

Effect of Corruption on Socio-economic Development: Evidence from South Asia

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Corruption creates friction in the economic system and acts as a barrier to economic development and progressive social change of an economy. However, there exists conflicting views in literature regarding the effect of corruption on development. The purpose of our study is to investigate the effect of corruption on the economic as well as social development of an economy. Based on a sample of four countries in South Asia, namely, Bangladesh, India, Pakistan and Sri Lanka for the period 1995-2015, and using the Vector Error Correction (VEC) model and panel cointegration technique, we show that there is a negative relationship between corruption and socio-economic development in the South Asian region.

Keywords: Corruption, Vector Error Correction, development.

1. Introduction

Corruption, defined as “an abuse of public power for private gain”, is a deeply rooted phenomenon in most poor countries, especially in the South Asian region where poor governance, weak political institutions and poor law and order are common. Existing literature on corruption has conflicting views regarding the effect of corruption on the social and economic performance of a country. One group of economists view corruption as the grease of growth. For instance, Leff (1964), Huntington (1968), Friedrich (1972) and Nye (1967) argue that corruption may increase economic efficiency by overcoming the rigid bureaucratic delays and thereby facilitates investment and economic growth. On the other hand, McMullar (1961), Davoodi (1998), Mauro (1995), Ghazi (2014), Yakautsava and Dissou (2012), Dzhumashev (2014) view corruption as an efficiency-reducing phenomenon. They claim that corruption hinders economic growth and distorts allocation of resources, thus reducing the efficiency of the economy. In fact, recently, majority of the literature is concerned with the efficiency-reducing attribute of corruption.

The World Bank has identified corruption as “the single greatest obstacle to social and economic development. Corruption directly harms the people of the nation, especially the poor by depriving them of their basic access to health and education. In presence of corruption, people cannot reap the benefit of free trade as corruption levies an illegal tax on the whole economy in the form of bribes and illicit payments. In fact, the World Bank reports that corruption reduces a country’s growth rate by up to one percent each year. The channels through which corruption reduces growth are by decreasing investment, by increasing cost of production and operation, misallocating public/natural resources, raising uncertainty in decision-making, increasing poverty and lowering tax and custom revenues. IMF data reveals that

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corrupt countries have almost five percent lower investment rate than countries where corruption is absent. In face of corruption, small enterprises are compelled to pay large bribes,

thus raising their cost of operation and thereby discouraging investment. Corruption also lowers the quality of public services and infrastructure, distorts government spending decisions, reduces government revenue and damages confidence in the rule of law. Thus corruption undermines confidence in public institutions and exacerbates budget problems.

Corruption is destructive not only to the economic performance of a country, but also to the social development of the economy. The World Bank reports that increased corruption is associated with increased infant mortality rate and reduced literacy rate. This is because corruption distorts the size and composition of government spending and distorts funds away from socially efficient activities to rent-seeking activities. Corrupt politicians are more likely to spend resources on items which provide them lucrative opportunities and on which it is easier to levy large bribes. That means, it is easier to grab large bribes on goods which are produced by firms operating in markets where the degree of competition is low. (Mauro, 1998). Since education sector has substantially large number of suppliers, it is relatively difficult to collect bribes on textbooks or teachers' salaries. This is why corrupt leaders have an incentive to divert funds away from education. Thus corruption undermines public trust in higher education, worsens the quality of education, prepares unqualified professionals and undermines the incentives that motivates young people to work hard.

Corruption is also a widespread manifestation in the public as well as private health care services. Incidence of corruption in health care would raise the cost of patient care, reduce access to basic health care for poor, spread infectious and contagious diseases, produce incompetent health care professionals, and force patients to pay illegal fees. All these adversely affect the performance of health care services and will foster ill health and sufferings of people, thus increasing death of patients from improper treatment or lack of access to essential health care facilities. Since education and health play a vital role in shaping the human capital of an economy, corrupt health and education sector undoubtedly have lethal impact on the whole economic performance of the country. Without bolstering these two key institutions, it is unlikely that the goals of reducing poverty, mortality, and morbidity rates which are important objectives of the MDG cannot be achieved.

Recently, the study on the relationship between corruption and development has received much attention. However, to the best of our knowledge, there is no study addressing the possible linkages between corruption and development in the south Asian region. Most of the south Asian countries stand out as corrupt nations, and high corruption has adverse consequences on the whole economy of this region. Therefore, the main objective of this paper is to investigate the impact of corruption on social as well as economic development in the south Asian region. That is, our research question is: How does corruption affect the socioeconomic development of countries in the South Asian region? Following the restricted vector autoregressive framework, our results reveal that there is a negative relationship between corruption and socio-economic development.

