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**Democracy and Globalization Are not Prerequisites
for Higher Income: A Cross Country Analysis**

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Abstract

This paper reports results from a cross country econometric analyses over 150 countries pertaining to possible correlation between per capita GDP and democracy, corruption, globalization and human development indices. Our findings include 1) of the four indices, the human development index has the strongest influence on per capita GDP and its growth, 2) fighting corruption pays as higher levels of cleanliness and transparency tend to raise per capita GDP, but less so in lower income economies, 3) the globalization index does not show any significant correlation with per capita GDP, and 4) the democracy index is not significantly correlated with per capita GDP or growth. but in some country it can hinder growth. The moral of our investigation is that economic growth does not automatically lead to better democracy, and higher per capita income does not warrant higher level of democracy. Democracy is not a means to higher income, but rather, it is an independent value in itself.

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1 Introduction

Many in economically advanced democracies believe that lower level of corruption, and higher levels of democracy, human capital and globalization will all have favorable effects on a country's economic development. Indeed a casual observation reveals that the member countries of the OECD are all well developed democracies.

Of course, there are exceptions. Many oil rich countries are governed by monarchies or hereditary dictatorship. The United States does not score the highest marks in corruption or globalization indices, and a fast-rising China cannot yet be characterized as a democracy. However, growth requires an efficient use of available resources in the country and utilizes innovations - technical, organizational, institutional and societal- that will only come when people can express themselves freely. Democracy may not be the panacea for all development problems but it certainly must be a prerequisite for growth. So goes the common view.

The question is not only academic, but also has real significance for policy makers, political leaders, and business leaders in developing economies. For example, it has been argued that sooner or later, China, Vietnam and Cambodia will need a political transition from autocracy to democracy if their leaders want to escape from the middle-income trap. On the other hand, the notion still lingers among some business practitioners that corruption is a necessary evil as a fee to do business, and a social lubricant for success that strict legalistic approach fails to provide.

Theoretical and empirical analyses regarding the effects of non-economic variables on economic performance abound. However, most treatments of the subject focused on one particular variable like democracy, corruption, globalization and human development. The purpose of this paper is to revisit the question by looking at the working of all four variables simultaneously.

Our empirical analyses, while methodologically simple, lead us to four important conclusion. First, one factor that stands out as the most important contributor to the per capita GDP and growth is human development index for any economy, rich or poor, or democratic or non-democratic. Second, fighting corruption pays for advanced economies but offers lower returns in developing economies. Third, democracy is not a means to economic development and in some countries can hinder growth. And fourth, globalization has only a minor

significance for the macroeconomic performances of economies.

2 Literature Review

The subject of factors that influence growth and development received much academic attention in the 1990s. Since then, additional observations on the historical experience on Asia, Latin America, the Middle-East and Africa, and Latin America have been compiled and new indices aiming to capture the degree of non-economic characteristics of countries have been published. It is now worth reinvestigate the question from a new angle.

Barro (1997)'s seminal work began with inquiries into determinants of economic growth. Barro (1999) focused on the relationship between income and democracy. He used a subjective indicator of electoral rights as a measure of democracy and conducted cross-country empirical analyses covering over 100 countries from 1960 to 1995 finding a non-linear. In the early stage of transition from non-democratic to democratic governance, more democracy is associated with higher growth. However, as a country matured in democratic terms, higher level of democracy tended to lead to slower growth. Barro attempted to resolve the contradiction by adding new explanatory variables such as years of primary schooling and the urbanization rate. The general conclusion that emerges from his work is that the propensity for democracy rises with per capita GDP.

Acemoglu, Johnson, Robinson and Yared (2005) took it from Barro and carefully examined the relationship between income and democracy. They used Freedom House Political Rights index and various econometric estimation methods. The main conclusion from their elaborate exploration casts a serious doubt on the conventional wisdom that per capita income has a causal effect on democracy. They found a positive correlated between income and democracy but causality could not be established

Related to democracy are the issues of corruption, bribery and cronyism, which can be found in democratic countries and non-democratic countries alike. The question of whether corruption is detrimental to per capita GDP is a particularly serious issue for developing countries.. In theory, corruption adds to infrastructure construction, transaction costs and lowers the reliability and transparency of market institutions. However, in popular discourse among many business practitioners and governments alike, corruption is often regarded as a

necessary evil¹.

