



CORRUPTION, INCOME INEQUALITY AND HUMAN RESOURCE DEVELOPMENT IN DEVELOPING ECONOMIES



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ABSTRACT

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This study examines the relationship between corruption, income inequality and human resource development by using simultaneous-equation model for a panel of 38 developing countries for the time period 2000-2015. The endogenous variables of human resource development, income inequality and corruption are measured by human resource development index, control of corruption index and Gini coefficient. The three stage least square results indicate that human resource development in negatively influenced by corruption and income inequality. Income inequality is positively affected by corruption and negatively by human resource development. On the other hand corruption is negatively influenced by human resource development and positively by income inequality. Among this troika of indicators corruption and income inequality are helping each other to resist human resource development. In the instrumental variables the urbanization, health expenditures and economic freedom positively contribute in human resource development. For developing economies it is needed to tackle the problem of corruption and income inequality for accelerate the human resource development.

Contribution/ Originality: The literature on corruption, income inequality and human resource development lacks the analysis of mutual interdependence of these socioeconomic indicators for developing economies although analyses of any two of them exist. The current study has done this which will help the policy makers for understanding the relationship and policy making.

1. INTRODUCTION

A barrage of studies on corruption, income inequality and human resource development has been emerged in the last three decades. However, the results on mutual interaction of sets of couples of these variables are varying by different studies. Human resource is an important factor of economic development. Becker (1993) explained the impact of human resource development on economic growth (McLean & McLean, 2001). The human resource development decreases the corruption through more awareness, education, knowledge, employment generation and political participation. There are other channels by which human resource development may restrict the corruption that is awareness about human and political rights, efficiency of administrative institutions and governance (Tran, 2008). It also affects the income inequality in an economy through employment opportunities, access to productive resources and financial credit, and enhanced wages.

The income inequality in an economy enhances corruption (Apergis, Dincer, & Payne, 2010; Chong & Gradstein, 2007). It devastates the human resource development as well through the pronounced argument of low opportunities of education and health along with inferior quality of both of them for the low income groups.

Corruption is a symptom of deep institutional weaknesses and it leads to inefficient economic, social, and political outcomes. It reduces economic growth (Dridi, 2013; Li, Xu, & Zou, 2000; Sunkanmi & Isola, 2014) and development (Frisch, 1996). It raises the income inequality in nations (Gupta, Davoodi, & Alonso-Terme, 2002; Gyimah-Brempong, 2002). Rose-Ackerman (1997) argues corruption tends to distort the allocation of economic benefits, favoring the haves over the have-nots leading to a less equitable income distribution.

Generally for the global economies and particularly for the developing economies, the human resource development is the desirable phenomenon along with elimination of corruption and income inequality. In fact there is prevalence of corruption along with income inequality in majority of the developing countries, and the economies are striving to enhance human development. In perspective of mutual interdependence of these three variable, on the one hand corruption may affect income inequality as well as human resource development, while income inequality may directly affect human resource development. On the other hand, human resource development retards corruption as well as income inequality. In this way a complex mechanism of interaction exists among these variables. So it becomes necessary for the policy makers to understand the simultaneous interrelationship among corruption, income inequality and human resource development. In the existing literature interdependence of these variables does not exist however the relationship between sets of any two of these variables exists. This is the gap to be filled by the current study. Furthermore, for robustness of results the panel of developing economies is analyzed on the assumption that for different economies the relationship may vary. The creation of human resource development index based on six indicators is another novelty of the current study as earlier literature has used only proxies of human resource development most prevalently education and health. The study will be an addition to the literature covering the troika of these variables simultaneously analyzed to reach the conclusion to support policy makers working for enhancing human resource development along with elimination of corruption and income inequality.

2. LITERATURE REVIEW

A variety of literature has probed corruption, income inequality and human resources development for all parts of the world with different functional forms, estimation techniques and data sets. The mixed results have been seen in the literature.