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The paper is structured as follows: A survey of the empirical literature on the relationship between corruption and economic growth, education and health care service is presented in section 2. Data and Methodology are outlined in section 3. Section 4 presents and discusses the empirical results. Finally section 5 concludes the paper.

2. Literature Review

Corruption is considered a strong constraint on growth and development. Although some researchers consider corruption as a grease for growth wheels as corruption might increase economic efficiency by overcoming bureaucratic delays and rigid laws, in the long run, however, corruption reduces economic development. Corruption would increase the transaction costs and cause misallocation of public resources. Corruption is prevalent in almost every country in the world, but some countries are more corrupt than others. The vast literature on corruption can be segregated into two parts: one that analyzes the macroeconomic effects of corruption and another part that explores how corruption affects the social development of an economy.

Jain (2001) shows a negative association between corruption and level of economic development measured by real per capita GDP. He also finds negative relationship between corruption and economic growth measured by growth in real per capita GDP. He analyzes some direct and indirect channels through which corruption may affect economic growth. According to his study, corruption reduces the rate of return of enterprises by increasing their costs, and the effect is more detrimental on small enterprises than on large enterprises. Another channel through corruption affects growth is investment: their findings suggest that corruption reduces the size and quality of investment. Also, allocation of talent has an indirect effect on growth, and that corruption allocates talent in a growth reducing manner. Finally, Jain (2001) reveals that corruption affects the structure of taxes. Aidt, Dutta and Sena (2008) explore the effect of corruption on growth based on two governance regimes, and reveal that regimes with high quality political institutions have negative association between corruption and economic growth, while corruption has no influence on growth in regimes with low quality institutions. Yakautsava (2011) provides a critical overview of the literature concerned with economics of corruption, and identifies three channels through corruption inhibits growth in an economy: by diverting resources away from socially productive activities to rent-seeking activities, by undermining performance of public institutions and by lowering the marginal product of capital.

Ghazi (2014) analyze the effect of corruption on economic growth through direct and indirect methods. The indirect effect of corruption on economic growth stresses on the role of transmission channels such as share of investment in GDP, foreign direct investment, and openness. According to Ghazi (2014), growth is affected by corruption directly, while the transmission channels have no role on the effects of corruption on economic growth.

Dzhumashev (2014) explores how the quality of governance, size of government spending and economic development affect the relation between corruption and economic growth. His study reveals that corruption greases economic efficiency only

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if the size of the government is above the optimum level, and that corruption decreases as economic development increases. However, the effect of corruption on growth may either be positive or negative, depending on the marginal trade-off between the burden and benefits generated by the government. Also, underlying differences in the development and institutional environment also affect how corruption might influence the economy. The study is also suggestive of the policy that tax evaders, not bureaucrats should be targeted in order to effectively reduce corruption.

Borlea et al. (2017) analyzes how corruption and shadow economy affect economic development, and they confirm a strong positive relation between corruption and shadow economy, and a negative relation between corruption and growth, and shadow economy and growth. This implies that, higher level of corruption is expected to be associated with larger shadow economy, and eventually, increasing corruption and larger shadow economy are followed by slower economic growth.

Pacific et. al (2017) examine the effect of controlling corruption on economic growth in Botswana, and they perceive that control of corruption helps to boost the economic growth, and that for a sustainable economic growth, fighting against corruption must remain the top government agenda. Akcay (2006) explores the impact of corruption on human development and confirms a negative and significant association between corruption and human development. Along with corruption, they also estimate the impact of urbanization, economic freedom and democracy on corruption, and finds a positive link between human development, urbanization and economic freedom, while a negative relationship between human development and corruption.

Knox (2009) carries out a sectoral study of the effect of corruption on health and education sector in Bangladesh, and also examines the impact of anti-corruption measures by Transparency International Bangladesh (TIB) in the health and education sector. His study indicates that in health care sector, patients requiring prescriptions from doctors and patients who are in need of further medical tests are most vulnerable to facing corruption. In education sector, corruption is most prevalent at admission to different education institutions. In both the sectors, the poor people are most affected by corruption. That means, corruption acts as a regressive tax, exacerbating the incidence of income inequality.

Mauro (1998) investigates the effect of corruption on the composition of government expenditure and finds that corruption tends to reduce government spending on education. The study reveals that corrupt countries spend less on education since education provides less lucrative opportunities for government officials. He also concludes that higher corruption is usually followed by reduced spending on health.

