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Globalization, Political Orientation and Wage Inequality: From Donald Trump's Election to Angela Merkel's Re-Election

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Abstract:

The recent election results in US, Germany, Japan and China and vote for BRITIT in Britian suggest that political outcomes increasingly relate to the economic, political and social orientation in both developed and developing countries. Countries that have not promoted social and economic harmony in the country - democracy eventually puts the pressure through the discontent local polity resulting in election outcomes similar to US presidential elections in 2016. To avoid anti-globalization feelings among local population and its negative outcomes, improving political orientation towards greater participation of local polity and investments in education in developing countries would result in more equality. The research is applicable to countries like India, China, Pakistan, Argentina, Sub-Saharan Africa who have all liberalised but still need to draw lessons from East Asia for their Industrialisation and Growth Promotion with early emphasis on Social and Institutional Development.

Key Words: Democracy, Autocracy, Wage Inequality, International Trade

Introduction:

Unequal distribution of the benefits of accelerated globalisation, since 1980, has disadvantaged sub-Saharan and even, Latin American countries in terms of either negative or indifferent growth rates (Murshed 2003). This has occurred, despite the fact that most of these nations became more open in the sense of rising shares of international trade in national income. Associated with this phenomenon of increasing openness is, rising within-nation income inequality post-1980. Increased trade, particularly of the inter-industry variety, alters the composition of output in the economy away from non-traded goods towards traded products. This will affect the functional distribution of income, usually raising the demand for the factor of production employed intensively in the traded sector. In the developed world, it is skilled labour and we have witnessed an increase in the skilled-unskilled labour relative wage premium. In many OECD countries, this has meant a more unequal personal distribution of income. As far as developing countries are concerned, especially in those that export unskilled labour intensive manufactured goods, we would expect a fall in the skilled-unskilled labour relative wage premium leading to reduced inequality, since the unskilled are more numerous within the population. Yet this is generally not true, and inequality in the developing world has risen, mirroring events in the OECD. What accounts for this paradox? Perhaps developing countries have such quantities of unskilled labour that unskilled wages will not respond to increased demand. This certainly appears likely in

cross-country studies where China and India are included. Alternatively, other less populous developing countries may be exporting relatively more skilled labour intensive products such as semi-conductors or capital-intensive commodities as is the case with fuels and minerals. Finally, an expansion in international trade may raise the demand for, and reward of, skilled labour even when the country in question is exporting unskilled labour intensive products due to skill shortages and other factor complementarities.

Many studies have tried to capture the relationship between trade liberalisation and income inequality. A paper by Dollar and Kraay (2004) concludes that liberalisation does not significantly affect the distribution of income, and at most, the relationship is of neutral nature. However, their results have been widely challenged because of their methodology and variable choice. (Ravallion 2003; Amann et al. 2002) Ravallion (2003) points out that increased openness can lead to a rise in the demand for relatively skilled labour, which tends towards less equal distribution in poor relative to rich countries. Arbache, Dickerson and Green (2004) find that imported technology raised the relative demand for highly skilled labour in Brazil and thus lowered the relative wages of less educated groups. Behrman, Birdsall and Szekely (2001) observe that inequality has increased in seven out of 18 Latin American countries that initiated market reforms in the mid-1980s. Jayasuriya (2002) accepts that trade liberalisation may have reduced consumption poverty in South Asia, but is sceptical about the purportedly neutral distributional effects of liberalisation. Many suggest that the distribution of the positive effects of liberalisation is somewhat skewed towards urban households rather than rural ones, and to wealthy rather than poor households (see Chen and Ravallion 2003; Cockburn 2002; Friedman 2000; Lofgren 1999). The evidence in this regard comes mainly from Latin America because most of the economies there undertook rigorous reform policies in the mid-1980s following the debt crisis in that decade. Legovini, Bouillon and Lustig (2001) find that inequality in Mexico rose sharply between 1984 and 1994, and rising returns to skilled labour accounted for 20 per cent of the increase in the inequality in household income. Similarly, Hanson and Harrison (1999) find that the reduction in tariffs and the elimination of import licenses accounts for 23 per cent of the increase in the relative wages of skilled labour during 1986-90, thus providing evidence for the role liberalisation played in rising inequality in Mexico. Other country studies on Brazil, Chile, Colombia and Venezuela, also show that skilled workers received increased premiums after liberalisation when compared to their unskilled counterparts. (World Bank 2001) Therefore, the balance of the evidence points to increased globalisation inducing greater income inequality.