Gupta, Davoodi, and Tiongson (2000) have explored that corruption reduces the level of social spending, fosters education inequality, lowers secondary schooling, and causes unequal distribution of land. They revealed that corruption increases child and infant mortality rates, low-birth weight babies, and increases dropout rates in primary school. Li et al. (2000) examined the relationship between corruption, income inequality and growth for Asian, OECD and Latin American countries. The results showed that corruption affects income distribution in an inverted U-shaped pattern. However it affects economic growth negatively.

Mo (2001) analyzed the effect of corruption on economic growth for a sample of 54 countries. The transmission channel adopted was the political instability, human capital and investment. The results explained that political instability plays an important role in influencing the effect of corruption on economic growth while corruption negatively affects the human capital and economic growth.

Gyimah-Brempong (2002) explored the impact of corruption on economic growth and income inequality for a panel of 21 African countries. The study found that corruption affects income inequality positively and economic growth negatively. Tran (2008) argued for multiequilibria (virtuous and vicious) relationship between human development and corruption. The virtuous equilibrium exists in rich countries, while vicious equilibrium occurs in poor countries which limits the development potential of poor countries. The study argued that investment in

human capabilities especially after crossing a threshold level of human development can play a crucial role in preventing corruption. It is based on the observation that at a lower level of income, the corruption effect becomes rampant and process of human development slows down.

Dobson and Ramlogan-Dobson (2010) investigated the relationship between corruption and income inequality for 19 Latin American countries. They found that corruption negatively affects income inequality. Chong and Calderon (2000) analyzed the relationship between institutional quality and income distribution and found a quadratic relationship between corruption and income inequality for a cross-section of poor and rich countries. Apergis et al. (2010) probed the relationship between corruption and income disparity in USA and concluded that corruption is positively related with income disparity and there is bidirectional causality between corruption and income disparity (see also Chong and Gradstein (2007)).

Samadi and Farahmandpour (2013) analyzed the effect of income inequality on corruption in the economies classified by country's economic freedom, i.e. free, mostly free, mostly unfree and unfree countries. The results explained that income inequality increases corruption in free and mostly free countries while it decreases corruption in unfree countries.

Churchill, Agbodohu, and Arenful (2013) have estimated the determinants of corruption for a sample of 133 countries and concluded that economic freedom, political stability and urban population positively influence corruption, while economic openness negatively affects corruption. Jetter, Agudelo, and Hassan (2015) added that democracy reduces corruption in the economies having sufficiently high GDP per capita but it increases corruption in poor economies.

An empirical investigation on corruption and education for a panel of 85 countries by Dridi (2014) suggested that increasing corruption decreases the access to schooling. De la Croix and Delavallade (2009) also found that economies with high level of corruption invest less in education and health. D'Agostino, Dunne, and Pieroni (2016) analyzed a panel of 106 countries and concluded that interactions between corruption and investment and corruption and military spending have strong negative impacts on economic growth. They further indicated that complementarity between corruption and military spending suggest that combating corruption not only have direct positive effect on economic growth but it is also likely to have indirect positive effect through reducing the size of the negative impact of the military burden on economic growth.

Boikos (2016) investigated the relationship between corruption, public expenditure and human capital accumulation for a sample of 99 OECD and non OECD countries. The study concluded that corruption negatively impacts the accumulation of human capital (Ben Ali, Cockx, & Francken, 2016).

Saha and Ali (2017) analyzed the role of economic development in corruption in the perspective of political and economic freedom. They concluded that in MENA countries the interaction between economic and political freedom, and government size reduces corruption. In naturally resource rich countries economic development increases corruption. The literature on corruption, income inequality and human resource development reveals that none of the studies has estimated the simultaneous relationship among corruption, income inequality and human resource development for a group of developing economies that is the research gap to be filled by the current study.

3. METHODOLOGY

The analysis is concerned with interdependence between human resource development, corruption and income inequality. The models with three endogenous variables, i.e. human resource development, income inequality and corruption along with a number of exogenous variables as shown in Equation 1, 2 and 3 respectively.

$$\text{HRD} = f(\text{CORRP}, \text{GINI}, \text{URBAN}, \text{HEXP}, \text{EFREE}, \text{GFCF}) \quad (1)$$

$$\text{GINI} = f(\text{CORRP}, \text{HRD}, \text{GDP}, \text{URBAN}, \text{TOPEN}, \text{TAX}) \quad (2)$$

$$\text{CORRP} = f(\text{GINI}, \text{HRD}, \text{PINSTAB}, \text{URBAN}, \text{UEMP}) \quad (3)$$

The description of the variables is given in Table 1.

