Can Rule of law be an efficient policy-planning tool for Sustainable Development in Asia?

¿Puede el Estado de derecho ser una herramienta eficiente de planificación de políticas para el desarrollo sostenible en Asia?

Muhammad Azam[*]
University of Lahore, Sargodha - Pakistan
muhammadazam.economist@gmail.com

Muhammad Irfan
COMSATS University Islamabad - Pakistan
irfanchani@ciitvehari.edu.pk

Muhammad Sajjad
COMSATS University Islamabad - Pakistan
geosajjad@gmail.com

Asad Afzal Humayon
COMSATS University Islamabad - Pakistan
asafhu@gmail.com

Rao Aamir Khan
COMSATS University Islamabad - Pakistan
rao_aamir@comsats.edu.pk

ABSTRACT

Sustainable Development is currently overriding problem in UN Millennium agenda of 21st century. Recently, is considered purely a matter of rule of law. Rule of law are now considered as bedrock for Sustainable Development in Asia. Keeping in view, this study evaluates the importance of Rule of law for Sustainable Development policy planning in after taking into consideration of 12 Asian countries over the period of 1984 up to 2012. The analysis depicts that rule of law is primarily important for Sustainable Development policy planning in Asia. For empirical analysis, we estimated the results through dynamic panel data model approach.

Keywords: Rule of Law, UN Millennium agenda, Sustainable Development, policy planning, Asia, Dynamic Panel Model

RESUMEN

Sustainable Development is currently overriding problem in UN Millennium agenda of 21st century. Recently, is considered purely a matter of rule of law. Rule of law are now considered as bedrock for Sustainable Development in Asia. Keeping in view, this study evaluates the importance of Rule of law for Sustainable Development policy planning in after taking into consideration of 12 Asian countries over the period of 1984 up to 2012. The analysis depicts that rule of law is primarily important for Sustainable Development policy planning in Asia. For empirical analysis, we estimated the results through dynamic panel data model approach.

Palabras clave: Estado de derecho, Agenda del Milenio de la ONU, Desarrollo sostenible, planificación de políticas, Asia, Modelo de panel dinámico

*Corresponding author.

1. INTRODUCTION

The achievement of Sustainable Development (SD) goals are overriding challenges of the 21th century. The question of sustainability is top priority in United Nation millennium development goals (MDG's). SD means "development that meets the present generation's needs without compromising the ability of future generations to meet their own needs". SD focuses on the importance of intergenerational equity of resources possible through efficient utilization of the resource (Bilbao Ubillos, 2013). Sustainable production and consumption patterns can cause smooth transition of intergenerational resources (Loos et al., 2014). SD is now considered as genuine wealth of nations (Anielski, M. 2007). If investment in genuine wealth is positive, it means intemporal social welfare of society is rising over the time;(Toke S Aidt, 2003; Arrow, Dasgupta, & Mäler, 2003). In recent decade, the genuine wealth investment is problematic at global level where some countries are investing more while other countries are free riders having low level of genuine investment at the expense of future generation. In this way, free rider countries are facing serious challenges for achieving SD goals. One of possible way to mitigate these challenges is to consider the political interference and interest for achieving its SD goals (Toke S. Aidt, Castro, & Martins, 2016; Mebratu, 1998; Waage et al., 2015; Mohammadi & Jamali, 2017).

Recently, institutional factors have received paramount attention in context of SD (Kemp, Parto, & Gibson, 2005; Lele, 1991; North, 1990a, 1990b; Quental & Lourenço, 2012; Sohrabi, 2017). Although, a comprehensive and theoretical debate exist for the role of institutes in enhancing economic growth, a very few studies have investigated both theoretically and empirically the role of institutes in promoting SD. The findings of these studies are mixed in explaining the institutions-sustainable development nexus. Some studies indicate a positive relationship between institutions and SD. These studies have shown that rule of law, good governance, transparency and democratic quality influence SD positively (Behboudi, Beheshti, & Mousavi, 2011; Veisi, 2017; Brinkerhoff & Goldsmith, 1992; Carbonnier & Sumner, 2012; Opschoor & van der Straaten, 1993). Yet, some other studies have found that weak rule of laws impacts SD negatively (Pande & Udry, 2005). Similarly, a contradictory literature on governance and sustainable economic growth; either it enhances economic efficiency through rules or deregulations (Levy & Temin, 2007; Méon & Weill, 2010) while some studies indicate negative impact of corruption on SD (Toke S Aidt, 2003; Toke S. Aidt, 2009).