Irrespective of the exact nature of the cause of trade-induced inequality, it is sensible to presume that nations with higher stocks of human capital will experience less of the un-equalising spiral consequent upon globalisation and trade liberalisation. Investment in education may yield a double dividend. It cannot only promote growth, but also suppresses inequality by both bequeathing skills as well as moderating rises in skill-premia following an expansion of international trade. More generally, Tinbergen (1975) pointed out that changes in wage inequality are a result of the opposing forces that technological change (skilled labour demand) and education (skilled labour supply/human capital) exert on relative wages. Eiche and Garcia-Penalosa (2001: 19) suggest that human capital accumulation plays a dual role in development. Because the stock of educated workers in an economy determines both the degree of income inequality and its rate of growth, making the parameters of the demand for and supply of labour crucial determinants of inequality increases or decreases as an economy accumulates human capital.

The aim of this study is to examine the impact of increased trade on inequality, and investigate whether a higher human capital stock moderates this unequalising aspect of international trade; specifically the skilled-unskilled wage differential. High initial endowments of human capital, captured by data on average years of schooling for example, imply a more egalitarian society compared to countries with a lower human capital endowment. When societies that are more equal, open up their economies further, increased trade is likely to induce less inequality because the supply of skills better matches demand. Yet greater international exposure also brings about technological diffusion, see Winters (2004), further raising skilled labour demand. This may raise wage inequality, in contrast to the initial egalitarian level effect of human capital. This proposed study will attempt to measure these two opposing forces. Another purpose of this analysis is to examine what type of education most reduces inequality. In settings of low human capital endowments, as measured by literacy or low primary school enrolment, a policy of relative neglect of primary in favour of expenditure on tertiary education may have a less than benign influence on inequality.

We also include institutions in our analysis. Discussion on institutions is generally absent in this debate. The proposal contends that here may also be a strong connection between good institutions and smooth labour markets. Thus such questions are also important: Are more educated societies with better legal, political and economic institutions more capable to absorb the upward pressure relative wages of the skilled against unskilled? Does the presence of good institutions form grounds for technical change with overall fewer distortions in labor market returns? If yes then good institutions would be expected to put a downward pressure on wage inequality.

2. A Note on Theil Wage Inequality:

The analysis employs the UTIP-UNIDO wage inequality Theil measure calculated by University of Texas Inequality Project (UTIP) based on UNIDO 2001. This data set is a set of measures of the dispersion of pay across industrial categories in the manufacturing sector, drawn from the Industrial database published annually by United Nations Industrial Development Organisation (UNIDO). The Theil index is decomposable. (Conceicao and Galbraith 2001) If individuals are grouped in a mutually exclusive, completely exhaustive way, overall inequality can be separated into a between group component and a within group component. Thus, there is no interaction between these two components and so these measures are additively decomposable. Moreover of all entropy-based measures, the Theil index is one of only two measures for which the weights in the within groups component add to one. Therefore, overall inequality is the result of adding the two independent components: inequality between groups and inequality within groups.

This chapter employs the Theil index or more specifically a measure of inequality in manufacturing pay between skilled and unskilled labour, instead of taking measures of absolute inequality, which would capture the personal income distribution (GINI). Several considerations motivate this decision. First, comparable and consistent measures of income inequality, whether on a household level or per head basis are difficult, almost implausible and generally fail to provide adequate or accurate longitudinal and cross-country coverage. By contrast, 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, measuring manufacturing pay accurately is routine in most countries around the world. (Galbraith and Kum 2002)

Second, pay is major source of household income. Changes in income inequality reflect changes in wage inequality. Fields (1980) offers evidence that pay inequalities in the manufacturing sector are the driving force behind the evolution of inequality. Furthermore as discussed above, processes of globalisation through technological change raises the concentration of skilled workers in advanced sectors against unskilled workers in the backward sector. Since manufacturing is the sector most affected by modern technological change, income inequality would certainly have an inter-industrial feature that would show up in changing pay differentials between advanced and backward manufacturing industries. (Galbraith and Kum 2002)

Third, the principal reason for using the UTIP-UNIDO wage inequality Theil measure is that the researcher is more interested in the functional distribution of income. Changes in the functional distribution between skilled and unskilled labour, will in turn affect the personal income distribution in countries that are unskilled labour abundant. Inequality will rise as the skilled-unskilled labour wage premium increases and vice versa.