Table-1. Description of variables and source of data.

Variables	Definition	Measurement	Sources of data	Expected sign
HRD (Human resource development)	Human resource development index is comprised of six indicators (see Table 2).	Human resources development index	Penn World (2015) and World Development Indicators World Bank (2016a)	-ive for CORRP and GINI
GINI (Income inequality)	Gini index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution.	Gini coefficient index. It ranges 0 to 1. (0 represents perfect equality and vice versa).	World Income Inequality Database UNU-WIDER (2016) and World Development Indicators World Bank (2016a)	-ive for HRD and +ive for CORRP
CORRP (Corruption)	Control of corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.	Control of corruption index. It ranges -2.5 to +2.5. (-2.5 represents highest corruption and vice versa)	World Bank Governance Indicator World Bank. (2016b)	-ive for HRD and +ive for GINI
URBAN (Urbanization)	Urban population refers to people living in urban areas as defined by national statistical offices.	Urban population as percentage of total population	World Development Indicators World Bank (2016a)	+ive for HRD, -ive for CORRP and +ive or -ive for GINI
HEXP (Health expenditure)	Total health expenditure is the sum of public and private health expenditure.	Health expenditure as percentage of GDP	World Development Indicators World Bank (2016a)	+ive for HRD
EFREE (Economic freedom)	The Overall index of economic freedom has ten components grouped into four broad categories: Rule of Law; Limited Government; Regulatory Efficiency and Open Markets.	Economic freedom index. It ranges 0 to 100, where 0 represent the minimum freedom. 100 represent maximum freedom.	The Global Economy Global Economy (2016)	+ive for HRD
GFCF (Gross fixed capital formation)	Gross capital formation is the sum of fixed capital formation and changes in inventories.	Gross capital formation as percentage of GDP	World Development Indicators World Bank (2016a)	+ive for HRD
GDP (Economic development)	GDP per-capita.	GDP per-capita	World Development Indicators World Bank (2016a)	-ive for GINI
TOPEN (Trade openness)	Trade openness is the sum of exports and imports of goods and services measured as a share of GDP.	Trade as percentage of GDP	World Development Indicators World Bank (2016a)	-ive for GINI
TAX (Tax revenue)	Tax revenue.	Tax revenue as percentage of GDP	World Development Indicators World Bank (2016a)	-ive for GINI
PINSTAB (Political instability)	Perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.	Political stability and absence of violence/terrorism	World Bank Governance Indicator World Bank. (2016b)	-ive for HRD
UEMP (Unemployment)	Youth unemployment refers to the share of the labor force ages 15-24 without work but available for and seeking employment.	Total youth unemployment as percentage of labor force	World Development Indicators World Bank (2016a)	+ive for CORRP

The dataset of 38 developing economies¹ covering time period 2000-2015 has been taken from various sources like World Development Indicators (WDI) (World Bank, 2016a) World Governance Indicators (WGI) World Bank. (2016b), World Income Inequality Database (WIID) (UNU-WIDER 2016), Penn World Tables Penn World (2015) and the Global Economy (Global Economy, 2016). The data on corruption, income inequality, human resources development and the control variables are consistently available for the chosen time period and selected developing countries.

All the variables in the model have been measured as they have been given in the source except human resource development index. It has been constructed through principal component analysis by using two dimensions, i.e. health and education and six indicators. The indicators of human resource development are given in Table 2.

Table-2. Indicators of HRD index.