To the best of our awareness, the economic literature has paid less consideration towards studying the impact of political interference on SD. A very few studies have considered whether institutions are link with sustainable development, but empirical results are inconclusive. In the same manner, theoretical literature identified direct and indirect channel through which institutions influence SD. But, the empirical literature adopts the direct approach in examining the impact on sustainable development. The economic literature has paid less attention towards studying the impact of law enforcement on SD, especially focusing on the stages of development of countries. Furthermore, most of the studies that have evaluated the impact of law enforcement on SD are not grounded on a specific theoretical framework. In this study, we add to existing literature by examining overall consequences of rule of laws on SD assuming endogenous growth framework after following the studies of (Bovenberg & Smulders, 1995; Hofkes, 1996). For empirical evaluation, we use "System GMM" approach which is preferable for explaining cross sectional variations (Blundell & Bond, 1998). In this paper, we have considered Asian countries for empirical analysis. The Asian countries are interesting case study for empirical analysis due to several reasons. Asian countries are facing serious challenges such as lack of less government support and lack of proper infrastructure that is supportive to achieve sustainable development goals (SDGs) (Sarvajayakesavalu, 2015). Asian countries are continuously facing rule of laws problems which are signals for SD outcomes (Berg & Desai, 2013). A visit to Asian countries rapidly confirms that most states are weak and failure. These states are major source of human misery, unsustainability and global disorder. State effectiveness has now received practical attention in polices making, with focus on how to deal with asian countries having weak and failure states for achieving sustainable development goals(SDGs). A number of international actors such as international institute of sustainable Development (IISD), the World Bank, and United Nation developmental programmed (UNDP) have recently taken initiatives to target governance matters relevant to SD in developing countries.

The rest of this paper is arranged as follows; 2nd section describes the prevailing literature relevant to impact of rule of laws and sustainable development; 3rd section explains the data and its econometric methodology which is considered. While 4th section presents' econometric results and finally section 5 is relevant to summery and conclusion.

2. LITERATURE REVIEW

During the previous decades, the prime focus has turned from contiguous causes of growth in economies towards exploring the more major causes of SD. In the same manner, the significance of institutions in discussing across country differential in economic growth requires more attention from the researchers. Some important studies in this context include the study of (North, 1990a), the research work of (Jones, 1994). The concerned literature signifies the importance of rule of law role in economic growth. (North, 1981) defines institutions in a wider sense such as "the human designed constraints imposed by humans themselves". The primitive literature started from Adam Smith also highlights the role of governance for economic growth of a country. Adam Smith basically highlights the role of a state in relation to generating the role of administrative justice, easy tax generation and the alleviation of barbarism and social injustice in the form society that brings all activities in natural course of action[1].

The economic literature dilated upon various channels through which laws can affect SD. First, formal institutions can affect SD by the way of rule of law (Kardos, 2012). The rule of law that is better should be based upon an independent and accessible, equitable and efficient legal system that promotes good governance with characteristics such as accountability,

---

1This Adam Smith quotation is taken from Lecture in 1755 http://www.adamsmith.org/

transparency and participation. The institutional efforts along with better rule of law promote good governance that in turn helps in achieving progress towards each goal of SD[2]. The laws can be linked with SD by an economic system based on property rights and transaction cost.[3] The security of property rights brings resource protection essential for SD (Acemoglu, 2010; Mazurova, 2017; Rodrik, Subramanian, & Trebbi, 2004; Bhattarai & Hammig, 2001; Knack & Keefer, 1995; Taylor, 1993). The laws impact SD through a level of transaction cost that includes negotiation and control costs well as market and managerial transaction cost that determines the structure for institutional governance (Platje, 2004). The laws are linked with SD through the channel of an enforcement system based on formal rules such as taxation and fines, imprisonment and fines for any illegal act of resource exploitation. The effect of the taxation is transmitted to SD through the financial capacity-building channel by the government's effective support to sustainable policies (Simmons and Elkins (2004)). In the case of the absence of formal and well-designed institutional mechanism, a high level of transactional cost is imposed in search of honest trading persons for formal agreements' enforcements (Shirley, 2005). Corruption impacts on the SD through production and consumption channel[4]. The indirect effect of corruption and clan politics is transferred through formal institutional quality channel[5]. On the basis of a theoretical framework, it can be inferred that laws impact on SD through various channels.

To best of authors' information, there are only a fewer studies those had focused specifically on the institutional laws impact on SD. (Pande & Udry (2005) provided the proof for a causative link between a collection of good institutional laws and long run growth which is more rapid. The micro level data of Ghana for institutions is used to determine as to how individuals respond to change economic and demographic pressures. The institutional laws of growth and development observed in cross-country analysis proved that long run growth is much faster in those countries which have higher number of quality focusing institutions, enhanced protection of private and public property rights, improved law enforcement, controlled central and governmental bureaucracy, smooth operating procedures in formal sectors and markets, consistent democratic structure along with high level of trust. It has been observed that an entity which is smaller than a country may postulate a consistent environment for a specific institution that can play a causal role for that institution. An alternative view point of Dietz, Neumayer, and De Soysa (2007)) studied the effect of quality and natural resources for institutional laws on adjusted and genuine savings in Arab Countries from 1984 to 200. The findings show that index of corruption has positively associated with Adjusted and Genuine Savings but the association of natural resources has negative effect in the long run. In order to deal with the endogeneity aspect, studies are now using variables which are instrumental. (Stoever, 2012) evaluates the impact of institutional quality on SD. He used adjusted net savings (ANS) which indicates for sustainable development.

