poor and middle class, where as they are negatively and significantly related with the incomes of the rich. Further more according to our results, if education is more equally distributed in a country or if levels of average schooling are higher, wage inequality would be less severe. Though *Altr* is weakly related with the income shares, results for *Sch* do imply that education has a strong redistributive power from richer segments of the society to the less affluent. A comparison of coefficients of

Middle20 and *Low10* however implies that education benefits middle class more than the poor.

5. Conclusions:

This paper is an attempt to gauge the effects of different types political institutions on inequality and also to compare the relevance of political institutions in comparison to other national institutions ranging from legal, economic to social for forming more equal societies. Though the literature is limited on the subject, the existing one suggests that there are two way causalities between institutions and inequality. To this effect we solve the problem of endogeneity by utilising a set of instruments already in use for institutions. We used a rich set of openness and trade policy variables as controls in our multiple regression equations while also solving for specification bias which may present itself in studies which only deal with institutional setting in national setups without taking into account of globalisation which also play a prominent role in influencing institutional settings as well as inequality.

Our results have reconfirmed that good quality institutions lead to decrease in inequality. It also appears that it is political stability that is more important than democracy. In line with previous studies, we find that it may not matter much whether a country is working under a democracy or autocracy, but it is good policies of the leaders which eventually determine the welfare enhancing effects through preservation of property rights etc. Good leadership which not only follow more market friendly policies but also keep institutional development at the fore of their policy choice is a key to economic development. Nevertheless, overall democracy follows median voter argument and autocracy violates it which makes democracy as a preferred choice for any governance methodology.

The paper also finds that political stability, rule of law, control for corruption and government effectiveness are the key institutions regarding inequality mitigation. If education is more equally distributed among the population, relative wages of skilled and unskilled labour will have 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 and its effective capacity to decentralise and its pro business orientation. Middle class comes out to be the main beneficiary of good quality institutions than any other income group.

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APPENDIX I

Table ɔ: Augmented Regression Coefficients for Political Institutions (Ps)

Independent Variables	Dependent Variables					
	Theil	Gini	High20/Low20	Middle20	Low10	High10
Ps (Lcopen)	-0.03	-4.68	-6.39	2.19	0.58	-6.87
	(-1.57)	(-0.64)	(-3.57)*	(5.49)*	(3.11)*	(-5.10)*
Ps (Impnov85)	-0.04	4.08	-6.72	2.17	0.54	-6.68
	(-2.23)**	(0.37)	(-2.67)*	(4.03)*	(2.28)**	(-3.69)*
Ps (Impnov82)	-0.03	-8.38	-6.31	2.09	0.54	-6.47
	(-1.76)***	(-3.85)*	(-2.72)*	(4.20)*	(2.41)*	(-3.87)*
Ps (Tarshov85)	-0.04	5.87	-6.95	2.24	0.59	-6.91
	(-2.41)**	(0.52)	(-2.69)*	(3.99)*	(2.38)**	(-3.68)*
Ps (Tarshov82)	-0.04	-8.73	-6.54	2.17	0.57	-6.69
	(-2.38)**	(-3.81)*	(-2.70)*	(4.13)*	(2.48)**	(-3.81)*
Ps (Open80s)	-0.05	31.25	-13.32	3.21	1.25	-10.64
	(-1.14)	(1.06)	(-1.95)***	(2.80)*	(2.12)**	(-2.70)*
Ps (Tariffs)	-0.002	-22.35	-13.51	4.32	2.69	-14.72
	(-0.02)	(-1.87)***	(-1.59)	(2.01)**	(1.61)	(-1.95)***
Ps (Owti)	-0.07	25.14	-7.36	2.84	1.09	-9.31
	(-2.33)**	(1.13)	(-2.27)**	(3.13)*	(2.39)**	(-2.94)*
Ps (Txtrdg)	-0.03	-14.12	-8.26	3.25	1.14	-11.23
	(-0.29)	(-3.37)*	(-2.09)**	(3.64)*	(2.47)**	(-3.54)*
Ps (Totimpov)	o.ooo3	17.57	-4.33	-0.03	-0.69	1.45
	(0.01)	(0.39)	(-0.55)	(-0.03)	(-1.05)	(0.33)
Ps (Owqi)	-0.09	15.14	-1.16	1.28	0.10	-3.40
	(-1.10)	(0.50)	(-0.23)	(1.05)	(0.17)	(-0.75)
Ps (Ntarfov)	-0.03	67.45	-14.16	1.98	0.42	-5.59
	(-0.42)	(1.33)	(-1.19)	(0.98)	(0.44)	(-0.82)

