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Abstract

Article:	**Historical and Geographic Factors of Institutional Quality: An Empirical Analysis**
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Abstract

This paper contributes to the debate about historical and geographic factors of institutional quality. It used non-economic factors which caused institutional quality better or worse. These non-economic factors are geographic location, colonial background, fractionalization in religion, language and ethnic, legal system and abundant of natural resources. This study took 68 countries all around the world which have developed and developing countries and apply simple OLS and 2SLS technique to explore the determinants factors. The study decomposed institutional quality into economic, legal and political institutions. Fractionalization with level of development and under the colonial background has negative affected the institutional quality. Colonization has negative impact on Institutional Quality but under the level of development, colonization has insignificant impact on Institutional quality. In this study without level of development natural resources has negative impact but under the level of development it has insignificant impact on institutional quality except economic institutions. Without level of development, Geographic location is a significant impact on all three kind of Institutions in this study but under the level of development, it has insignificant impact.

Keywords: Legal Institutions, Political Institution, Economic Institutions, Non-economic Factors

Introduction

There is now established a consensus among economist and political scientist that Institutions is a primary determinant of economic performance. In recent years, the literature on institutions has grown into two clear lines. The first one focus on institutions and economic development. The second one focus on the determinants of institutions quality. There is debatable question arise, why institutional quality varies between countries and tries to identify the factors that are responsible for these differences. There are many studies which explain the reasons why institutions quality varies. These reasons categorize into two areas: (i) Economic factors and (ii) Historic and Geographic Factors. Some determinants of Institutional Quality are outside the economic sphere like Geographic location, colonial origins, religion, language, ethnic, legal system origin and abundant of natural resources.

This study also revisited these determinants and constructed it in three different type of determinants models i.e. Economic, Legal and Political. Many studies (Easterly & Levine, 1997; Islam & Montenegro, 2002; Chong & Zanforline, 2000; Glaeser & Shleifer, 2003; Acemoglue, 2001; Gallup, 1999; Easterly & Levine, 2003; Sachs & Warner, 1997) discussed these factors which are also caused the institutional quality. This study decompose institutional quality into Economic, Political and Legal Institutions. Kuncic (2014) divided the institutions into three categories, i.e. legal, political and economic. Political institutions are responsible for making law, democratic accountability and control the corruption. Economic institutions are responsible for financial freedom, economic environment and investment decision. While Legal institutions are responsible for rules and regulations, protection of property rights, civil liberties and judicial independence. These institutions ensure, life security, property rights, law and order, economic stability, accountability of everyone and economic environment. If institutions are weak in performance, they may reduce the economic growth and increase unfair distribution of income, poor law and order that may turn the society into worse condition.

In this study, we are examined those explanatory factors which are not influence with government's actions and these are the historical and demographic features of countries. These factors are not vary with time and these factors are beyond the economic variables influences. These factors are also caused the institutions quality worse or better. This study took the Kuncic (2014) methodology for Institutions quality measurement and made three different kind of Institutions quality (Economic, Legal and Political) index.

Objective of study

- To estimate Historical and Geographic Factors of Institutional Quality (Economic, Legal and Political) with development level and without development level.

Literature Review

This study is going to investigate Historical and Geographical factors which affected the Institutional Quality. In this section, a comprehensive and detailed literature review is arranged to explored those factors which can be affected the Institutional Quality. There are following different studies which are examined the Institutional Quality.

Chong and Gradstein (2017) demonstrated the combine influence of economic and political inequalities on the quality of institutions and taxation. The reduction in redistribution and institutional quality was observed as a result of income equality and political biasness. It implies that the situation was favorable for the rich but inappropriate for the poor. The results for the panel of countries also reflected that the increase in income equality placed adverse effect on redistributions and institutional quality.

Mizuno et al. (2016) investigated relationship among inequality, growth and extractive institutions in nondemocratic regimes. The study made a theoretical model which explain how extractive institution affect growth and inequality in nondemocratic regimes. The theoretical model explain how nondemocratic countries succeed in building good institutions, while other fail. This theoretical model concluded that equal distribution of

income is a key indicator for good institutions and economic growth. The theoretical model reflected that successful nondemocratic regimes have more equal income distribution than fail nondemocratic regimes. The study justify his argument with an example of East Asian countries (South Korea, Singapore, China) achieved rapid economic growth while many African countries less developed under dictatorship. The basic reason between these growths differences of nondemocratic countries are income inequality.