The corruption impact is found to be negative on SD in African countries, which shows that the control of corruption is positively related to sustainable development. They use the adjusted net savings growth rate as proxy for measuring SD. A similar relationship has been observed in Asian countries, but the value of the magnitude of relationship b/w corruption and SD was less as compared to African countries. Abou-Ali & Abdelfattah (2013) evaluated SD and resource intensity measures by using the Millennium Development Goals (MDG) from World Development indicators which is based on a panel of 62 countries ranging from the period of 1990 to 2007. This interconnecting relationship is observed and analyzed with the estimation of Resource Curse Hypothesis (RCH) model and the Environmental Kuznets Curve (EKC) model at the same time while keeping on eye for the important institutional quality standards. The overall results suggested dealing of sustainability with MDG negatively associated with the quality of environment. The way the countries deal with this phenomenon is also important. Variables, such as investment ratio; inflation rate; education expenditure as well as institution quality were included as conditioning. The 3SLS technique was used with CO_2 which is taken as a standard to measure the quality of environment. Countries have to focus on having better rule of law in order to improve institutional quality. The results also indicate that institutions are not serious and concerned to improve the environment quality. Carbonnier & Wagner (2015) studied the impact of institutions laws inform of armed violence in 104 developing countries on SD. He finds negative effect of institutions on sustainable development. The result of the study supports that excessive resource extraction negatively impact on SD. The institutional law failure in developing countries has been observed which could not control the armed violence. Carbonnier & Wagner (2011) evaluated the effect of institutional quality on growth and development and come to the conclusion that institutions positively affect development. They use dynamic panel data as well as system GMM estimation, while covering 108 developing countries for the period of 24 years, with a span of 23 years ranging from 1984 to 2007. The result indicates that correlation exists b/w quality of institutional laws and the outcome resource extraction of development. The variables use constraints for political and executive powers with effective check and balance, type and extent of corruption, type of regime, conflict and armed violence along with negative effect of richness resources on SD. Corruption indicator is found to be negatively affecting the resource rich countries.

From the discussion of above literature which is also based on empirical surveys, it is concluded that oval literature failed to properly address the problem of endogeneity and biasness of omitted variables. This issue may cause the generation of inconsistent and biased parameters. Therefore, it is suggested that further investigation should be carried on to tackle such issues. In order to address such issues, the study adopted a dynamic panel analysis which is

---

2(Harris, 2001; Morita & Zaelke, 2005).

3(C. L. Anderson & Swimmer, 1997).

4There exists a contradictory literature on corruption and sustainable economic growth; either it enhances economic efficiency through rules or deregulations (Levy & Temin, 2007; Méon & Weill, 2010) while some literature shows negative impact of corruption on SD (Toke S Aidt, 2003; Toke S. Aidt, 2009).

5The literature in this context includes:(Svensson, 2009; Venard, 2013).

based on "System Generalized Method of Moments" (SYS-GMM).

3. DATA AND ECONOMETRIC METHODOLOGY

To find out the impact of institutional law on sustainable development, we use the data set of 12 Asian countries in the panel form starting from 1984 to 2012, taken on the annual bases.[6] We use adjusted net savings per capita in growth as sustainable development indicator, calculated from the adjusted net savings per capita as used in most of studies. The adjusted net savings per capita are derived from the division of adjusted net savings over the total population. The adjusted net savings excluding particular emission damage is taken from the WDI data source, which defines it as: "adjusted net savings" are equal to net national savings with addition to education expenditure, subtracted net forest depletion, mineral depletion and carbon dioxide and particular emission damages are excluded from this variable. The data on GDP per capita growth; GINI index; trade openness; public spending on education; health expenditure per capita and NC_{it} indicates fuel exports as an indicator of depletion of natural capital is also collected from the WDI data source. The selection of most appropriate estimation methodology is very important for attaining robust estimates results. For empirically estimation the impact of institution on sustainable development, we utilize panel data estimation techniques. It is important for allowing combination of different cross sections period, and it also provide more reliable results. Firsty, we use Fixe Effects Methods based on hausman test results. Furthermore, We use the System GMM to tackle endogenity problem .it is advance form of GMM method widely used for the growth evaluation (Arellano & Bover, 1995) and (Blundell & Bond, 1998) and applied by (Bond, Hoeffler, & Temple, 2001).

$$SD_{it} = \alpha + \beta LO_{it} + \gamma Z_{it} + \varepsilon_{it} \dots\dots\dots(1)$$