Rumyantseva (2005) develops the taxonomy of corruption in higher education by providing insight on the nature and structure of the phenomenon. They segregate education-specific corruption from general/administrative corruption. According to their study, corruption has lethal consequences on the quality of education, students' moral, future opportunities for students and quality of future leadership. They identified five overlapping subcategories within education-specific corruption and realize that different types of corruption may demand different theoretical and methodological approaches to deal with education corruption.

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Wei (1999) reviews the widespread phenomenon that countries with higher corruption have poorer economic performance. He investigates different channels through which corruption affects the economic performance: reduced investment, both domestic and foreign, overblown government expenditure, distorted composition of government spending away from health, education and maintenance of infrastructure.

Heyneman (2004) states that due to absence of modern technologies and structures, the selection systems to higher education face corruption, and corruption is also widespread in the accreditation, licensing and certification process. Due to the prevalence of corruption, education received by young people lack in quality and efficiency. Moreover, poor management means teacher tend to misuse their professional position, accept bribes from students, and use tuition and fees for private benefit.

Levis (2006) suggests that governance plays an important role in maintaining the performance of health care. Poor governance causes higher absenteeism of health workers, payment of illegal fees by patients and missing of basic health infrastructure, and hence, poor performance of health services which will eventually lead to poor population health. Poor governance also tends to lower the returns to health investment. So in order to ensure good performance of health care, good governance is necessary, and good governance can be ensured only by reducing corruption.

As evident from the above empirical findings, although previous studies attempt to find out the effect of corruption on economic development and also the effect of corruption on the social development of an economy, but to the best of our knowledge, there is no single study that explores the combined social and economic effect of corruption. Moreover, there appears to be no scholarly work that investigates the effect of corruption specifically in South Asia, although the South Asian countries, namely Bangladesh, India, Pakistan, Nepal and Sri Lanka have recorded staggering rate of corruption over the years. This motivates us to carry out an investigation on how corruption affects the socioeconomic performance of countries in the South Asian region. So our contribution to the existing literature is that, through this study, we seek to bridge the gap in prevailing literature that seems to be void in exploring the effects of corruption in the South Asian countries.

3. Data and Methodology

3.1 Data

The dataset is composed of annual data on corruption perception index as a measure of corruption, life expectancy rate as an indicator of the health sector, mean years of schooling as a measure of education, and GDP growth rate of four South Asian countries, namely Bangladesh, India, Pakistan, and Sri Lanka, covering the period 1995 to 2015. The data for corruption is collected from Transparency International, and the data for economic growth is obtained from World Development Indicators (WDI). Historical data on life expectancy rate and mean years of schooling are obtained from Human Development Report, UNDP.

3.2 Method

The relationship between corruption and socioeconomic development has been analyzed in three steps: First, all the variables are checked for stationarity, and the order of integration in the variables is determined. Second, having established the order of integration in the variables, panel cointegration tests are performed to examine whether a long run relationship exists between corruption and economic growth; corruption and life expectancy rate; and between corruption and mean years of schooling. According to Granger (1981), two variables, which are non-stationary at levels, can form a linear combination that is stationary. Such variables are said to be cointegrated. Once cointegration is found, Vector Autoregressive (VAR) model can be used to check whether a stationary linear combination of non-stationary variables exists, implying that a long run relationship holds between the two variables. Hence, the final step is to conduct dynamic panel causality tests to examine the direction of short run and long run causality between the variables.

3.2.1 Panel Unit Root Tests

Panel based unit root tests, as opposed to the conventional unit root tests like the Dickey Fuller (DF), Augmented Dickey Fuller (ADF) and Phillips Perron (PP) tests provide a way of increasing the statistical power of the tests, resulting in potentially more precise parameter estimates (Taylor and Sarno 1998). Another advantage of panel unit root tests is that their asymptotic distribution is standard normal, in contrast to individual time series unit root tests which have nonstandard limiting distribution. Some of the widely used panel unit root tests include Levin et al. (2002), Im et al.(2003), Breitung (2000), Maddala and Wu (1999), Choi (2001), and Hadri (2000).

For each cross-section in panel $i = 1, 2, \dots, N$, at time $t = 1, 2, \dots, T$, $Y_{i,t}$ is assumed to be generated by the following AR (1) process:

$$Y_{i,t} = \rho_i Y_{i,t-1} + \delta_i X_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where $X_{i,t}$ is any exogenous variable in the model, ρ_i is the autoregressive coefficient, and $\varepsilon_{i,t}$ is the stationary process. If $|\rho| = 1$, then $Y_{i,t}$ contains a unit root and is said to be non-stationary.