Fenske (2013) explained that poverty is mainly caused by poor institution quality in Africa. The study showed that existing institutional environment of the continent was controlled and maintained by colonial rule of past decades. This research explored theoretically significance of geography for institutional quality as geography included density of population, slavery and land rights. Descriptive investigation showed that quality of institutions was much associated with characteristics of land area. The overall impacts of geographical characteristics on institutions were higher within the region.

Butkiewicz and Yanikkaya (2010) examined the relationship between mineral resources and economic development. The study tested the hypothesis that minerals resources are curse or blessing. The study found that mineral resources are curse for developing countries due to weak institutions but mineral resources are blessed for developed economies. The study found that due to weak institutions in developing countries "Dutch disease" issue occurred. The study argued that elite groups of developing countries are the basic reason behind the weak institutions and used their power to limit education for general population. The reason behind this limited education are poorly educated labor force are available for them.

Savoia et al. (2010) analyzed a critical review on theoretical and empirical research which based on inequality, democracy and institutions. The study concluded that unequal societies developed inefficient institutions which damage a country growth. The study

concluded that different empirical research are not cleared regarding quality of data on institutions and political systems and mostly faced endogeneity problems but concluded that economic institutions do affect the income distribution.

Fedderke and Luiz (2008) examined impact of human capital on social and institutional capital of South Africa through time series data analysis. The study used linguistic, religious, and racial fractionalization variables for social capital. For institutional capital used political fractionalization, political right, property rights and political instability and different educations variables which represented the human capital. The study concluded that human capital played a significant role for growth through its quality and these qualities determined through social and political factors. Qualities in Human capital comes through institutional development.

Siba (2008) explored the determinants of institutional quality in sub-Saharan African countries. The study used "Governance Matter IV" data set as dependent for institutional quality and for independent variables used colonial origin, state legitimacy, geographical location, foreign aid and Ethnic fractionalization index. The study concluded that ethnic fractionalization and colonial origin has not impact on institutional quality in this region while foreign aid dependence has negative impact on it. Those countries which are closer to equator has low quality of institutions.

Rodrik et al. (2004) analyzed the influence of geography, institutions and trade openness on incomes in the world. Proxy variables for institutions and trade were used that were developed recently. Results showed weak but direct impact of geography on incomes while quality of institutions is controlled to explore the geographic impact. Influence of trade on income is also found significant for income by keeping geographic characteristic controlled. Quality of institutions was shown with trump effects for incomes.

Lee et al. (2005) examined the empirically mechanism among institution and economic variables which could affect the country economic performance. The study used two panel data set of developing and developed economies which consist in one sample for 1975, 1980, 1985 and1990, and other sample consist; 1975, 1980 and 1985. The study used economic freedom index which consists of 21variables grouped into seven major areas: economic structure, monetary policy and price stability, size of government, freedom to use alternative currencies, freedom of exchange in capital market, legal structure and security of private ownership and freedom to trade with foreigners. The study used maximum-likelihood procedure to estimate the efficiency of institutions and economic variables. The study concluded that institutions played an efficient role in promotion of economic freedom.

Data and Methodology

We conduct cross-section analysis of 68 developed and developing countries. So we apply simple OLS and 2SLS methodology. The basic purpose of simple OLS methodology use how explanatory factors affect the institutions quality without level of development. The GDP per Capita in this analysis consider as the level of development, how Historic and Geographic determinants of Institutional quality reacts under the level of development. We use GDP per Capita in 2SLS methodology because when LGDPPC used in model of Institutional Quality then endogeneity issue would come in model. So 2SLS methodology tackle this issue efficiently.

Model: the Determinants Institutional Quality.

Institutional Quality = F (Fractionalization, Legal Origin, Colonial Background,

Natural Resources endowment, Geographic Location, GDP per Capita)

In this model, explanatory factors are not influence with government's actions and these are the historical and demographic features of countries. These factors are not vary with time and these factors are beyond the economic variables influences. Many studies (Easterly

& Levine, 1997; Islam & Montenegro, 2002; Chong & Zanforline, 2000; Glaeser & Shleifer, 2003; Acemoglue, 2001; Gallup, 1999; Easterly & Levine, 2003; Sachs & Warner, 1997) discussed these factors which are also caused the institutional quality.

1. Fractionalization

The first one is ethno-linguistic and religious fragmentation. Greater heterogeneity may fuel tensions and conflicts between different groups and reduce social cooperation (Easterly & Levine, 1997; Islam & Montenegro, 2002). It generated a mismatch between formal and informal institutions. However, when controlling the country development level, it lost its significance (Alesina et *al*., 2003). This study used fractionalization dataset of Alesina et *al*. (2003) which have three components i.e ethnic, language and religious fragmentation.