The UTIP- UNIDO wage inequality measure is the between-group component of Theil's T statistic, an entropy measure whose functional form is defined as:

$$T = \sum \left(\frac{Y_i}{Y} \right) T_i + \sum \frac{Y_i}{Y} \log \left(\frac{Y_i/Y}{N_i/N} \right) = T^w + T^B \quad (1)$$

Where T^w and T^B indicate within-group and between-group inequality measures respectively. N and Y stand for total employment and total pay respectively, and subscript i denotes group identity. As mentioned, UTIP captures T^B as their inequality measure, where groups are defined as categories within the UNIDO industrial classification codes.

Theil is not a measure with a closed scale between 0 and 1 (or 0% and 100%), like in case of the GINI index. For resource distributions described by only two quantiles, the Theil index is 0 for 50:50 distributions, 0.5 for 74: 26 distributions, 1 for 82:18 distributions, 2 for 92:8 distributions and 4 at 98:2 distributions. Theil at 1 is close to an 80:20 distribution, which is very close to a distribution often referred to as "Pareto Principle".¹ The UNIDO-UTIP Theil Index provides inequality between groups only (One being skilled and other being unskilled). Though the data is not available for within group inequality, we cannot discount it because there may also be rise in inequality within skilled labor. For example if skills are captured by education level, rising within group inequality would mean that returns to higher levels of education and returns to lower levels of education do not change at the same proportion.

Here, we want to capture the effect of education (skilled) versus no education (unskilled) on relative wages. We would also analyze effect of higher skills within the framework to check if wage inequality between skilled and unskilled labor are rising also because of returns to higher education are rising at higher proportion when compared

¹ This is a special case of the wider phenomenon of [Pareto distributions](http://management.about.com/cs/generalmanagement/a/Pareto081202.htm). If the parameters in the Pareto distribution are suitably chosen, then one would have not only 80% of effects coming from 20% of causes, but also 80% of that top 80% of effects coming from 20% of that top 20% of causes, and so on (80% of 80% is 64%; 20% of 20% is 4%, so this implies a "64-4 law") <http://management.about.com/cs/generalmanagement/a/Pareto081202.htm>