In below given model , SD_i indicates the average per capita sustainable development over the time period an SD_i subscript is for country specific starting from $i = 1,2,3,4 \dots N$. The variable Ins_t represents the level of institutional laws whereas z_t is a matrix explanatory variables which are left, and error term is represented by ε_t. In abovementioned model, α, β indicate the parameters and γ indicates a set of the parameters of explanatory variables.

$$SD_{it} = \alpha + \beta LO_{it} + \gamma Z_{it} + \varepsilon_{it} \dots\dots\dots(1)$$

The above-mentioned specification does not take into accounts cross section specific effect which causes omitted variables biasness. The strict exogeneity independent variables are pre-condition completely violated. This problem can be tackled out through appropriate utilization of instruments (Islam, 1995). For appropriate tackling of time varying effects and endogeneity problem, Generalized Method of Moments (GMM) is most suitable method (Bond et al., 2001; Caselli, Esquivel, & Lefort, 1996). Now, we can write out panel model specifications such as:

$$SD_{it} = \alpha + \beta InsL_{i,t-1} + \gamma Z_{i,t} + \varepsilon_{i,t} \dots\dots\dots(2)$$

In the above-mentioned equation, the t subscript is for time dimension of variables. To capture the time invariant effects, the error term is distributed in this way given as:

$$\varepsilon_{i,t} = \Omega_i + v_{i,t} \dots\dots\dots(3)$$

In above error term specifications, it is represented that Ω_i is for the time invariant components of error term and $v_{i,t}$ is purely the time variant characteristics of component of error term. The panel model as mention in (2) takes the following form:

$$SD_{it} = \alpha + \beta InsL_{i,t-1} + \gamma Z_{i,t} + \Omega_i + v_{i,t} \dots\dots\dots(4)$$

The omitted biasness of variables can be solved by taking the first difference on both side of panel model as mention above. Thus, our panel model takes the following form

$$\Delta SD_{it} = \alpha + \beta Ins_{i,t-1} + \gamma \Delta Z_{i,t} + \Delta v_{i,t} \dots\dots\dots(5)$$

Whereas the following condition is applied $\Omega_{i,t} - \Omega_{i,t-1} = 0$. But, the endogenity problem is introduced between $v_{i,t-1}$ and the lag term of dependent variable $SD_{i,t-1}$. There is no difference between relationships of $SD_{i,t-1}$ and $v_{i,t-1}$ as mentioned in the above equation but here $SD_{i,t}$ indicates the lag of dependent variable. We can write the model as given below:

---

6 A list of countries is given in Appendix A.

$$(\delta SD_{i,t} = f(v_{i,t}) \Rightarrow SD_{i,t} = f(v_{i,t-1}) \ldots \ldots \ldots \ldots \ldots \ldots (6)$$

Thus, the estimates produced through OLS method are biased, but for the sake of appropriation and the introduction of instrumental variables, they are essential (T. W. Anderson & Hsiao, 1981) highlight that $\Delta SD_{i,t-2}$ as an appropriate instrument and later on $SD_{i,t-2}$ considered most suitable instrumental variables. They propose a matrix of variables $M = [Sd_{i,t-2}, \Delta X_{i,t}]$ consider that $\Delta x_{i,t}$ depend upon exogenous variables. Further, they proposed more instrumental variables $SD_{i,1}, SD_{i,t-1}, SD_{i,t-4} \ldots, SD_{i,t}$ which can be used (Arellano & Bond, 1991). The following moment restrictions are used

$$[E(SD_{i,t-s}, \Delta v_{i,t}) = 0 \text{ and for } K = 1,2,3,\ldots,(T-1) \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (7)$$

Where as:

$$[v_{i,t-s}, \Delta v_{i,t}] = 0 \text{ for } s = 1,2,3,\ldots,(T-1) \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (8)$$

Thus, the two abovementioned models highlight that endogenous variables may be less than the number of instruments used. (Arellano & Bond, 1991) formulate a method based on two steps for an efficient way of containing the instruments with GMM method. The zero restrictions are assumed regarding moments' condition in the model (Arellano & Bover, 1995; Blundell & Bond, 1998). As the first step, all instrumental variables are taken in the vector form the Arellano and Bond (1991) methodology, as given below:

$$z^* = (SD_{i,t-2}, SD_{i,t-1}, \ldots, \Delta V_i, \Delta V_{i,t-1}, \Delta v_{i-2}, \ldots) \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (9)$$

In the second step, the variance-covariance matrix in an inverse form can be represented where D_{N}, and GMM estimators are written as:

$$\xi_{GMM} = (XZ^* D_{N} Z^* X)^{-} XZ^* D_{N} Z^* Y \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (10)$$

The GMM estimators calculated from the two steps Arellano and Bond (1991) are more efficient and it also proposes most appropriate instruments for endogenous variables $x_{i,t}$. Thus, the system GMM is most appropriate method for taking endogenous variables into consideration

4. EMPIRICAL RESULTS

We have empirically estimated the equation (21) to find out the impact of institutional laws on SD for 12 Asian countries during the time period 1984 up to 2012 by utilizing the Fixed Effects methodology. The empirically results are reported as mention in Table 1. Furthermore, the estimation has been carried out separately for a set of all countries that belongs to low and lower middle income countries. We have used utilize various test for assuring the appropriateness of estimated models. The overall results are in favor that estimated models are properly specified.