2. Origin of legal System

The secondly explanatory variable is a country`s legal system origin. In literature, it is argued that British, German and Scandinavian legal systems are based on less state intervention in the economy. They are recognition for more economic freedom, property rights and individual freedom. While French origin and Soviet Union system are more under state influences. They are recognition for weaker property rights and low economic freedom. (Chong & Zanforlin, 2000; Glaeser & Shleifer, 2003). The study took the information of the country's legal origin through CIA world fact book.

3. Former Colonies

The third explanatory variable is former colonies, some authors suggested that it is also an important determinants of institutional quality (Acemoglu, 2001). The ways of colonization may have been impact on institutional quality like British colonization in Australia, Canada, USA are differ as compare to in India and Congo. As in the case of the Canada, United States and Australia, they went and established the colonies and set up

institutions that followed the rule of law and encouraged investment. As in the case of India and Congo, they set up extractive states with the target to transfer resources rapidly to British. These institutions were damaging to investment and economic progress in these countries. The study used 1 for dummy variable those have former colonies and 0 for those which are not former colonies.

4. Geographical Location

The forth explanatory variable is Geographical Location. It is considered that a country location in the tropics, lack of access to the sea or soil fertility may have affected quality of institutions (Gallup, 1999; Easterly & Levine, 2003). The study took absolute latitude value of a country`s capital and divided it with 90 (La Porta, 1999) and use it as Geographical Location proxy.

5. Natural Resource Abundant

The last explanatory variable is natural resources which can also affect the institutional quality (Sachs & Warner, 1997; Easterly & Levine, 2003). It may be negatively affect the institution by encouraging rent seeking activities and replacing tax revenues by other revenue sources which are less transparent and less subject to accountability. The study used rent of Natural Resource as percentage of GDP for this purpose and data took from World Bank (WDI) website.

6. GDP per Capita

GDP per Capita has causal relationship with Institutional Qualities variables. GDP per Capita determines the accessibility of resources to Institution Quality. In literature, it has confirmed that both has positive relationship (Acemoglu & Johnson, 2005; Knack & Keefer, 1995; Asghar, 2015). The study took data from World Bank (WDI) website and used log of it for normalization of data.

Econometric Techniques

1. Ordinary Least Square (OLS)

Ordinary Least Squares (OLS) is a method for estimating the unidentified factors in a regression with the objective of minimizing the sum of the squares of error term. The OLS estimator is consistent when the independent variables are exogenous in nature. On behalf of these properties of OLS, The study used the multiple regression model to determine the Historical and Geographic factors that influence the Institutional Quality.

2. Two-Stage least squares (2SLS)

A statistical methodology used in the study of structural equations is the two stage least squares regression analysis (2SLS). The extension of the OLS method is this technique. This is used where the error terms of the depended variable are linked with the Independent variables. In OLS, there is a basic assumption that the value of the error terms is independent of predictor variables. When this assumption is violated, this technique helps us to solve this issue. Such study suggests that a secondary predictor is related to the problem predictor but not the error term. This technique is used in of Historic and Geographic factor where when added GDP per capita in regression model and it solved endogeneity problem. To tackle the endogeneity problem in cross section study 2SLS methodology is optimal choice.

Empirical Result

We conduct these analysis with the help of OLS and 2SLS techniques and following terms are use in analysis.

EIQ = Economic Institutional Quality LIQ = Legal Institutional Quality

PIQ = Political Institutional Quality COLORG = Colonial Origin

GEOLOC = Geographic Location GDPPC = GDP per Capita

NATRES = Rent of Natural Resources FRAC = Fractionalization

ETHNFRAC = Ethic fractionalization RELIFRAC = Religious Fractionalization

LANGFRAC = Language Fractionalization LOFRENCH = Legal origin from France

LOOTHER = Legal origin from other Countries LOUK = Legal origin from UK

Correlation and Descriptive Analysis

The Table 1 shows description of all countries. The table 2 shows the Correlations Matrix among all variables which is used in this study.

Table No.1:
Description All Countries in a Sample

Total No. of Legal origin from UK	19
Total No. of Legal origin from France	11
Total No. of Legal origin from other Countries	38
Total No. of Colonial Background Countries	34
Total No. of Countries	68

The result shows that all Institutional Quality (EIQ, PIQ, LIQ variables has positive correlations with GEOLOC, LOUK, LOOTHER, LGDPPC and FELIFRAC. There are also negative correlations among all Institutional Quality Variables with NATRES, ETHNFRAC, LANGFRAC, COLORG and LOFRENCH Variables.

Table 2:
Correlation among Institutional Quality and their Determinants.