-*, **, *** corresponds to 1%, 5% and 10% level of significance respectively.
- Control variables are in parenthesis

Table ו: IV Augmented Regression Coefficients for Political Institutions (Demo and Auto)

Independent Variables	Dependent Variables					
	Theil	Gini	High20/Low20	Middle20	Low10	High10
Demo (Lcopen)	-0.004	-0.93	-0.649	0.23	-0.01	-0.63
	(-1.25)	(-0.63)	(-1.66)***	(2.68)*	(-0.25)	(-2.15)**
Demo (Impnov85)	-0.005	0.53	-0.79	0.21	-0.01	-0.51
	(-1.53)	(0.24)	(-1.65)***	(2.13)**	(-0.02)	(-1.56)
Demo (Impnov82)	-0.004	(-0.88)	-0.915	0.27	0.02	-0.74
	(-1.04)	(-2.15)**	(-1.99)**	(2.93)*	(0.36)	(-2.41)**
Demo (Tarshov85)	-0.006	1.15	-0.79	0.19	-0.01	-0.45
	(-1.77)***	(0.50)	(-1.56)	(1.90)**	(-0.27)	(-1.33)
Demo (Tarshov82)	-0.005	-0.91	-0.97	0.27	0.02	-0.73
	(-1.50)	(-2.10)**	(-2.02)**	(2.79)*	(0.51)	(-2.27)**
Demo (Open80s)	-0.007	3.51	-0.67	-0.02	-0.17	0.34
	(-1.15)	(0.69)	(-0.67)	(-0.11)	(-1.32)	(0.48)
Demo (Tariffs)	-0.01	2.08	0.43	-0.39	-0.24	1.58
	(-1.81)***	(0.93)	(0.33)	(-0.81)	(-1.10)	(0.92)
Demo (Owti)	-0.007	5.84	0.13	-0.05	-0.13	0.41
	(-1.99)**	(1.11)	(0.19)	(-0.24)	(-1.12)	(0.53)
Demo (Txtrdg)	0.023	-1.83	-1.16	0.52	0.06	-1.72
	(1.14)	(-1.74)***	(-1.13)	(2.20)**	(0.55)	(-2.06)**
Demo (Totimpov)	0.0009	-0.64	0.59	0.24	-0.19	0.97
	(0.17)	(-0.14)	(0.74)	(1.84)***	(-2.86)*	(2.11)**
Demo (Owqi)	-0.01	3.04	0.40	-0.07	-0.13	0.458
	(-1.47)	(0.55)	(0.06)	(-0.17)	(-0.72)	(0.31)
Demo (Ntarfov)	-0.007	4.47	0.44	-0.19	-0.12	1.52
	(-1.13)	(0.94)	(0.85)	(-1.28)	(-1.50)	(-0.61)
Auto (Lcopen)	0.006	1.20	0.70	-0.17	0.07	0.38
	(1.24)	(0.61)	(1.11)	(-1.49)	(1.23)	(0.98)
Auto (Impnov85)	0.006	-0.19	0.92	-0.16	0.06	0.29
	(1.35)	(-0.06)	(1.45)	(-1.20)	(0.96)	(0.65)
Auto (Impnov82)	0.0041	0.69	0.64	-0.26	0.03	0.63
	(0.85)	(1.17)	(0.97)	(-1.94)***	(0.49)	(1.43)
Auto (Tarshov85)	0.006	0.99	0.94	-0.12	0.07	0.17
	(1.60)	(-0.33)	(1.43)	(-0.92)	(1.06)	(0.37)
Auto (Tarshov82)	0.005	0.63	-0.19	-0.23	0.02	0.55
	(1.34)	(1.06)	(-0.18)	(-1.74)***	(0.38)	(1.22)
Auto (Open80s)	0.004	-1.88	-0.47	0.26	0.27	-1.16
	(0.75)	(-0.39)	(-0.38)	(1.11)	(2.02)**	(-1.39)
Auto (Tariffs)	0.01	-1.89	-0.71	0.361	0.21	-1.14
	(2.39)**	(-1.16)	(-0.75)	(1.00)	(1.38)	(-1.15)
Auto (Owti)	0.008	-5.80	-0.55	0.23	0.22	-1.04
	(2.04)**	(-1.08)	(-0.34)	(0.77)	(1.60)	(-1.04)
Auto (Txtrdg)	-0.02	-0.70	-0.88	-0.04	0.25	-0.03
	(-0.97)	(-0.44)	(-0.93)	(-0.12)	(1.28)	(-0.03)
Auto (Totimpov)	0.0002	1.04	-0.62	-0.31	0.23	-1.28
	(0.04)	(0.19)	(-0.44)	(-2.07)**	(2.88)*	(-2.34)**
Auto (Owqi)	0.011	-2.96	-0.25	0.13	0.18	-0.68
	(1.88)***	(-0.53)	(-0.62)	(0.26)	(0.91)	(-0.40)
Auto (Ntarfov)	0.008	-5.68	-0.44	0.27	0.16	-1.11
	(1.46)	(-1.06)	(-0.25)	(1.59)	(1.64)	(-1.83)***