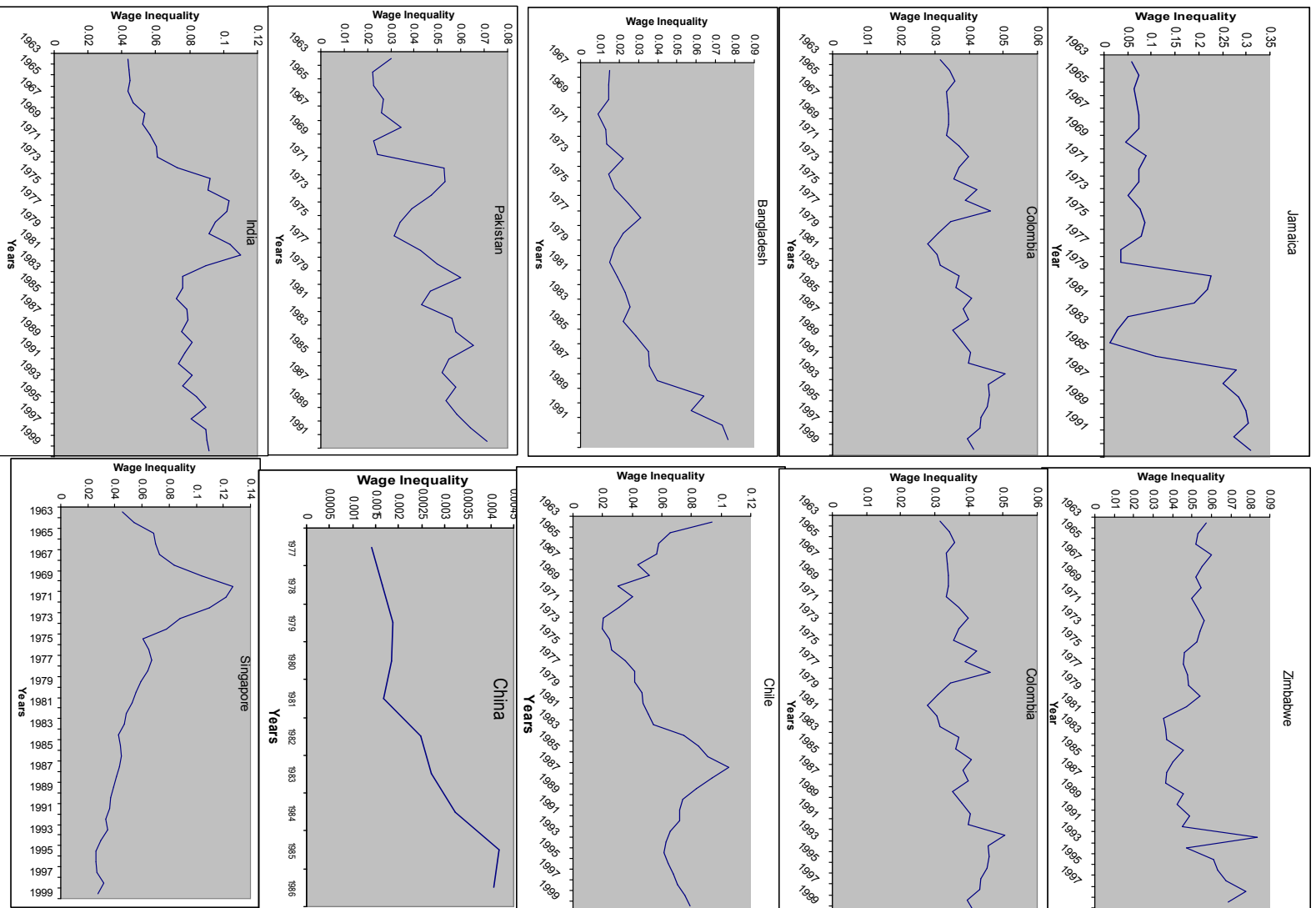
with overall levels of education. In other words, is wage inequality also pushed by favoring higher skills in developing countries, or presence of skills (having education) a factor decisive enough to explain rise in wage gaps between skilled labor and unskilled labor? There is already some evidence that secondary education is more important in alleviating wage inequality than higher levels of education suggesting close correlation between higher levels of education and wage dispersion (Acemoglu, 2001). Investing in higher education alone is less effective in alleviating wage inequality. Since Theil captures wage inequality and not wage equality, we can easily test the positive effect of higher education in wage inequality. We are not saying that decreasing higher levels of education would then decrease wage inequality as is generally true with interpretations upon getting a positive sign (say between Theil Index and higher levels of education). If there is a positive correlation, then the only way to minimize the education bias of inequality is to raise the overall education levels of the population, which in turn would distribute skills homogeneously within the population.

The between group inequality, T^B , ranges from 0 to less than 1 (0.36 for the current UNIDO data set). On the hind sight, this suggests that adding within group inequality T^w would further add up to increase the value of T closer to 1 meaning that over all wage inequality between skilled and unskilled is steeper than what is captured by T^B only. As suggested; by checking the relationship between higher levels of education and 'between group wage inequality' T^B , we would be able to see whether between group inequality is also present. It is possible if higher levels of education are more sensitive to wage inequality than average levels of education which include primary, secondary and higher.

The UTIP data set provides Theil inequality measures for nearly 3,200 country/year observations, covering more than 150 countries during the period 1963 to 1999. Figure 1 illustrates trends in wage inequality between skilled and unskilled workers, over time in selected developing countries and is representative of different regions. All the country graphs, except one, show that wage inequality has been on the rise in the 1980s and 1990s. The only exception is Singapore, which belongs to a group associated with the 'East Asian Miracle' of the 1980s. However, this miracle remained confined to a few countries and as it is evident from the graphs, Singapore is not representative of the developing world. Since the 1980s and 1990s are associated with *Structural Adjustment Policies* under which many developing countries embraced trade liberalization, it is safe to suggest that the above trends in wage inequality also relate to these market reforms. The end of the chapter lists all developing countries, and the latest year for which the Theil wage inequality index is available.

Singapore is one such country which invested heavily on social development and raised the average education levels of its population. Is this the reasons why wage inequality is falling in Singapore post liberalization? In social development, Singapore indeed represents the good side of the story. The other side of the story is more applicable to developing countries where larger segments of the population are uneducated. Over all trend in developing countries post liberalization should be a rise in wage dispersion when skill bias technical change raise skill premia by favoring the educated over uneducated.