	LIQ	**PIQ**	**EIQ**
LIQ	1	-	-
PIQ	0.9343	1	-
EIQ	0.9212	0.8761	1
LGDPPC	0.7741	0.746	0.808
NATRES	-0.4197	-0.3733	-0.5057
ETHNFRAC	-0.4553	-0.4101	-0.4642
LANGFRAC	-0.3299	-0.3044	-0.3676
RELIFRAC	0.289	0.2099	0.2045
FRAC	-0.231	-0.2306	-0.2844
COLORG	-0.4451	-0.5517	-0.4976

LOOTHER	0.034	0.0216	0.1342
LOUK	0.0562	0.0919	0.0129
LOFRENCH	-0.1144	-0.141	-0.1966
GEOLOC	0.6505	0.574	0.6335

The Determinants of Economic Institutional Quality

The model of EIQ for the all sample countries has been estimated using OLS Methodology. The results obtained from applying this model are the following (Table 3). These results show that mostly the variables are significant with expected signs. The table 3 reveal that FRAC are negatively influence the EIQ in all countries in equation 1 but in equation 2, EIQ has not affected by FRAC. The table 3 reveal that ETHNFRAC has negative coefficient in equation 3 and equation 4 but it has insignificant impact on EIQ. The table 3 reveal that RELIFRAC are positively influence the EIQ in all countries in equation 3 and in equation 4. The table 3 reveal that LANGFRAC has negative coefficient in equation 3 and equation 4 but it has insignificant impact on EIQ. The table 3 reveal that LOUK has positive coefficient in equation 2 and equation 4 but it has insignificant impact on EIQ in those countries which adopted legal system of UK. The table 3 reveal that LOFRENCH has negative coefficient in equation 2 and equation 4 but it has significant impact on EIQ in equation 2. It means that those countries which adopted legal system of France, there economic institutions would be low quality. The table 3 reveal that LOOTHER has a significant and Positive impact on EIQ in all countries. The LOOTHER are merge in constant value due to dummy trap issue. COLORG has a significant and negative impact on EIQ in those countries which have colonial background in both equations 1 and 3. NATRES has a significant and negative impact on EIQ in all equations. It shows that it promoting the rent seeking activities which replacing tax revenues and which are less transparent and less accountable. GEOLOC has a significant and Positive impact on EIQ in all equations. It shows

that country location in tropics, lack of access to the sea or soil fertility have positive impact on EIQ. The model of EIQ for the all sample countries has been estimated using 2SLS Methodology. The results obtained from applying this model are the following (Table 3). These results show that mostly the variables are insignificant under the LGDPPC. The table 3 reveal that FRAC are negatively influence the EIQ in all countries in equation 1 and equation 2. The table 3 reveal that ETHNFRAC has negative coefficient in equation 3 and equation 4 but it has insignificant impact on EIQ. The table 3 reveal that RELIFRAC are positively influence the EIQ in all countries in equation 3 and in equation 4. The table 3 reveal that LANGFRAC has negative coefficient in equation 3 and equation 4 but it has insignificant impact on EIQ. The table 3 reveal that LOUK has positive coefficient in equation 2 and equation 4 but it has insignificant impact on EIQ in those countries which adopted legal system of UK.

Table 3:
The Determinants of Economic Institutional Quality:

	OLS				2SLS			
Variables	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
C	0.49* (8.87)	0.47* (8.39)	0.50* (9.05)	0.47* (8.12)	0.17 (1.43)	0.15 (1.52)	0.09 (0.76)	0.12 (0.10)
LGDPPC					0.18* (5.97)	0.17* (6.85)	0.16* (5.18)	0.17* (6.15)
ETHNFRAC	-	-	-0.07 (0.94)	-0.05 (0.63)	-	-	-0.05 (0.81)	-0.05 (0.83)
RELIFRAC	-	-	0.20* (3.78)	0.18* (2.87)	-	-	0.12* (2.74)	0.09*** (1.81)
LANGFRAC	-	-	-0.02 (0.37)	-0.02 (0.42)	-	-	-0.09 (1.62)	-0.08 (0.05)
FRAC	-0.15** (1.98)	-0.05 (0.65)	-	-	-0.17* (3.01)	-0.13** (2.09)	-	-
LOUK	-	0.03 (1.08)	-	0.01 (0.49)	-	0.04 (1.48)	-	0.03 (1.18)
LOFRENCH	-	-0.07*** (1.83)	-	-0.04 (1.22)	-	-0.01 (0.57)	-	-0.01 (0.57)