It is argued that the law and order situation of an economy works as a pre-requisite condition in promoting SD. The law is investigation of legal system strength and order is a judgment regarding popular observance as mentioned in law (ICRG, 2012). In the table 4.1 and table 4.2, law and order impact on SD is given. In the entire analysis, a set of explanatory variables have expected signs similar to that of literature in different models. Law and order shows a positive impact on SD in the case of full sample as well as economic development base distribution of countries. The estimated coefficient is 0.29 upto 0.43 that is positive and statistically significant at 10 percent level. The results imply that if there is a one percentage point enhancement in the law and order quality, then, SD is enhanced by 2.9 upto 4.3 percentage point.

The overall results as discussed in the tables 4.1 and table 4.2 represent that the quality of law and order impacts positively on SD. It means that the law and order is a binding force for people that they must adhere to public policies in regards to the natural resource conservation and its usages in a region. Thus optimal resource utilization in an economy brings social welfare in the context of achieving resource efficiency and optimality. The countries having low qualified citizens can improve institutions more rapidly. other reason is that countries having greater number of qualified citizens may respond negatively to institutional system by way of personal supremacy and interferences within system (Alonso & Garcimartín, 2013; Roelfsema & Zhang, 2012).

Further, we have taken numerous set of control variables for empirical analysis. In discussing the SD pattern, most economists highlight the importance of growth in physical stock and the GDP per capita growth uses growth in physical capital stock. The results indicate that the GDP per capita growth is negatively related to SD in asian countries, low middle income. The empirical evidence produced in the study also supported by resource curse hypotheses to the extent of Asian countries. It implies that most of developing countries are rich in natural resources but unable to properly

manage these natural resources for economic progression. Thus, it leads towards deterioration in the context of genuine savings for the upcoming generation in economy (Toke S. Aidt, 2011; Atkinson & Hamilton, 2003; Dietz et al., 2007). Furthermore, the GDP per capita growth measures the current economic activity and ignores social welfare aspects (health, safety, human rights).Thus the destruction of available resources in the quest of increasing the income level leads to unsustainable development in an economy (Toke S. Aidt, 2011). For assessing the role of social capital is essential for attaining sustainable development goals (SDGS) in Asian countries. For this purpose, the GINI index is used as an indicator. GINI index indicate negative impact on SD. The empirical evidence of our study is supported by the following studies (Hoseini, 2014; Tchouassi, 2012). The coefficient of trade openness has positive impact on SD in whole Asian countries and low and lower middle income countries. Thus, it can be argued that as developing countries follow neoliberal policies, the resource efficiencies are promoted in economies, which leads towards attaining SDGS in developing countries various empirical studies also point to the role of economic globalization for SD (Edwards & Tabellini, 1991; Harbaugh, Levinson, & Wilson, 2002). The coefficient of human capital have positive for SD. Most studies belonging to empirical literature confirm that human capital is a major source for enhancing SD by the way of economic progression in developing countries (Greene, 2008; Grossman & Helpman, 1993; Smulders, 2012). Thus, focusing on the per capita health expenditures leads to improving the social welfare of people through public interferences. The improvement in social welfare of people is considered as a vehicle for SD. The relevant empirical studies that support empirical analysis of our study (Pearce, Barbier, & Markandya, 2013).

Table 4.1: Impact of Law and order on Sustainable Development in Asia: Fixed Effect Method: Dependent Variable (Adjusted Net Saving Per Capita Growth)

Variables	(1) Country Specific	(2) Country and Time Specific
LO _I	0.29* (0.17)	-0.003 (0.21)
Physical Capital	-0.92*** (0.11)	-0.99*** (0.07)
Social Capital	-0.16** (0.06)	-0.080*** (0.01)
Trade Openness	0.003** (0.001)	-0.001 (0.0009)
Human Capital	0.22*** (0.06)	-0.002 (0.02)
Health Expenditure	0.11* (0.06)	0.03*** (0.005)
Constant	-6.8*** (1.04)	-2.53*** (0.61)
Observations	172	172
R-squared	0.84	0.844
Hausman test	42.72(0.0)	7.16(1.00)
F values	138.04	198.04
Number of countries	12	12
Country FE	YES	YES
Year FE		YES

Note: Data period range from 1984-2012 with annually. Robust standard errors are in parentheses. *, ** and *** denote significance at the 10, 5 and 1% levels, respectively.