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

Table ש: Significance Count of Institutions

Independent Variables	Dependent Variables							
	Theil	Gini	High20/Low20	Middle20	Low10	High10	Cases of Significance by rows	Total cases of correct signs
Legal Institutions								
Voice and Accountability (Va) (Negative sign)	5 out of 12 (5 out of 5)	3 out of 12 (3 out of 3)	5 out of 12 (5 out of 5)	7 out of 12 (0 out of 7)	2 out of 12 (1 out of 2)*	7 out of 12 (7 out of 7)	29 out of 72	28 out of 29
Rule of Law (Rl) (Negative sign)	5 out of 12 (5 out of 5)	4 out of 12 (4 out of 4)	9 out of 12 (9 out of 9)	10 out of 12 (0 out of 10)	9 out of 12 (0 out of 9)	10 out of 12 (10 out of 10)	47 out of 72	47 out of 47
Control of Corruption (Ctc) (Negative sign)	5 out of 12 (5 out of 5)	4 out of 12 (4 out of 4)	8 out of 12 (8 out of 8)	9 out of 12 (0 out of 9)	8 out of 12 (0 out of 8)	9 out of 12 (9 out of 9)	45 out of 72	45 out of 45
Economic Institutions								
Government Effectiveness (Ge) (Negative sign)	5 out of 12 (5 out of 5)	3 out of 12 (3 out of 3)	8 out of 12 (8 out of 8)	9 out of 12 (0 out of 9)	8 out of 12 (0 out of 8)	8 out of 12 (8 out of 8)	41 out of 72	41 out of 41
Regulatory Quality (Rq) (Negative sign)	3 out of 12 (3 out of 3)	2 out of 12 (2 out of 2)	2 out of 12 (2 out of 2)	6 out of 12 (0 out of 6)	1 out of 12 (1 out of 1)*	5 out of 12 (5 out of 5)	19 out of 72	18 out of 19
Political Institutions								
Democracy (Dem) (Negative sign)	3 out of 12 (3 out of 3)	3 out of 12 (3 out of 3)	4 out of 12 (4 out of 4)	7 out of 12 (0 out of 7)	1 out of 12 (1 out of 1)*	5 out of 12 (4 out of 5)*	30 out of 72	28 out of 30
Autocracy (Aut) (Negative signs)	3 out of 12 (0 out of 12)	0 out of 12 (0 out of 0)	0 out of 12 (0 out of 0)	3 out of 12 (3 out of 3)	2 out of 12 (0 out of 2)*	2 out of 12 (2 out of 2)	10 out of 72	8 out of 10
Political Stability (Ps) (Negative sign)	5 out of 12 (5 out of 5)	4 out of 12 (4 out of 4)	8 out of 12 (8 out of 8)	9 out of 12 (0 out of 9)	8 out of 12 (0 out of 12)	9 out of 12 (9 out of 9)	53 out of 72	53 out of 53
Social Institutions								
Average Schooling Years (Sch) (Negative sign)	9 out of 12 (9 out of 9)	6 out of 12 (6 out of 6)	6 out of 12 (6 out of 6)	7 out of 12 (0 out of 7)	5 out of 12 (0 out of 5)	6 out of 12 (6 out of 6)	39 out of 72	39 out of 39
Adult Literacy Rate (Altr) (Negative sign)	8 out of 12 (8 out of 8)	2 out of 12 (1 out of 2)*	1 out of 12 (1 out of 1)	1 out of 12 (1 out of 1)	3 out of 12 (1 out of 3)*	1 out of 12 (1 out of 1)	16 out of 72	14 out of 16
Cases of Significance (by columns)	51 out of 120	31 out of 120	51 out of 120	68 out of 120	47 out of 120	62 out of 120	-	-

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

DATA AND SOURCES:

Altr: Adult Literacy Rate, Year: 1999, Source: WDI (2002)

Auto: Autocracy, Year: 1999, Source: Polity IV dataset

Ctc: Control for Corruption, Year: 1997/98. Source: Kaufman et al (2002)

Demo: Democracy, (numeric) Range = 0-10 (0 = low; 10 = high), Democracy Score: general openness of political institutions. The 11-point Democracy scale is constructed additively. Year: 1999, Source: Polity IV dataset

Disteq: Distance from Equator of capital city measured as abs (Latitude)/90. Source: Rodrik, Subramanian & Trebbi (2002)

Engfrac: Fraction of the population speaking English. Source**:** Rodrik, Subramanian & Trebbi (2002)

Eurfrac: Fraction of the population speaking one of the major languages of Western Europe: English, French, German, Portuguese, or Spanish. Source: Rodrik, Subramanian & Trebbi (2002)

Ge: Government Effectiveness, Year: 1997/98. Source: Kaufman et al (2002)

Gini: Coefficient in Percentage Points as calculated by WIDER. Year: 1995, Source: UNU/WIDER World Income Inequality Database (WIID) http://www.wider.unu.edu/wiid/wiid.htm

High10: Highest Income Decile, Year: 1995, Source: UNU/WIDER World Income Inequality Database (WIID) http://www.wider.unu.edu/wiid/wiid.htm

High20: Fifth Income Percentile, Year: 1995, Source: UNU/WIDER World Income Inequality Database (WIID) http://www.wider.unu.edu/wiid/wiid.htm

Sch: Average Schooling Years in the total population at 25,Year: 1999. Source: Barro R & J. W. Lee data set, http://post.economics.harvard.edu/faculty/barro/data.html

Impnov85: Import Penetration: overall, 1985. Source: Rose (2002).

Impnov82: Import Penetration: overall, 1982. Source: Rose (2002).

Lcopen: Natural logarithm of openness. Openness is given by the ratio of (nomnal) imports plus exports to GDP (in nominal US dollars), Year: 1985. Source: Penn World Tables, Mark 6.

Logfrankrom (FR) : Natural logarithm of predicted trade shares computed following Frankel and Romer (1999) from a bilateral trade equation with 'pure geography' variables. Source: Frankel and Romer (1999).

Low 10:Lowest Income Decile, Year: 1995, Source: UNU/WIDER World Income Inequality Database (WIID) http://www.wider.unu.edu/wiid/wiid.htm

Low20: First Income Percentile, Year: 1995, Source: UNU/WIDER World Income Inequality Database (WIID) http://www.wider.unu.edu/wiid/wiid.htm

Nontarfov: Non- Taiff Barriers Coverage: Overall, 1987. Source: Rose (2002).

Open80s: Sachs and Warners (1995) composite openness index. Source: Rose (2002).

Owqi: Non Trade Barriers Frequency on intermediate inputs, Capital goods, 1985. Source: Rose (2002).

Owti: Tariffs on Intermediate and Capital Goods, 1985. Source: Rose (2002)

Ps: Political Stability, Year: 1997/98. Source: Kaufman et al (2002)

Ptr: Pupil Teacher Ratio, Primary, Year: 1999, Source: WDI (2002)

Rl: Rule of Law, Year: 1997/98. Source: Kaufman et al (2002)

Rq : Regulatory Quality, Year: 1997/98. Source: Kaufman et al (2002)

Tarshov85: TARS Trade Penetration: overall, 1985. Source: Rose (2002).

Tarshov82: TARS Trade Penetration: overall, 1982. Source: Rose (2002).

Tariffs: Import Duties as %age imports, Year:1985. Source: World Development Indicators (WDI), 2002.

Theil: UTIP-UNIDO Wage Inequality THEIL Measure - calculated based on UNIDO2001 by UTIP, Year: 1997. Source: University of Texas Inequality Project (UTIP) http://utip.gov.utexas.edu.

Tlex: Public Spending on Education, Total (as a percentage of GDP), Year: 1999, Source: WDI (2002)

Thrd20: Third Income Percentile, Year: 1995, Source: UNU/WIDER World Income Inequality Database (WIID) http://www.wider.unu.edu/wiid/wiid.htm

Totimpov: Weighted Average of Total Import Charges: overall, 1985. Source: Rose (2002)

Txtrg: Trade taxes / trade, 1982. Source: rose (2002)

Va: Voice and Accountability, Year: 1997/98. Source: Kaufman et al (2002)