OECD (2013) demonstrated a strong correlation between control of corruption and per capita income. Based on an exploration of the channels through which corruption negatively affects growth and development, they conclude that “strong and systematic implementation of the various elements of the anticorruption agenda is necessary to address the impact of corruption and consequently on sustained economic growth.”²

Regarding the effects of human development index, Sharifi-Renanai, Mirfatah and Honarvar (2012) examined 21 countries in Middle-East and North Africa (MENA) during the period 1980-2010. They found that the human development index, and especially education, were key to growth for MENA countries.

Regarding globalization, Samini and Jenatabadi (2014) studied countries in Organization of Islamic Cooperation (OIC) and found that globalization, by itself, does not increase or decrease economic growth. Rather, ‘complementarities’ that are implemented together with improvements in education are instrumental for sustained economic growth.

Almost all empirical studies, concentrate on one index and study its effects on per capita GDP or growth and some produce conflicting results. Is democracy an important determinant for growth or is it insignificant in poor countries? Does corruption have any productive value, or, is it just a waste of resources detrimental to growth? The effects of human development seems to be ubiquitous, but is it stronger than other factors?

With these questions in mind, we conducted a series of cross-country empirical analyses. In doing so, we relied on Barro’s finding that democracy does not cause economic growth, nor, does growth cause democracy. That is to say, we can concentrate on contemporaneous correlation among variables, and need not be concerned with causality question.

3 Data and Descriptive Statistics

We chose four indicators that are widely used for analytical purposes: a *democracy*

¹ Svensson (2005) went on a comprehensive survey of literature on corruption.. His conclusion is more reserved than OECD advocacy (2013). For a serious discussion on “efficient corruption” , see Left (1964) and Huntington (1968) See also Wahab (2011)..

² OECD (2013), p.1.

index, a *corruption perceptions* index, a *human development* index and a *globalization* index.

The Economist Intelligence Unit (EIU) publishes a democracy index each year. It evaluates elections, governance quality, political participation and more than 70 other factors. The consolidated index assigns values between 0 and 10 and covers 168 countries and regions in the world. in 2014

The corruption perceptions index used in our study is compiled by Transparency International, a German non-government organization. It covers such topics as political corruption, business bribes and cronyism. The index builds on subjective judgments of experts on the degree of corruption. The index covers 135 countries and regions for 2014. The higher the index, the cleaner and more transparent is the country's governance.

The human development measure used is the United Nations Development Programme (UNDP)'s well-established index covering education, life expectancy at birth and income distribution. The globalization index comes from KOF Swiss Economic Institute. It combines the degrees of economic globalization, societal globalization and political globalization.

Thus , the four indices used are compiled by different institutions in different countries. Dependent variables for this study are per capita GDP in international dollars (pcgdp) and the compound rate of growth in pcgdp (growth) over the past 20 years. The descriptive statistics are shown in Table 1. *Hhdi* stands for the human development index, *corruption* for the corruption perceptions index, *democracy* for the democracy index, and *global* for the overall globalization index.

Table 1 Descriptive Statistics of Variables

Variables	Obs	Mean	Std. Dev.	Min	Max
pcgdp	174	16088.61	16555.94	604.081	90298.16
growth	153	0.0427174	0.0189542	-0.003693	0.1122305
hdi	172	0.6778837	0.1586464	0.337	0.944
corruption	157	43.54777	19.73363	11	92
democracy	154	5.728052	2.12299	1.5	9.93
global	170	57.33916	16.41896	25.25771	91.29915

4 Determinants of Growth and Income

4-1 Determinants of Growth

The first analysis focuses on the determinants of growth. If growth does not necessarily

lead to democracy, will democracy contribute to growth? What are the roles of corruption and globalization.? We will take growth as the dependent variable and regress on pcgdp, hdi, democracy, corruption and global. It was observed that long-term growth rates as defined here are the most elusive concept for which to find statistically significant determinants. The results are summarized in Table 2, where * indicates significance at the 5% level, and ** significance at the 1% level.