Table 4.2 : Law and order: Dependent Variable (Adjusted Net Saving Per Capita Growth)		
Variables	(1) SYS-GMM1	(2) SYS-GMM2
LO _I	0.4*** (0.13)	0.43** (0.19)
Physical Capital	-1.29*** (0.07)	-1.22*** (0.08)
Social Capital	-0.008 (0.03)	-0.03 (0.03)
Trade Openness	0.02*** (0.007)	-0.002 (0.002)
Human Capital	0.005** (0.002)	-0.02 (0.04)
Health Expenditure	0.07 (0.04)	0.03*** (0.007)
Natural Capital	-0.02*** (0.007)	

Constant	-4.38***	-3.65***
	(0.91)	(0.70)
Observations	155	163
Number of countries	12	12
Wald Chi2 Value	1238.87	683
AR1 Test	0.0269	0.024
AR2 Test	0.126	0.124

Note: Data period range from 1984-2012 with annually. Robust standard errors are in parentheses. *, ** and ***denote significance at the 10, 5 and 1% levels, respectively.

5. SUMMARY AND CONCLUSION

The main focus of this study is to identify the dynamic role of institutional laws for sustainable development in 12 Asian countries over the period started from 1984 upto 2012. This study uses theoretical model for better understanding the dynamic relationship between institutional laws enforcement and sustainable development. We have considered fixed effect and SYS-GMM estimation techniques for empirical analysis.

Thus it strongly support hypothesis that institutional laws should be prime concern for sustainable development in developing countries. The empirical results of the study strongly support the thinking marginal benefit of improvement in institutional laws in Asian countries. The laws, order, and democratic accountability improvement more affect more sustainable development in Asian countries. Therefore, it is compulsory that institutional laws and order should be given preference when designing policies regarding to achieve objectives of sustainable development.

BIBLIOGRAPHIC REFERENCES

Abou-Ali, H., & Abdelfattah, Y. M. (2013). Integrated paradigm for sustainable development: A panel data study. *Economic Modelling, 30*, 334-342.

Acemoglu, D. (2010). Theory, general equilibrium and political economy in development economics: National Bureau of Economic Research.

Aidt, T. S. (2003). Economic analysis of corruption: a survey. *The Economic Journal, 113*(491), F632-F652.

Aidt, T. S. (2009). Corruption, institutions, and economic development. *Oxford Review of Economic Policy, 25*(2), 271-291.

Aidt, T. S. (2010). Green taxes: refunding rules and lobbying. *Journal of environmental economics and management, 60*(1), 31-43.

Aidt, T. S. (2011). 1 Corruption and sustainable development. *International Handbook on the Economics of Corruption*, 1.

Aidt, T. S., Castro, V., & Martins, R. (2016). Shades of red and blue: Political ideology and sustainable development.

Alonso, J. A., & Garcimartín, C. (2013). The determinants of institutional quality. More on the debate. *Journal of International Development, 25*(2), 206-226.

Anderson, C. L., & Swimmer, E. (1997). Some empirical evidence on property rights of first peoples. *Journal of Economic Behavior & Organization, 33*(1), 1-22.

Anderson, T. W., & Hsiao, C. (1981). Estimation of dynamic models with error components. *Journal of the American statistical Association, 76*(375), 598-606.

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The review of economic studies, 58*(2), 277-297.

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of econometrics, 68*(1), 29-51.

Arrow, K. J., Dasgupta, P., & Mäler, K.-G. (2003). The genuine savings criterion and the value of population. *Economic theory, 21*(2-3), 217-225.

Atkinson, G., & Hamilton, K. (2003). Savings, growth and the resource curse hypothesis. *World Development, 31*(11), 1793-1807.

Barbier, E. (2011). *The policy challenges for green economy and sustainable economic development.*

Barbier, E. B. (2010). Corruption and the political economy of resource-based development: a comparison of Asia and Sub-Saharan Africa. *Environmental and Resource Economics, 46*(4), 511-537.

Behboudi, D., Beheshti, M. B., & Mousavi, S. (2011). Human Development and Sustainable Development in Selected Oil Exporting Countries.

Berg, L.-A., & Desai, D. (2013). Background Paper: Overview on the Rule of Law and Sustainable Development for the Global Dialogue on Rule of Law and the Post-2015 Development Agenda.

Bhattarai, M., & Hammig, M. (2001). Institutions and the environmental Kuznets curve for deforestation: a crosscountry analysis for Latin America, Africa and Asia. *World Development, 29*(6), 995-1010.

Bilbao Ubillos, J. (2013). The limits of human development index: The complementary role of economic and social cohesion, development strategies and sustainability. *Sustainable Development, 21*(6), 400-412.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of econometrics, 87*(1), 115-143.

Bond, S. R., Hoeffler, A., & Temple, J. R. W. (2001). GMM estimation of empirical growth models.

Bovenberg, A. L., & Smulders, S. (1995). Environmental quality and pollution-augmenting technological change in a two-sector endogenous growth model. *Journal of Public Economics, 57*(3), 369-391.