In our study, we have considered several alternative unit root tests such as the LLC test by (Levin et al., 2002), the IPS method developed by (Im et al., 2003), Fisher-ADF and Fisher-PP tests developed by (Maddala and Wu, 1999).

3.2.2 Panel Cointegration

Once all the panel variables are characterized by one unit root at levels, which is integrated of order 1, I (1), the next phase is to examine the existence of a long run relationship. Several tests have been developed for testing panel cointegration like Pedroni (1999, 2004), Kao (1999) and a Fisher type test using the underlying Johansen methodology (Maddala and Wu, 1999).

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The Fisher test is simply the combined Johansen test for time series, using the results of individual independent tests. The Engle-Granger (1987) cointegration test is based on an examination of the residuals of a spurious regression performed by using I (1) variables. If the variables are cointegrated, then the residuals should be I (0). Pedroni (1999, 2004) and Kao (1999) extend the Engle-Granger framework to tests involving panel data. Pedroni allows for heterogeneity in the intercepts and slopes of the cointegrating equations and generates a total of eleven statistics with varying degree of properties. The Kao test follows the same basic approach as the Pedroni tests but specifies cross-section specific intercepts and homogeneous coefficients in the first stage regressors.

3.2.3 Panel Dynamic Least Square Regression (DOLS) and Granger Causality Tests

Having established the existence of panel cointegration among variables, the next step is to perform the dynamic OLS technique to estimate the long run relationship, and lastly to estimate a panel Vector Error Correction Model (VECM) in order to examine the causality direction using Granger causality test. We do this using the two-step procedure developed by Engle and Granger (1987).

In the first phase, we estimate the following long run model to obtain the estimated residuals, $\varepsilon_{i,t}$

$$Growth_{i,t} = \alpha_i + \gamma_i CPI_t + \varepsilon_{i,t} \quad (2)$$

Where $CPI_{i,t}$ represents the corruption levels for country i at time t , $Growth_t$ represents the GDP growth rate of country i at time t .

Next, we estimate a Granger Causality model with a dynamic error correction term, ECT.

$$\Delta Growth_{i,t} = \emptyset_1 + \sum_{k=1}^K \theta_{1k} \Delta Growth_{i,t-k} + \sum_{k=1}^K \theta_{2k} \Delta CPI_{i,t-k} + \lambda_1 ECT_{i,t-1} + u_{i,t} \quad (3)$$

$$\Delta CPI_{i,t} = \emptyset_2 + \sum_{k=1}^K \theta_{3k} \Delta CPI_{i,t-k} + \sum_{k=1}^K \theta_{4k} \Delta Growth_{i,t-k} + \lambda_1 ECT_{i,t-1} + \epsilon_{i,t} \quad (4)$$

Where K is the lag length, $ECT_{i,t-1}$ is the one period lag of the error correction term obtained in equation (2) and $u_{i,t}$ is the residuals of the model.

Using this specification, we then test for both the short run and long run causality from corruption to growth. The significance of causality results are determined by Wald F-test. In the short run CPI_{it} does not Granger cause $Growth_{i,t}$ if $\forall k = 1, 2, \dots, K, \theta_{2k} = 0$. Similarly, the presence of long run causality can be determined by examining the statistical significance of the speed of adjustment, λ , namely the coefficient of $ECT_{i,t-1}$ which represents how fast deviations from long run equilibrium are eliminated following changes in each variable. The statistical significance of λ determines the long run relationship in the cointegrating process.

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The same procedure is repeated to examine the effect of corruption on health and education sector, giving rise to the following specifications:

$$\Delta YRS_{i,t} = \emptyset_3 + \sum_{k=1}^K \theta_{5k} \Delta YRS_{i,t-k} + \sum_{k=1}^K \theta_{6k} \Delta CPI_{i,t-k} + \lambda_2 ECT_{i,t-1} + u_{i,t} \quad (5)$$

$$\Delta CPI_{i,t} = \emptyset_4 + \sum_{k=1}^K \theta_{7k} \Delta CPI_{i,t-k} + \sum_{k=1}^K \theta_{8k} \Delta YRS_{i,t-k} + \lambda_2 ECT_{i,t-1} + \epsilon_{i,t} \quad (6)$$

$$\Delta Life_exp_{i,t} = \emptyset_5 + \sum_{k=1}^K \theta_{9k} \Delta Life_exp_{i,t-k} + \sum_{k=1}^K \theta_{10k} \Delta CPI_{i,t-k} + \lambda_3 ECT_{i,t-1} + u_{i,t} \quad (7)$$

$$\Delta CPI_{i,t} = \emptyset_6 + \sum_{k=1}^K \theta_{11k} \Delta CPI_{i,t-k} + \sum_{k=1}^K \theta_{12k} \Delta Life_exp_{i,t-k} + \lambda_3 ECT_{i,t-1} + \epsilon_{i,t} \quad (8)$$