Table 2 Determinants of Growth

	growth(1)		growth(2)		growth(3)		growth(4)	
pcgdp	-0.000054	-2.55 *	-0.000035	2.02 *	-0.000035	2 *	-0.0004	-2.99 **
hdi	0.087	4.05 **	0.074	3.71 **	0.076	3.74 **	0.529	3.4 **
corruption	0.0003	1.41	-0.00004	-0.26				
democracy	-0.0025	1.75			-0.001	0.96		
global	-0.00033	1.52	-0.0002	-1.27	-0.0003	1.39		
adj R2	0.09		0.0731		0.0731		0.0612	
Obs.	128		134		134		151	

In all these regressions, the adjusted R² is quite low even for cross-sectional analysis. Past growth rates are not successfully explained by these contemporary predictors making it difficult to draw any meaningful conclusion. However we note in passing that hdi always shows a high t-value, suggesting that there is a considerable correlation between growth and hdi. This may be because growth allows accumulation of human capital, or because hdi accumulated in the past contributes to higher growth rates.

Another notable observation is that the coefficient for pcgdp is negative and significant. This implies that poorer economies tended to grow faster than richer economies. Even more striking is the result that corruption, democracy and global did not show significant explanatory power over growth.

4-2 Determinants of Income

We turn to the question of what determines the level of per capita GDP. Income(1) in Table 3 shows our regression results which says that improving hdi and fighting corruption have a definitively positive effect on pcgdp. We can say at the 5% confidence level that enhancing democracy, on the other hand, pulls down income per capita. This counter-intuitive conclusion is robust as is seen from income(2) and income(3). In these estimates, the effect of

globalization on income is unpredictable, as it is negative in income(1) and positive but insignificant in income(2). A general conclusion is that hdi investment and fighting corruption pay in terms of per capita GDP.

Table 3 Income and Democracy

	income(1)		income(2)		income(3)	
hdi	49839.29	6.43 **	49405.42	5.7 **	76031.95	5.6 **
corruption	431.1	7.05 **			314.94	6.2 **
democracy	-1279.75	2.34 *	528.75	1.01		
global	92.31	1.07	324.23	3.56 **	147.34	1.89
constant	-34012.07	11.49 **	-39464.51	12.54 **	-345963.94	11.81 **
adj R2	0.7758		0.6988		0.7575	
Obs.	146		152		154	

5. Better Democracy and Cleanliness a Luxury for Developing Economies?

5-1 Income and Democracy at Different Income Levels

The effect of democracy and corruption may be different between higher income economies and lower income economies, and democracies and non-democracies. We term *higher income economies* those that are classified as high and upper middle-income economies by the World Bank. Similarly, *lower income economies* are those that are classified as low and upper middle-income economies. Also, we follow the EIU and term those countries with a democracy index score greater than 6 *democracies* and those with democracy index score less than 6 *non-democracies*. The results are shown in Table 4.

Comparing higher income economies with lower income economies, we note that fighting corruption raises pcgdp in higher income economies, but it does not significantly boost per capita income in lower income economies. Higher democracy levels does not contribute to per capita GDP in either higher income or lower income economies. Moreover, in the case of lower income economies enhancing democracy has an adverse effect on the level of income.

Between democracies and non-democracies, there is a sharp contrast as to the effects of corruption and democracy. The effect of democracy on income is ambiguous as the third and the fourth column show in Table 5. Moreover, controlling corruption does not improve per

capita income, and a higher dose of democracy is even detrimental to per capita income in non-democratic economies. The moral of the study is that there are multiple political avenues through which countries get rich economically.