Brinkerhoff, D. W., & Goldsmith, A. A. (1992). Promoting the sustainability of development institutions: A framework for strategy. *World Development, 20*(3), 369-383.

Carbonnier, G., & Sumner, A. (2012). Reframing aid in a world where the poor live in emerging economies. *International Development Policy: Aid, Emerging Economies, and Global Policy, Palgrave Macmillan, Basingstoke*, 3-18.

Carbonnier, G., & Wagner, N. (2011). Oil, gas and minerals: The impact of resource-dependence and governance on sustainable development.

Carbonnier, G., & Wagner, N. (2015). Resource dependence and armed violence: Impact on sustainability in developing countries. *Defence and Peace Economics, 26*(1), 115-132.

Carlman, I., Grönlund, E., & Longueville, A. (2015). Models and methods as support for sustainable decision-making with focus on legal operationalisation. *Ecological Modelling, 306*, 95-100.

Caselli, F., Esquivel, G., & Lefort, F. (1996). Reopening the convergence debate: a new look at cross-country growth empirics. *Journal of economic growth, 1*(3), 363-389.

Delmas, M. A., & Montes Sancho, M. J. (2010). Voluntary agreements to improve environmental quality: Symbolic and substantive cooperation. *Strategic Management Journal, 31*(6), 575-601.

Dietz, S., Neumayer, E., & De Soysa, I. (2007). Corruption, the resource curse and genuine saving. *Environment and Development Economics, 12*(01), 33-53.

Edwards, S., & Tabellini, G. (1991). Political instability, political weakness and inflation: an empirical analysis: National Bureau of Economic Research.

Ernst, A., & Wenzel, U. (2015). Bringing Environmental Psychology Into Action. *European Psychologist*.

Fang, M., Chan, C. K., & Yao, X. (2009). Managing air quality in a rapidly developing nation: China. *Atmospheric Environment, 43*(1), 79-86.

Feng, Y., & Zhang, L. (2012). Scenario analysis of urban energy saving and carbon abatement policies: a case study of Beijing city, China. *Procedia Environmental Sciences, 13*, 632-644.

Greene, W. H. (2008). The econometric approach to efficiency analysis. *The measurement of productive efficiency and productivity growth*, 92-250.

Grossman, G. M., & Helpman, E. (1993). Endogenous innovation in the theory of growth: National Bureau of Economic Research.

Harbaugh, W. T., Levinson, A., & Wilson, D. M. (2002). Reexamining the empirical evidence for an environmental Kuznets curve. *Review of Economics and Statistics, 84*(3), 541-551.

Harris, J. M. (2001). *Macroeconomic policy and sustainability*: Tufts University.

Hofkes, M. W. (1996). Modelling sustainable development: an economy-ecology integrated model. *Economic Modelling, 13*(3), 333-353.

Hoseini, N. D. (2014). Gender Inequality and Sustainable Development. *OIDA International Journal of Sustainable Development, 7*(7), 65-74.

Islam, N. (1995). Growth empirics: a panel data approach. *The Quarterly Journal of Economics*, 1127-1170.

Issever Grochová, L. (2015). Regulatory quality and sustainable economic development. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, 62*(6), 1301-1308.

Jones, C. I. (1994). Economic growth and the relative price of capital. *Journal of Monetary Economics, 34*(3), 359-382.

Kardos, M. (2012). The reflection of good governance in sustainable development strategies. *Procedia-Social and Behavioral Sciences, 58*, 1166-1173.

Kemp, R., Parto, S., & Gibson, R. B. (2005). Governance for sustainable development: moving from theory to practice. *International Journal of Sustainable Development, 8*(1-2), 12-30.

Knack, S., & Keefer, P. (1995). Institutions and economic performance: Cross-country tests using alternative institutional indicators.

Lele, U. (1991). *Aid to African agriculture: lessons from two decades of donors' experience*: Johns Hopkins University Press.

Levy, F., & Temin, P. (2007). Inequality and institutions in 20th century America: National Bureau of Economic Research Cambridge, Mass., USA.

Loos, J., Abson, D. J., Chappell, M. J., Hanspach, J., Mikulcak, F., Tichit, M., & Fischer, J. (2014). Putting meaning back into "sustainable intensification". *Frontiers in Ecology and the Environment, 12*(6), 356-361.

Mavragani, A., Nikolaou, I. E., & Tsagarakis, K. P. (2016). Open Economy, Institutional Quality, and Environmental Performance: A Macroeconomic Approach. *Sustainability, 8*(7), 601.

Mazurova, E. (2017). Exploratory Analysis of the Factors Affecting Consumer Choice in E-Commerce: Conjoint Analysis. Journal of Information Systems Engineering & Management, 2(2), 12. https://doi.org/10.20897/jisem.201712

Mebratu, D. (1998). Sustainability and sustainable development: historical and conceptual review. *Environmental impact assessment review, 18*(6), 493-520.