Where $YRS_{i,t}$ represents the mean years of schooling of country i at time t , and $Life_exp_{i,t}$ measures the life expectancy rate.

4. Results

4.1 Panel Unit Root Tests

As discussed in the earlier section, a necessary condition for examining the long run relationship between two variables is that they must be integrated of the same order. Therefore, we carry out a combination of various unit root tests with a view to ensure robustness of our analysis. The results of these tests are exhibited in Table 1. All of the tests assume a standard (LLC) or individual unit root process (IPS, ADF-Fisher and PP-Fisher) in the null hypothesis. That means rejection of null hypothesis would be suggestive of a stationary process and failure to do so would draw a conclusion of a non-stationary process.

Table 1: Panel Unit Root Test for the Variables

Method	CPI	Growth	Life_exp	YRS
LLC	-1.80 (0.036)	-2.42 (0.008)	-4.19 (0.000)	-1.56 (0.059)
IPS	-1.63 (0.051)	-2.21 (0.014)	-3.38 (0.000)	-5.82 (0.009)
ADF-Fisher	16.6 (0.034)	17.7 (0.024)	31.6 (0.000)	6.93 (0.544)
PP-Fisher	12.8 (0.119)	22.6 (0.004)	271 (0.000)	17.6 (0.024)

The test statistics are reported with associated p-values in brackets.

For all the variables presented in level, all the panel unit root tests provide sufficient evidence to reject the null hypothesis. This implies that $CPI_{i,t}$, $Growth_{i,t}$, $Life_exp_{i,t}$ and $YRS_{i,t}$ all are stationary in level. Hence, they are integrated of order 0.

4.2 Panel Cointegration Tests

After being ascertained that the variables follow a common order of integration, the next step is to conduct a panel cointegration analysis. As mentioned in the earlier section, three-panel cointegration tests including the Johansen-Fisher cointegration test, the Pedroni residual-based test, and the Kao cointegration tests have been performed in order to ensure that our results are robust to different methods. The results of Johansen-Fisher tests are outlined in Table 2.

Table 2: Panel Cointegration Test

Growth-CPI	Health-CPI	Education-CPI
17.37** (0.026)	35.89*** (0.000)	22.33*** (0.004)
13.91* (0.084)	22.76*** (0.004)	15.83** (0.045)
15.25** (0.045)	29.54*** (0.000)	17.83** (0.022)
13.91* (0.084)	22.76*** (0.004)	15.83** (0.045)

As presented in the table, it can be observed that the Johansen-Fisher cointegration test provides sufficient evidence to reject the null hypothesis, implying the existence of one cointegrating equation among the variables $CP_{i,t}$ and $Growth_{i,t}$; $CP_{i,t}$ and $Life_exp_{i,t}$ and $CP_{i,t}$ and $YRS_{i,t}$.

4.3 Panel DOLS and VECM-based Granger Causality Tests

Having established the presence of a long run relationship between all three pairs of variables, we now estimate the cointegration equations for the two variables using Panel Dynamic Ordinary Least Square (DOLS) method, proposed by Kao and Chiang (2000). Table 3 put forth the estimation output of the cointegrating equation.

Table 3: Panel Dynamic OLS

Dependent Variable	Coefficient	Prob
Growth	-0.41**	0.0219
Education	-0.110*	0.098
Health	-0.175***	0.008

As evident from the above table, Corruption has a negative effect on economic growth, education and health sector. Specifically, a one unit rise in corruption is associated with 0.41 units decrease in economic growth, 0.11 units decrease in mean years of schooling and 0.175 units decrease in life expectancy rate.

The presence of a long run cointegrating relationship leads us to examine the possibility of potential causality between the variables. In order to do so, we estimate a restricted Vector Autoregressive (VAR) model, namely the Vector Error Correction (VECM) model. Using the estimated residuals from the long run panel DOLS estimation, we define the one-period lagged residuals as the error correction terms, ECT. The output of the estimated panel VECM model is presented below in Table 4.