COLORG	-0.09* (3.12)	-	-0.08* (2.81)	-	-0.01 (0.39)	-	-0.02 (0.71)	-
NATRES	-0.07* (3.30)	-0.08* (3.44)	-0.07* (3.10)	-0.07* (3.10)	-0.05* (2.67)	-0.06* (3.00)	-0.05* (2.58)	-0.05* (2.79)
GEOLOC	0.41* (4.41)	0.46* (4.92)	0.325* (3.48)	0.39* (4.17)	0.1 (1.12)	0.09 (1.04)	0.06 (0.77)	0.06 (0.68)
Adjusted R^2	0.52	0.49	0.58	0.53	0.71	0.72	0.73	0.73
Wu-Hausman (F-test)					0.49 (p-value =0.4)	0.51 (p-value = 0.47)	0.05 (p-value = 0.82	0.09 (p-value = 0.75)

Note: *, **, *** denote significant at 0.01, 0.05 and 0.10 level respectively and t-value are in parenthesis.

The table 3 reveal that LOFRENCH has negative coefficient in equation 2 and equation 4 but it has insignificant impact on EIQ. It means that those countries which adopted legal system of France, there economic institutions would not be low quality under their level of development. The table 3 reveal that LOOTHER has insignificant impact on EIQ in all countries. The LOOTHER are merge in constant value due to dummy trap issue. COLORG has insignificant impact on EIQ in those countries which have colonial background in both equations 1 and 3. This study show that when LGDPPC added in equations then COLORG has insignificant impact on EIQ. NATRES has a significant and negative impact on EIQ in all equations. Its coefficient is very small but it affected negatively under the level of development. GEOLOC has insignificant impact on EIQ in all equations. It shows that under the level of development, Geographic location has insignificant impact on EIQ.

The Determinants of Political Institutional Quality

The model of PIQ for the all sample countries has been estimated using OLS and 2SLS Methodologies. The results obtained from applying this model are the following (Table 4). These results show that mostly the variables are significant with expected signs. The table 4 reveal that FRAC are negatively influence the PIQ in all countries in equation 1 but in

equation 2, PIQ has not affected by FRAC. The table 4 reveal that ETHNFRAC has negative coefficient in equation 3 and equation 4 but it has insignificant impact on PIQ.

The table 4 reveal that RELIFRAC are positively influence the PIQ in all countries in equation 3 and in equation 4. The table 4 reveal that LANGFRAC has negative coefficient in equation 3 and equation 4 but it has insignificant impact on PIQ. The table 4 reveal that LOUK has positive coefficient in equation 2 and equation 4 but it has insignificant impact on PIQ in those countries which adopted legal system of UK. The table 4 reveal that LOFRENCH has negative coefficient in equation 2 and equation 4 but it has insignificant impact on PIQ. It means that those countries which adopted legal system of France, there Political institutions would not be low quality due to it.

Table 4:
The Determinants of Political Institutional Quality:

	OLS				2SLS			
Variables	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
C	0.47* (7.28)	0.42* (6.14)	0.50* (7.61)	0.42* (5.98)	0.12 (0.81)	0.27** (2.1)	0.04 (0.26)	0.24*** (1.84)
LGDPPC	-	-	-	-	0.16* (4.21)	0.19* (5.9)	0.14* (3.71)	0.19* (5.44)
ETHNFRAC	-	-	-0.13 (1.35)	-0.08 (0.75)	-	-	-0.10 (1.32)	-0.08 (0.97)
RELIFRAC	-	-	0.20* (3.24)	0.18** (2.34)	-	-	0.13** (2.35)	0.08 (1.29)
LANGFRAC	-	-	-0.09 (1.19)	-0.02 (0.23)	-	-	-0.15** (2.21)	-0.10 (1.53)
FRAC	-0.18** (2.12)	-0.04 (0.42)	-	-	-0.21* (2.82)	-0.12 (1.6)	-	-
LOUK	-	0.07 (1.60)	-	0.04 (1.12)	-	0.07** (2.14)	-	0.06* (1.91)
LOFRENCH	-	-0.04 (0.83)	-	-0.01 (0.33)	-	-0.02 (0.55)	-	-0.01 (0.48)
COLORG	-0.14* (4.01)	-	-0.14* (3.93)	-	-0.06*** (1.91)	-	0.08** (2.37)	-
NATRES	-0.05*** (1.81)	-0.06** (1.98)	-0.04 (1.49)	-0.04*** (1.65)	-0.03 (1.05)	-0.03 (1.16)	0.02 (0.84)	-0.02 (0.93)

GEOLOC	0.41* (3.83)	0.49* (4.34)	0.30* (2.79)	0.42* (3.58)	0.13 (1.22)	0.08 (0.78)	0.07 (0.68)	0.04 (0.38)
Adjusted R^2	0.46	0.35	0.51	0.39	0.61	0.62	0.64	0.63
Wu-Hausman (F-test)					2.41 (p-value =0.13)	3.73 (p-value =0.06)	2.43 (p-value =0.12)	2.47 (p-value =0.12)

Note: *, **, *** denote significant at 0.01, 0.05 and 0.10 level respectively and t-value are in parenthesis.