	Dimensions	Indicators	Definition	Source of Data	Direction
HRD Index	Health	Life expectancy	Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.	World Development Indicators World Bank (2016a)	+ive for HRD
		Immunization	Child immunization measures the percentage of children ages 12-23 months who received vaccinations before 12 months or at any time before the survey.	World Development Indicators World Bank (2016a)	+ive for HRD
		Maternal mortality rate	Maternal mortality ratio is the number of women who die from pregnancy-related causes while pregnant or within 42 days of pregnancy termination per 100,000 live births.	World Development Indicators World Bank (2016a)	-ive for HRD
		Water & sanitation facilities	Access to improved sanitation facilities refers to the percentage of the population using improved sanitation facilities.	World Development Indicators World Bank (2016a)	+ive for HRD
		Infant mortality rate	Infant mortality rate is the number of infants dying before reaching one year of age, per 1,000 live births in a given year.	World Development Indicators World Bank (2016a)	-ive for HRD
	Education	Human capital index	Based on years of schooling and returns on education.	Penn World (2015)	+ive for HRD

3.1. Estimation Technique

A system of equations representing a set of relationships among variables or describing the joint dependence of variables is called simultaneous equation. In such models there are more than one equation with one of the mutually or jointly dependent or endogenous variables. The corruption, income inequality and human resource development have interdependence and when the variables have interdependence than system equation or simultaneous equation model is used. To examine the three way linkages between corruption, income inequality and human resource development in developing countries, we have been used three stages least square technique. The three stage least squares technique was introduced by Zellner and Theil (1962). The term three-stage least squares (3SLS) refer to a

¹Argentina, Armenia, Bolivia, Brazil, Bulgaria, Cambodia, Chile, China, Colombia, Costa Rica, Dominican Rep, Ecuador, El Salvador, Honduras, India, Indonesia, Kazakhstan, Kyrgyzstan, Madagascar, Mexico, Moldova, Mongolia, Pakistan, Panama, Paraguay, Peru, Philippines, Romania, Russia, Serbia, Sri Lanka, Tajikistan, Thailand, Turkey, Uganda, Ukraine, Venezuela, Vietnam.

method of estimation that combines system equation, it is a form of instrumental variables estimation that permits correlations of the unobserved disturbances across several equations, as well as restrictions among coefficients of different equations, and improves upon the efficiency of equation-by-equation estimation by taking into account such correlations across equations.

It may be taken as the special case of multi-equation GMM where the set of instrumental variables are common to all equations. If all regressors are in fact predetermined, then 3SLS reduces to Seemingly Unrelated Regressions (SUR). Thus it may also be seen as a combination of Two-stage Least Squares (2SLS) with SUR.

The 3SLS seems to be best methodology if we go for bidirectional relationship among variables. Simultaneous equations describe our statement of problem in appropriate manners. The assumptions of 3SLS are best fit to the statement problem of current study. Through 3SLS we can estimate the relationship among more than one variable or they cause each other or not.

3.2. Model Specifications

The econometric expression of interdependence among human resource development, income inequality and corruption for a panel data are shown in Equations 4, 5 and 6 respectively.

$$HRD = \gamma_0 + \gamma_1 CORRP_{it} + \gamma_2 GINI_{it} + \gamma_3 URBAN_{it} + \gamma_4 HEXP_{it} + \gamma_5 EFREE_{it} + \gamma_6 GFCF_{it} + \mu_{it} \quad (4)$$

$$GINI = \beta_0 + \beta_1 CORRP_{it} + \beta_2 HRD_{it} + \beta_3 GDP_{it} + \beta_4 URBAN_{it} + \beta_5 TOPEN_{it} + \beta_6 TAX_{it} + \mu_{it} \quad (5)$$

$$CORPR = \alpha_0 + \alpha_1 GINI_{it} + \alpha_2 HRD_{it} + \alpha_3 PINSTAB_{it} + \alpha_4 URBAN_{it} + \alpha_5 UEMP_{it} + \mu_{it} \quad (6)$$

Where

i is for each country and t is for time series.

In above three equations HRD, CORRP and GINI are endogenous variables and URBAN, HEXP, EFREE, GFCF, PINSTAB, UEMP, GDP, TOPEN and TAX are instrumental variables.

4. RESULTS AND DISCUSSION

The method of three stage least squares (3SLS) is used to estimate the equations. The regression results are reported in Tables 3, 4 and 5 respectively.