Méon, P. G., & Weill, L. (2010). Is corruption an efficient grease? *World Development, 38*(3), 244-259.

Mohammadi, D., & Jamali, A. (2017). The Determinants of Forward-Looking Information Disclosure in Tehran Stock Exchange. *UCT Journal of Management and Accounting Studies, 5*(3), 25-31.

Morita, S., & Zaelke, D. (2005, 2005). *Rule of law, good governance, and sustainable development.* Paper presented at the Seventh International Conference on Environmental Compliance and Enforcement.

Nelson, R. R. (2006). What makes an economy productive and progressive? What are the needed institutions? : LEM Working Paper Series.

North, D. C. (1981). *Structure and change in economic history*: Norton.

North, D. C. (1990a). *Institutions, institutional change and economic performance*: Cambridge university press.

North, D. C. (1990b). A transaction cost theory of politics. *Journal of theoretical politics, 2*(4), 355-367.

Opschoor, H., & van der Straaten, J. (1993). Sustainable development: an institutional approach. *Ecological Economics, 7*(3), 203-222.

Pande, R., & Udry, C. R. (2005). Institutions and development: A view from below. *Yale University Economic Growth Center Discussion Paper* (928).

Pearce, D., Barbier, E., & Markandya, A. (2013). *Sustainable development: economics and environment in the Third World*: Routledge.

Platje, J. (2004). Institutional change and Poland's economic performance since the 1970s. *Incentives and transaction costs, CL Consulting and Logistics, Wrocław*.

Platje, J. (2008). "Institutional capital" as a factor of sustainable development the importance of an institutional equilibrium. *Technological and Economic Development of Economy, 14*(2), 144-150.

Quental, N., & Lourenço, J. M. (2012). References, authors, journals and scientific disciplines underlying the sustainable development literature: a citation analysis. *Scientometrics, 90*(2), 361-381.

Rault, C., Caporale, G. M., Sova, R., & Sova, A. (2009). Determinants of pollution abatement and control expenditure: Evidence from Romania.

Rivera, J. (2004). Institutional pressures and voluntary environmental behavior in developing countries: Evidence from the Costa Rican hotel industry. *Society and Natural Resources, 17*(9), 779-797.

Rodrik, D., Subramanian, A., & Trebbi, F. (2004). Institutions rule: the primacy of institutions over geography and integration in economic development. *Journal of economic growth, 9*(2), 131-165.

Roelfsema, H., & Zhang, Y. (2012). The causal effect of institutional quality on outsourcing. *The Journal of International Trade & Economic Development, 21*(6), 895-920.

Sarvajayakesavalu, S. (2015). Addressing challenges of developing countries in implementing five priorities for sustainable development goals. *Ecosystem Health and Sustainability, 1*(7), 1-4.

Shirley, M. M. (2005). *Institutions and development*: Springer.

Simmons, B. A., & Elkins, Z. (2004). The globalization of liberalization: Policy diffusion in the international political economy. *American political science review, 98*(01), 171-189.

Smulders, S. (1995). Environmental policy and sustainable economic growth. *De Economist, 143*(2), 163-195.

Smulders, S. (2012). Endogenous technological change, natural resources, and growth. *Scarcity and Growth Revisited: Natural Resources and the Environment in the New Millenium*, 155.

Sohrabi, M. (2017). The Relationship between Non-Financial Innovative Management Accounting Tools and Risk and Return of Iranian Stock Market Listed Companies. Dutch Journal of Finance and Management, 1(2), 40. https://doi.org/10.29333/djfm/5816

Stoever, J. (2012). On comprehensive wealth, institutional quality and sustainable development-quantifying the effect of institutional quality on sustainability. *Journal of Economic Behavior & Organization, 81*(3), 794-801.

Svensson, I. (2009). Who brings which peace? Neutral versus biased mediation and institutional peace arrangements in civil wars. *Journal of Conflict Resolution*.

Taylor, J. B. (1993). *Macroeconomic policy in a world economy: from econometric design to practical operation*: WW Norton.

Tchouassi, G. (2012). Does Gender Equality work for Sustainable Development in Central Africa Countries? Some Empirical Lessons. *European Journal of Sustainable Development, 1*(3), 383-398.

Veisi, M. (2017). Surveying the Causes of Tendency of Islamabad Qarb Youth to Synthetic Drugs and Ways to Prevent It. *UCT Journal of Social Sciences and Humanities Research, 5*(1), 22-27.

Venard, B. (2013). Institutions, corruption and sustainable development. *Economics Bulletin, 33*(4), 2545-2562.

Waage, J., Yap, C., Bell, S., Levy, C., Mace, G., Pegram, T., ...Kock, R. (2015). Governing the UN Sustainable Development Goals: interactions, infrastructures, and institutions. *The Lancet Global Health, 3*(5), e251-e252.

Wing, I. S. (2006). Representing induced technological change in models for climate policy analysis. *Energy Economics, 28*(5), 539-562.