The table 4 reveal that LOOTHER has a significant and Positive impact on PIQ in all countries. The LOOTHER are merge in constant value due to dummy trap issue. COLORG has a significant and negative impact on PIQ in those countries which have colonial background in both equations 1 and 3. NATRES has a significant and negative impact on PIQ in three equations out of four equations. It shows that natural resource has negatively affected the political institutions. GEOLOC has a significant and Positive impact on PIQ in all equations. It shows that country location in tropics, lack of access to the sea or soil fertility have positive impact on PIQ.

The model of PIQ for the all sample countries has been estimated using 2SLS Methodology. The results obtained from applying this model are the following (Table 4). These results show that mostly the variables are significant under the LGDPPC. The table 4 reveal that FRAC are negatively influence the PIQ in all countries in equation 1 but in equation 2, it has not influenced the PIQ. The table 4 reveal that ETHNFRAC has negative coefficient in equation 3 and equation 4 but it has insignificant impact on PIQ. The table 4 reveal that RELIFRAC are positively influence the PIQ in all countries in equation 3 but in equation 4, it has not significantly impact on PIQ. The table 4 reveal that LANGFRAC has negative coefficient in equation 3 and equation 4 but it has insignificant impact on PIQ in equation 4 and significant impact in equation 3. The table 4 reveal that LOUK has positive coefficient in equation 2 and equation 4. It has significant impact on PIQ in those countries which adopted legal system of UK. It means that those countries which adopted legal system

of UK, their Political institutions would be high quality under their level of development. The table 4 reveal that LOFRENCH has negative coefficient in equation 2 and equation 4 but it has insignificant impact on PIQ. It means that those countries which adopted legal system of France, their Political institutions would not be low quality under their level of development. The table 4 reveal that LOOTHER has insignificant impact on PIQ in all countries. The LOOTHER are merge in constant value due to dummy trap issue. COLORG has significant impact on PIQ in those countries which have colonial background in both equations 1 and 3. NATRES has negative coefficient in all equations but it insignificant impact under the level of development. GEOLOC has insignificant impact on PIQ in all equations. It shows that under the level of development, Geographic location has insignificant impact on PIQ.

The Determinants of Legal Institutional Quality

The model of LIQ for the all sample countries has been estimated using OLS Methodology. The results obtained from applying this model are the following (Table 5). These results show that mostly the variables are significant with expected signs. The table 5 reveal that FRAC are negatively influence the LIQ in all countries in equation 1 but in equation 2, LIQ has not affected by FRAC. The table 5 reveal that ETHNFRAC has negative coefficient in equation 3 and equation 4 but it has insignificant impact on LIQ. The table 5 reveal that RELIFRAC are positively influence the LIQ in all countries in equation 3 and in equation 4. The table 5 reveal that LANGFRAC has negative coefficient in equation 3 and equation 4 but it has insignificant impact on LIQ.

The table 5 reveal that LOUK has positive coefficient in equation 2 and equation 4 but it has insignificant impact on LIQ in those countries which adopted legal system of UK. The table 5 reveal that LOFRENCH has negative coefficient in equation 2 and equation 4 but it has insignificant impact on LIQ. It means that those countries which adopted legal system of France, there Legal institutions would not be low quality due to it. The table 5 reveal that

LOOTHER has a significant and Positive impact on LIQ in all countries. The LOOTHER are merge in constant value due to dummy trap issue. COLORG has a significant and negative impact on LIQ in those countries which have colonial background in both equations 1 and 3.