4.1. Estimates for Human Resource Development

The 3SLS estimates of the coefficients for human resource development in Equation 4 are given in Table 3.

Table-3. Results of 3SLS for human resource development.

Dependent Variable: HRD (Human Resource Development)		
No of observations = 530		
Variables	Coefficient	Prob.
C	23.40509***	0.001
CORRP	-7.004583***	0.001
GINI	-.5225533***	0.000
URBAN	.2611419***	0.000
HEXP	1.847068***	0.000
EFREE	.3704132***	0.000
GFCF	.1057335***	0.002

Note: *, ** and *** represent 10, 5 and 1 percent of level of significance respectively.

It was hypothesized that corruption affects human resources development negatively. The 3SLS results also show that corruption adversely affects human resource development in developing economies. It is supported by a number of studies (Boikos, 2016; Kaufmann, Kraay, & Zoido-Lobaton, 1999; Mo, 2001; Rose-Ackerman, 1997). The corruption directly affects the human resource development by inefficiently diverting and misutilization of funds and indirectly by lowering economic growth and restricting the investment by discouraging the incentives for

investment. Mauro (1998) explained that corruption reduces government expenditures on education and health as public officials do not want to spend more on education and health programs because these programs offer less opportunity for rent seeking. Similarly, Gupta et al. (2000) explained that corruption reduces the level of social spending, fosters education inequality, and lowers secondary schooling. Ben Ali et al. (2016) explained that corruption leads to lower government revenue and therefore lowers expenditures on health and education which decreases human resource development. Inequality also negatively affects the human resource development.

The economic freedom is found to positively influence human resource development in developing economies. It may be explained as the freedom protects private property, removes barriers that restrict transactions, encourages entrepreneurship and increases economic activities, the government and people privately spend more on education and health. It accelerates human resource development. Mauro (1995) explained that economic freedom decreases government's monopoly power and removes the difficult laws which stop the entrance of a firm into formal sector, consequently it decreases the size of informal sector. The economic freedom also decreases the corruption that enhances the human resource development by better utilization of funds on education and health. It increases the allocation of funds for human resource development as well. Tanzi (1998) explained that economic freedom propagates the fundamental rights of every person to control his or her labor and property. In an economically free society individuals are free to work, produce, consume and invest. The economic freedom protected and unconstrained by the state in the presence of fundamental rights boosts the investment on human resources. The 3SLS results show that urbanization positively influences human resource development. The urbanization is basically a natural part of development. The residing in urban areas not only provide more opportunities for higher income but also better access to schooling, health care and other social services.

It was speculated that health expenditures boost human resource development. The results of current study support the hypothesis as health expenditures have shown positive effect on human resource development. It explains the phenomenon that government as well as private expenditures on health increases the child immunization, nutritional status of the children, water and sanitation facilities, maternal and child health facilities, cognitive skill of the children, and school participation and success rate of children in schools, which increase human resource development. The gross fixed capital formation has also shown positive impact on human resource development in developing economies. It explains that the gross fixed capital formation increases national income which results into more expenditures on education and health. The fixed capital formation also covers the construction of schools, colleges, hospitals dispensaries as well as roads and communication which increases the utilization of education and health facilities resulting into increasing the human resource development. On the other hand increase in capital formation causes high level of development which requires the skilled labor force that pulls developed human resources.

4.2. Estimates for Income Inequality

The estimates of the coefficient for income inequality in Equation 5 are given in Table 4.

Table-4. Results of 3SLS for income inequality.

Dependent Variable: GINI (Income inequality)		
No of observations = 530		
Variable	Coefficient	Prob.
C	118.7817***	0.000
CORRP	4.547218**	0.024
HRD	-1.876288***	0.000
GDP	-.1139623	0.208
URBAN	.543145***	0.000
TOPEN	.0992419***	0.000
TAX	-.4933264**	0.021

Note: *, ** and *** represent 10, 5 and 1 percent of level of significance respectively.