Graph 1 Trends in Wage Inequality in Developing Countries:



3. Primary Analysis:

The initial analysis devised a basic model for wage inequality between skilled and unskilled workers which was dependent on integration as well as initial skills and have 2 equations (see Mamoon and Murshed, 2008)

$$\text{Wage Inequality} = f[\text{Integration}, \text{Skills}_0] \dots \dots \dots (2)$$

(+) (-)

Here integration represents trade liberalization and Skills represent pre liberalization education levels. In confirmation to their model specifications, Mamoon and Murshed (2008) find that

- (1) Trade liberalization is associated with higher wage inequality and
- (2) Developing countries with a higher level of initial human capital do well against rising wage inequality.

This initial research provides empirical evidence that establishes the negative role of trade liberalization in welfare generation. One of the primary cause of rise in wage inequality in developing countries is also highlighted which is inadequate supply of human capital before the liberalization process was initiated.

However the study had many limitations. First it is undertaken on a cross section data which allocates single observation to each country. Secondly the Wage inequality equation is very simple in nature depending on only two explanatory variables. Third, it does not examine how education is related with wage inequality post liberalization. The proposed study intends to extend on the methodology and empirical model.

4. Data and Methodology:

The first step in this study is to extend the dataset from cross section to panel. Our empirical model based on panel data would have the following form

$$\text{WageInequality} = f[\text{Integration}, \text{PoliticalOrientation}, \text{Skills}_1] \dots \dots \dots (3)$$

+ - -

Here *Integration* represents trade liberalization, which has a positive impact on wage inequality. *Institutions* represent political orientation and have a negative/positive impact on wage inequality. *Skills₁* captures education levels achieved.

Table 1: Data and Sources

Variable	Description/ Source	Period
Wage Inequality	Theil Index/ University of Texas Inequality Project	1963-1999
Integration	Openness/World Development Indicators	1960-2009
	Trade Policy/ World Trade Map	1980-2008
Institutions	Democracy, Autocracy/Polity IV project	1960-2009
	Corruption/Transparency International	1975-2009
	Economic and Political Risk/ International Country Risk Guide	1984-2009
Skills	Average years of schooling/ Baro and Lee Data set	1960-1999
	Average years of primary schooling/ Baro and Lee Data set	1960-1999
	Average years of secondary schooling/ Baro and Lee Data set	1960-1999
	Average years of higher schooling/ Baro and Lee Data set	1960-1999
	Average years of schooling for males/ Baro and Lee Data set	1960-1999
	Average years of schooling for females/ Baro and Lee Data set	1960-1999

5. Results:

Table 2 presents results for democracy. It can be observed that countries that are politically stable and that have empowered the local polity through transparent and inclusive electoral process witness less wage inequality upon trade liberalization. This has generally been the case in most developed countries of the North especially the EU. Improved educational attainments all across the sample of developed and developing countries also contain inequality in wages. The role of politics-as opposed to strict market forces – in the 20th century reduction and subsequent widening of inequality is also confirmed by a World Bank Report (1993) on eight countries (Japan, Republic of Korea, Taiwan, Singapore, Honk Kong, Thailand, Malaysia, Indonesia) which used to be known as the tiger economies. It describes how, with well publicized programs of shared growth they all deliberately reduced their income differentials during the period 1960-1980. Policies variously included land reform, subsidies to lower fertilizer prices to boost rural incomes, wealth sharing programs, and large scale public housing programs, and assistance to worker cooperatives. The report says that in each case governments reduced inequalities primarily because they faced challenges to their legitimacy, often from communist rivals, and needed to win wider public support. Thus it is in their self interest to strengthen the precedence of democratic values at local governance structures that took development initiatives at grass roots level. For example South Korea faced North

Korea, Taiwan and Hong Kong faced the claims of China, and the communist guerilla forces operated widely. So here, as in the rich developed countries, it is a mistake to think that main changes in inequality have resulted simply from impersonal market forces rather than from political and ideological processes.