Table 5:
The Determinants of Legal Institutional Quality

	OLS				2SLS			
Variables	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
C	0.40* (6.60)	0.38* (6.19)	0.42* (7.21)	0.38* (6.43)	0.17 (1.43)	0.15 (1.52)	0.09 (0.76)	0.12 (0.10)
LGDPPC	-	-	-	-	0.18* (5.97)	0.17* (6.85)	0.16* (5.18)	0.17* (6.15)
ETHNFRAC	-	-	-0.10 (1.27)	-0.08 (0.92)	-	-	-0.05 (0.81)	-0.05 (0.83)
RELIFRAC	-	-	0.27* (4.92)	0.27* (4.19)	-	-	0.12* (2.74)	0.09*** (1.81)
LANGFRAC	-	-	-0.03 (0.53)	-0.02 (0.32)	-	-	-0.09 (1.62)	-0.08 (0.05)
FRAC	-0.20** (2.45)	-0.11 (0.23)	-	-	-0.17* (3.01)	-0.13** (2.09)	-	-
LOUK	-	0.05 (1.34)	-	0.02 (0.59)	-	0.04 (1.48)	-	0.03 (1.18)
LOFRENCH	-	-0.02 (0.67)	-	-0.005 (0.13)	-	-0.01 (0.57)	-	-0.01 (0.57)
COLORG	-0.08** (2.41)	-	-0.06** (2.13)	-	-0.01 (0.39)	-	-0.02 (0.71)	-
NATRES	-0.05** (2.14)	-0.06** (2.34)	-0.04*** (1.88)	-0.04*** (1.91)	-0.05* (2.67)	-0.06* (3.00)	-0.05* (2.58)	-0.05* (2.79)
GEOLOC	0.54* (5.31)	0.58* (5.71)	0.42* (4.37)	0.48* (4.96)	0.1 (1.12)	0.09 (1.04)	0.06 (0.77)	0.06 (0.68)
Adjusted R^2	0.49	0.46	0.59	0.56	0.71	0.72	0.73	0.73
Wu-Hausman (F-test)					0.49 (p-value = 0.48)	0.51 (p-value = 0.47)	0.05 (p-value = 0.82	0.09 (p-value = 0.75)

Note: *, **, *** denote significant at 0.01, 0.05 and 0.10 level respectively and t-value are in parenthesis.

NATRES has a significant and negative impact on LIQ in all four equations. It shows that natural resource has negatively affected the Legal Institutions. GEOLOC has a significant and Positive impact on LIQ in all equations. It shows that country location in tropics, lack of access to the sea or soil fertility have positive impact on LIQ.The model of LIQ for the all sample countries has been estimated using 2SLS Methodology. The results obtained from applying this model are the following (Table 5). These results show that mostly the variables are significant under the LGDPPC. The table 5 reveal that FRAC are negatively influence the LIQ in all countries in equation 1 and equation 2. The table 5 reveal that ETHNFRAC has negative coefficient in equation 3 and equation 4 but it has insignificant impact on LIQ. The table 5 reveal that RELIFRAC are positively influence the LIQ in all countries in equation 3 and equation 4. The table 5 reveal that LANGFRAC has negative coefficient in equation 3 and equation 4 but it has insignificant impact on LIQ. The table 5 reveal that LOUK has positive coefficient in equation 2 and equation 4. It has significant impact on LIQ in equation 2 but in equation 4, it has insignificant impact. It means that those countries which adopted legal system of UK, their Legal institutions would be high quality under their level of development. The table 5 reveal that LOFRENCH has negative coefficient in equation 2 and equation 4 but it has insignificant impact on LIQ. It means that those countries which adopted legal system of France, their Legal institutions would not be low quality under their level of development. The table 5 reveal that LOOTHER has insignificant impact on LIQ in all countries. COLORG has insignificant impact on LIQ under the level of development. NATRES has negative coefficient in all equations but it insignificant impact under the level of development. GEOLOC has significant impact on LIQ in all equations. It shows that under the level of development, Geographic location has significant impact on LIQ.

Conclusion

In this analysis, non-Economic factors have been tested using Simple OLS and 2SLS econometric technique. In literature, several authors have been pointed that fractionalization is a major factor which contributing for poor quality of Institutions. But in this study, fractionalization with level of development and under the colonial background has negative affected the institutional quality. When split the fractionalization into three types like ethnic, language and religious then only religious fractionalization has positively impact on all institutional quality. Ethnic and language fractionalization has negative sign but it has no significant impact on all institutional variables. It shows that ethnic and language diverse countries are not at least destined to have worse institutions. Legal origin system of a country is another element that has been discussed in literature. In literature, The British legal system led to good institutions because it based on a great economic freedom and less state intervention in economic affairs. In this study, it is also proved under the level of development, British legal origin countries have high quality of economic and political institutions as compare to other countries but without level of development, it does not affect their Institutions. The French legal system which is famous for more state intervention in economy and politics. It has no significant impact on Institutional Quality. It shows that country which have legal origin from France has not correlated with Institutions Quality. The colonial background is one of the most important determinants which is discussed a lot in literature. The colonial heritage of a country play vital role in shaping good institutions. There are many empirical studies claimed that it is negative impact on institutions. They concluded that British and French Colonies have higher number of capital output ratio, less corruption, better human capital and greater political stability (Grier, 1999; North et al. 2000; Brown, 2000; Bertocchi & Canova, 2002). But these studies did not consider colonizer set up. For example British setup different type of colonies in different parts of the world. The established “extractive” type of Institutions in African countries while in Canada, Australia

and USA, they encourage investment and development with great emphasis on private property, economic power and wider participation in political activities. So the arguments on colonization are not consistent in literature. In this study, the countries which have colonization background are bad institutions. All three type of institutions colonization has negative impact on Institutional Quality but under the level of development, colonization has insignificant impact on Institutional quality.