The results in Table 4 show that corruption increases income inequality (see also, Glaeser, Scheinkman, and Shleifer (2003); Gyimah-Brempong and de Gyimah-Brempong (2006)). It deteriorates the quantity and effectiveness of social programs which benefit the poor and diverts the resources to programs that benefit the rich (Gupta et al., 2002). According to Hendriks, Keen, and Muthoo (1998) corruption leads to a bias of the tax system in favor of the rich and powerful, thus making the effective tax system regressive which implies that the burden of the tax system falls disproportionately on the poor. The phenomenon of corruption and inequality may further be explained in another way that is corrupt economy has skewed education spending towards higher education that benefits the rich rather than towards primary and secondary education which benefits the poor. Similarly corruption restricts the economic growth of a nation (Frisch, 1996; Gyimah-Brempong, 2002) that is more likely to hurt the poor community and results into increased income inequality.

It is found that human resource development negatively affects income inequality. It explains that the education and health are fundamental pillars of human resource development and increased level of human resource development increases the productivity of the people particularly of the poor community if the health and education facilities are provided by public sector. It results into decreased income inequality.

The GDP per-capita has shown no statistically significant effect on income inequality in developing economies. It demonstrates that economic development in these economies is not pro-poor otherwise the higher GDP per-capita should decrease income inequality.

The urbanization has shown positive effect on income inequality. Theoretically urbanization should decrease the income inequality because in urban communities there exist more opportunities for employment, income generation along with labor's horizontal and vertical mobility which results into higher wages. The skill improving facilities also prevalently exists in urban areas that propagate the income of lower income households. But the greater rural-urban income and employment gap resist the overall change in income inequality of the economy. Even the migration to urban areas puts the pressure on living conditions, health centers, schools as well as labor market competition which results into spreading the slums. The process increases the income disparity within cities. Furthermore, the migration to the cities depresses the wages of marginalized labor class which results into increased income inequality within urban areas.

The results have shown that trade openness increases income inequality in the developing economies, that is more the trade openness in an economy higher will be the income inequality. It is supported by Kahai and Simmons (2005) for less developing economies but negated by Chong and Calderon (2000). The results explain that trade openness is more advantageous for rich class as compared to the poor one in developing economies. There may be another channel explaining the negative effect of trade openness on income inequality that is more probably the squeezing of informal sector and increased unemployment or under-employment in this sector due to trade openness depresses the income of poor community which increases income inequality in developing economies.

The tax revenue as a proxy of fiscal policy was included in the analysis to see its impact on income inequality and it was hypothesized that tax revenue negatively impacts income inequality. The results explain that tax revenue negatively affects the income inequality in developing economies. It is theoretically supported as tax imposition should decrease income inequality in an economy.

4.3. Estimates for Corruption

The estimates of the coefficient of Equation 6 for corruption are given in Table 5.

The results of 3SLS show that income inequality increases the corruption in developing economies (Apergis et al., 2010). It explains that as the socioeconomic gap between income groups becomes wider the lower income group faces financial trouble and get involved in corruption. You and Khagram (2005) explained that income inequality increases the level of corruption through material and normative mechanisms. The rich as a class or interest group uses legal lobbying and political contributions as bribe (grand political corruption) to influence the law-making

process. The same groups as firms or as individuals uses bribery or connections to impact the law-implementing processes (bureaucratic corruption) and to buy favorable interpretations of the law (judicial corruption).

Table-5. Results of 3SLS for corruption.

Dependent Variable: CORRP (Corruption)		
No of observations = 530		
Variable	Coefficient	Prob.
C	-1.991638*	0.094
GINI	.0974888***	0.000
HRD	-.0416559*	0.079
PINSTAB	.3945069***	0.000
URBAN	-.0130396**	0.010
UEMP	.0352951***	0.000

Note: *, ** and *** represent 10, 5 and 1 percent of level of significance respectively.

The increasing income inequality enhances the relative poverty in most of the population which creates the demand for more extensive redistribution through higher levels of progressive taxation. As the redistributive pressure increase, the rich correspondingly have greater motivation to use political corruption to lower the tax rates and bureaucratic corruption to further circumvent the collection of taxes to have the gains.