Table 4 Higher Income vs Lower Income, and Democracy vs Non-Democracies

	higher income		lower income		democracies		non-democracies	
hdi	99665.86	4.43 **	21209.94	10.04 **	78406.49	3.85 **	40287.85	10.53 **
corruption	396.08	3.79 **	35.75	1.75	445.35	3.98 **	-10.16	-0.21
democracy	-1630.54	-1.81	-344.92	-2.49 **	-1516.57	-0.78	-885.988	-2.47 *
global	-10.3	-0.08	24.08	1.05	79.018	0.49	27.925	0.55
constant	-61966.17	-4.87	-8031.34	-8.27 **	-54530.59	-4.37 **	-13812.73	-6.63 **
adj R2	0.686		0.7569		0.7493		0.7216	
Obs.	81		59		72		74	

5-2 Democracy as Independent Variable

Thus, we are lead to the conclusion that democracy is not instrumental either to the level of per capita income or to growth. This means that democracy may not be a means for economic development, but rather an end in itself. At least half of the world believes so. Our final analysis takes democracy as the dependent variable. The results are summarized in table 5.

From democracy(1) and democracy (2), we observe that there are significant correlations between democracy and per capita GDP, hdi, and corruption. The human development index stands out as the most important contributor to democracy. Corruption is also positively correlated with democracy.³

The role of per capita GDP is somewhat ambiguous as its estimated coefficients

Table 5 Determinants of Democracy

	democracy(1)		democracy(2)		democracy(3)		democracy(4)		democracy(5)	
growth	-9.865	-1.75	-12.241	-2.2 *	-11.408	-1.61	7.139	1.08	-14.3	2.07 *
pcgdp	-0.000039	-2.97 **	0.00004	3.06 **	0.000023	1.70				
hdi	4.379	3.15 **	6.212	5.39 **	7.366	5.25 **	3.734	2.63 **	9.353	11.9 **
corruption	0.0669	7.05 **	0.075	8.32 **						
global	0.029	2.16 *					0.067	4.68 **		
constant	0.76	1.16	-0.4945	0.76	0.856	1.11	-0.44	-0.77	0.021	0.03
adj R2	0.7084		0.6964		0.52		0.5817		0.513	
Obs.	128		129		135		134		135	

fluctuate in sign. However, the contribution of growth to democracy is negative, albeit at lower levels of significance. This tendency is more conspicuous in democracy(3) through

³ Remember the definition of corruption index is such that a higher index means a cleaner society.

democracy(5). Growth is either insignificant or has a negative sign.

From these observations we conclude that 1) growth does not automatically lead to democracy, and 2) there is little evidence that higher per capita income brings about higher level of democracy.

5 Implication and Conclusion

Though some of the statistical findings are ambiguous, we can summarize four important lessons from our empirical analyses. First, we note that in all regressions listed in Table 2 to 5, the *human development index* stands out as the most significant determinant of growth, per capita GDP and democracy. This conclusion is unequivocal in both higher and lower income economies⁴.

Secondly, the *corruption perceptions* index is quite a significant contributor to the world's growth and income level. Fighting corruption pays in terms of economic development. It is true that for 74 non-democratic nations with a democracy index score of less than 6, the coefficient of corruption is negative, which seems to suggest that making the country cleaner and more transparent may be detrimental to economic development. However, the t-value of the corruption coefficient is too low to make such an assertion. There is good reason for OECD to promote the fight against corruption⁵.

Thirdly, the *democracy* index is not significant in determining growth and level of per capita GDP among the 152 countries. In a sense, democracy does not pay if the country's sole objective is to raise per capita income⁶. Hence, an utmost precaution is necessary to say, for example, that middle income countries need to improve democratic institutions if they wish to escape from the middle income trap.

Finally, since democracy is not simply a means to achieving a higher income level and growth, the role of economic achievement as a determinant of democracy is important. Higher human capital index levels, cleanliness of society, and globalization all contribute to better

⁴ Sharufu-Rennanai, Mirfatah and Hanarvar (2012)'s conclusion is universal.

⁵ Our result gives a hard statistical evidence as to why corruption is bad for macroeconomic performance for developed and developing countries..

⁶ Our conclusion runs counter to Barro (1999)'s and lends support to Acemoglu, Johnson, Robinson and Yared (2005) in essence.

democracy. Whether better democracy should be pursued even at the sacrifice of economic efficiency is, of course, a matter that must be decided after due reflection in each country.

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