The natural resource endowment has been also an important determinants for Institutional Quality which is used in empirical research. The countries which have high abundant resources are low quality of institutions. These bad institution were created to protect landowning, mining elites. The Collier (2007) used term for it "the curse of natural resources", the income come from these resources are used to protect elites and limited the political rights of general public. It also creating unequal societies in term of income distribution and political power. In this study, natural resources endowment has negative impact on all three kind of Institutions Quality. It means that the countries which have higher natural resources has bad institutions. There is also might another reason behind it, in past those countries which have higher number of natural resources are colony of some European Countries. These European Countries setup "extractive" kind of institutions which favored their governess in these countries. These European Countries aimed to transferring the natural resources to their countries so they granted land rights to elite groups which support them and not granting property rights to indigenous population. So these abundant resources are negative impact on Institutional Quality because these resources are exploit. In this study without level of development natural resources has negative impact but under the level of development it has insignificant impact on institutional quality except economic institutions. The last determinant of Institutional Quality in this study is Geographic location of a country. In literature, those countries which are closer to equator are less score of Institutional Quality.

But those countries which are far away to equator are higher level of Institutional Quality score. The country location in tropic, low soil fertility and lack of sea water may be influenced to develop good institutions (Easterly and Levine, 2003; Gallup et al. 1998). This study also supported this argument which established the Easterly and Levine (2003) and Gallup et al. (1998). Without level of development, Geographic location is a significant impact on all three kind of Institutions in this study but under the level of development, it has insignificant impact.

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Appendix I: Institutional Proxies

Institutional Group	**Source**
Legal Institutions	
Property rights	The Heritage Foundation and WSJ
Religion in politics	ICRG
Legal environment	Freedom House
Law and order	ICRG
Civil liberties	Freedom House
Judicial independence	Fraser Institute
Rule of law	WB WGI
Impartial courts	Fraser Institute
Protection of property rights	Fraser Institute
Political Institutions	
Political environment	Freedom House
Corruption perceptions index	Transparency international
Political rights	Freedom House
Control of corruption	WB WGI
Institutionalized autocracy	Polity IV
Military in politics	ICRG
Checks and balances	WB DPI
Democratic accountability	ICRG
Corruption	ICRG
Bureaucratic quality	ICRG
Internal conflict	ICRG
Political terror scale	Political terror scale

Economic Institutions	
Investment profile	ICRG
Financial freedom	The Heritage Foundation and WSJ
Foreign ownership/investment restrictions	Fraser Institute
Business freedom	The Heritage Foundation and WSJ
Credit market regulations	Fraser Institute
Regulatory quality	WB WGI
Capital controls	Fraser Institute
Economic environment	Freedom House
Freedom to own foreign currency bank accounts	Fraser Institute
Business regulations	Fraser Institute
Labor market regulations	Fraser Institute

Note: International Country Risk Guide (ICRG), World Bank World Governess index (WB WGI), Wall Street Journal (WSJ), World Bank Database of Political Institute (WB DPI).

Appendix II: Sample Countries

Developing	Countries	Developed	Countries
Bangladesh	Niger	Algeria	Netherland
Bolivia	Nigeria	Argentina	New Zealand
Botswana	Pakistan	Australia	Norway
Cameroon	Papua New Guinea	Austria	Panama
Egypt	Paraguay	Brazil	Peru
El Salvador	Philippines	Canada	Russia
Ethiopia	Rwanda	Chile	South Korea
Ghana	Senegal	China	Sri Lanka
Guatemala	Sierra Leone	Denmark	Sweden
Guyana	South Africa	France	Switzerland
Honduras	Tanzania	Germany	Tunisia
India	Uganda	Hungary	Turkey
Indonesia	Vietnam	Iran	United Kingdom
Kenya	Zambia	Ireland	United States
Malawi		Italy	Uruguay
Mali		Japan	Venezuela
Morocco		Jordan	
Mozambique		Malaysia	
Namibia		Mexico	