There emerged a negative influence of human resource development on corruption, i.e. human resource development decreases the corruption in developing economies (Mo, 2001). Theoretically human resource development is concerned with improvement in quality of people. It includes improvement in health care, education and resource availability. When peoples find basic education and health facilities they remain away from bribes and other unlawful activities for money making. Human resource development enhances the awareness of people about law making, interpretation of rules and regulations and implementation of law. The human resource development makes the people to have more awareness of political system, legal and administrative procedures and international trade and transaction. It increases their political participation as well. The process resists the corrupt activities of politicians, judiciary and law implementing agencies (Ali & Isse, 2002).

It is further found that political instability increases corruption. It is supported by Churchill et al. (2013) for a panel of countries. According to Serra (2006) higher level of political instability is associated with higher corruption. The political instability weakens the formulation of policies and programs, and implementation of law, and creates hurdle in good governance which results into corruption. The politically instable government generally offers bribes to the other political groups, parties and influential gangs for supporting the government. These bribes may be in the form of public sector jobs, contracts for government projects and even the allotment of government lands and permits for businesses and industries. Such type of political corruption penetrates to the lower level. The bureaucratic corruption is also generated by instable political governments. To save the governments, the parliamentarians offer bribes to the government officials in the form of promotions, postings and other out of the way benefits. On the other hand, Elliott (1997) argued that strong government proves better equipped to fight against corruption.

The urbanization that is an instrument variable shows that urbanization decreases corruption. It is supported by Li et al. (2000) and Billger and Goel (2009) but negated by Churchill et al. (2013). Urbanization is basically the process towards civilization. The urban households have basic civil and social liberties along with health and education facilities. They have more employment opportunities and business options. They are well aware of law and have access to judiciary as well as administration. All these factors restrict them to involve in corruption and to resist the corruption by institutions.

The unemployment has shown increasing effect on corruption. The existence of unemployment specifically in the youth, bulk of which lives in developing economies, instigates them to involve in corruption for gaining the jobs and promotions. If they belong to marginalized groups of the society they not only give the bribe and do the

corruption for jobs but sometimes they become involved in illegal economic activities as well. On the other hand unemployed youth becomes easy prey for political corruption like making political movements and agitations for gaining the share in power. Saha and Gounder (2013) noted that higher unemployment rate increases level of corruption.

5. CONCLUSION

This study uses panel data for a sample of 38 developing countries for the time period 2000- 2015. By using three stage least square (3SLS) estimation the study concludes that human resource development is negatively influenced by corruption and income inequality. On the other hand income inequality is positively influenced by corruption and negatively by human resource development. Similarly the corruption is positively influenced by income inequality and negatively by human resource development. The results of troika of these three socioeconomic indicators propose that to increase the human resource development it is necessary to strike the corruption and inequality simultaneously. As a result of decreasing the corruption and narrowing down the income inequality a veracious cycle will emerge to boost human resource development.

In the instrumental variables the urbanization, health expenditures, economic freedom and fixed capital formation need the attention of policy makers. Adjusting these variables through policies and programs may result into increase in human resource development. The health expenditures should be increased and that is possible even in the short-run however the urbanization, economic freedom and capital formation need long-run policies.

For decreasing income inequality the urbanization is again an important instrument for the developing economies. Trade openness has shown positive impact on income inequality. The mechanics of such type of impact may be disguised in the existence of informal sector employment in export sector of the developing economies. The expansion in trade openness has squeezed the wages of informal sector and enhanced the wages of skilled labor in formal sector. So the measures are needed to support the industries which are adversely affected by trade openness. The adverse effects of trade openness may also affect the marginalized self-employed persons in developing economies. These households need government programs for compensation and alternative employment opportunities. The taxes have shown the positive impact on declining the income inequality so the tax system needs to be further strengthened.

As concerns the corruption, it is proposed to control the political instability, urbanization and unemployment to contain corruption in developing economies. For the purpose effective governance and strong judicial system is required for political stability. For urbanization and employment generation governments should focus on the provision of basic amenities to the households and employment generation programs particularly for the youth.

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