Table 3 suggests that less than benign democratic setup including outright dictatorships have been detrimental to skilled and unskilled wage equality. Partly the results depict the situation in high growth economies in the developing peripheries that have actively embraced and promoted free market economic policies by opening up industry and services to international competition and thus creating an enabling environment for economic growth but could not keep pace in political empowerment of the population. Furthermore most developing countries have promoted tertiary education in contrast to school education and thereby provided an indirect subsidy to the rich and skilled that benefit from international competition. (Mamoon and Murshed, 2013)

6. Conclusions:

Political orientation of a country matters in determining the inequality trends in both developed and developing countries. International trade is observed to have caused wage inequality and that in return has affected the political process within countries resulting in change in the policies that have created inequality in the first place. For example, Donald Trump victory amid his anti globalization campaign in 2016 indicates that the anti-globalization sentiment was shared by majority in US that is eventually resulting in the possible reverse of US initiatives that promoted international competition in theory and practice. Same is true for British vote in favor of BRITAIN in 2016. In contrast to these examples, the re-election of Angela Merkel in Germany and Abe in Japan in 2017 suggests that people eventually seek economic equality within the national borders and fair globalization. Chinese president Xi has clamped down corruption in the country that was seen as a serious measure towards making the elite accountable and thus he was also re-elected. So there is a clear friction between national politics and unequal outcomes of globalization. In order to achieve higher growth rates, embracing globalization is important but it should be coupled with greater political and social empowerment of the population.

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Table 2: Second Stage Regression Results for Democracy

		Dependent Variable: Theil Index											
Independent Variables	1	2	3	4	5	6	7	8	9	10	11	12	
Openness	0.18***	0.98***	0.31***	0.11***	0.66***	0.40***							
Trade Policy							-1.59***	-1.11***	-1.52***	-1.88***	-1.27***	-1.09***	
Democracy	-1.04***	-1.02***	-1.24***	-1.99***	-2.56***	-0.88***	-1.19***	-1.67***	-1.03***	-1.44***	-1.16***	-1.52***	
Average Years of Schooling	-0.26***						-0.70***						
Average Years of Primary Schooling		-0.02***						-0.87***					
Average Years of Secondary Schooling			-0.45***						-0.78***				
Average Years of Higher Schooling				0.71						-0.65***			
Average Years of Schooling for Males					0.31						-0.99***		
Average Years of Schooling for Females						-0.67**						-0.02**	
N	444	444	444	444	444	444	444	444	444	444	444	444	
F	42.89***	42.02***	61.97***	56.43***	72.90***	82.63***	71.57***	67.99***	62.89***	68.71***	52.09***	42.16***	
R	0.67	0.71	0.82	0.78	0.66	0.59	0.73	0.55	0.46	0.52	0.61	0.74	

- *, **, *** denotes significance at 1%, 5 % and 10% levels respectively.

- Standard errors are corrected for as we run Durbin–Wu–Hausman test (augmented regression test) for endogeneity (see Davidson and MacKinnon. 1993).

Table 3: Second Stage Regression Results for Autocracy

	Dependent Variable: Theil Index											
Independent Variables	13	14	15	16	17	18	19	20	21	22	23	24
Openness	0.11***	0.27***	0.31***	0.19***	0.16***	0.34***						
Trade Policy							-12.38***	-12.41***	-11.92***	-9.56***	-18.67***	-11.09***
Autocracy	0.54***	0.02***	0.24***	-0.95***	0.32***	0.48***	0.19***	0.36***	0.35***	0.14***	0.22***	0.17***
Average Years of Schooling	-1.11**						-1.94***					
Average Years of Primary Schooling		-1.67***						-2.23***				
Average Years of Secondary Schooling			-1.35***						-1.80***			
Average Years of Higher Schooling				-1.12***						-1.43***		
Average Years of Schooling for Males					-1.06***						-1.79***	
Average Years of Schooling for Females						-1.67**						-1.02**
N	444	444	444	444	444	444	444	444	444	444	444	444
F	55.09***	60.85**	66.97***	71.43***	65.30***	88.43***	73.67***	71.92***	55.81***	78.71***	62.49***	52.47***
R	0.86	0.81	0.83	0.78	0.76	0.69	0.78	0.85	0.66	0.72	0.81	0.65

- *, **, *** denotes significance at 1%, 5 % and 10% levels respectively.

- Standard errors are corrected for as we run Durbin–Wu–Hausman test (augmented regression test) for endogeneity (see Davidson and MacKinnon. 1993).