Table 4: Vector Error Correction Model

		Short Run				Long Run				
Dependent Variable		ΔCPI_{t-1}	ΔCPI_t	$\Delta Grwth_t$	$\Delta Grwth_{t-1}$	ΔYRS_{t-1}	ΔYRS_t	$\Delta Life_exp$	$\Delta Life_exp$	ΔECT_{t-1}
$\Delta Grwth_t$		-0.66 (0.37)	-0.01 (0.99)	0.001 (0.99)	-0.005 (0.97)					-0.51 (0.00) 1)***
ΔYRS_t		-0.03 (0.52)	0.00 (0.99)			0.19 (0.14)	0.05 (0.74)			- 0.01 4 (0.03) 5)**
$\Delta life_exp_t$		0.02 (0.42)	0.03 (0.22)					0.57*** (0.00)	0.57*** (0.00)	- 0.00 2 (0.10) 0)*

** denotes the significance at 5% level, and *** denotes the significance at 1% level

As evident from the table, all the ECTs are negative and statistically significant, thereby indicating the presence of a long run causal relationship between all three pairs of variables. Specifically, the negative and statistically significant coefficient of the error correction term for $Grwth_t$ signifies that given any deviation in one year, $Grwth_{t_i,t}$ slowly moves to correct 51 % of that error in the next year, so converging back to the equilibrium.

Based on the VECM model estimated, Granger-causality Block Exogeneity Wald test is performed to investigate the causality relationship between the variables in each model. The results from Wald test are depicted below in Table 5:

Table 5: Wald Test

Causality	Test-statistic	Prob
$CPI \Rightarrow Growth$	0.847	0.655
$CPI \Rightarrow Life_exp$	1.812	0.404
$CPI \Rightarrow YRS$	0.457	0.796

According to the test-statistic generated by Wald test, there appears to be no causality running from corruption to any of the socio-economic variables. That means there is no short run causal relationship among the variables, and that, corruption affects growth, life expectancy and years of schooling only in the long run.

5. Conclusion

Based on a sample of four countries in South Asia, namely, Bangladesh, India, Pakistan and Sri Lanka for the period 1995-2015, and using the Vector Error Correction (VEC) model and panel cointegration technique, we show that there is a negative relationship between corruption and socio-economic development in the South Asian region. Corruption reduces economic growth by slowing down overall development. The entire society is harmed as a result of inefficient allocation of resources, the presence of shadow economy and lower investment which are the inevitable outcome of corruption. Corruption acts as a burden on entrepreneurs and weakens the institutions on which the country's growth depends. Flourishing of corruption also has negative impact on the education sector. When the education system is corrupt, young people would not have the incentive to work hard because they would be able to advance through cheating and bribing. Eventually, it will damage low-income students' future opportunities and will prepare unqualified young professionals.

Finally, corruption blocks people's access to basic healthcare, increases the cost of medical treatment, produces incompetent health care professionals, thereby setting up a vicious cycle that contributes to ill health and suffering. To sum up, corruption in health sector actually KILLS people. The difference between life and death, good health and sufferings is determined by corruption (Chattopadhyay, 2013). This is why, it is often said that *corruption is the cancer of the society* that eventually retards economic development. It is high time that effective measures are taken in order to control corruption, especially in the health and education sector because these two are the key factors for achieving the Millennium Development Goals of low mortality, low morbidity and high literacy rates are to be achieved which will eventually take the economy to higher economic growth and development. It is crucially important to take effective measures against corruption by:

- ▶ Paying civil servants well
- ▶ Creating transparency in government spending
- ▶ Cutting red tape
- ▶ Replacing regressive and distorting subsidies with targeted cash transfer
- ▶ Establishing international convention
- ▶ Deploying smart technology

References

- Aidt, T., Dutta, J., & Sena, V. 2008, Governance regimes, corruption and growth: Theory and evidence, *Journal of Comparative Economics*, Vol. 36, No. 2, Pp.195-220.
- Akçay, S., 2006. Corruption and human development. *Cato J.*, 26, p.29.
- Borlea, S. N., Achim, M. V., & Miron, M. G. A. 2017, Corruption, Shadow Economy and Economic Growth: An Empirical Survey Across the European Union Countries, *Studia Universitatis „Vasile Goldis” Arad–Economics Series*, Vol. 27, No. 2, Pp. 19-32.
- Bose, N. 2010, corruption and economic growth. *The New Palgrave Dictionary of Economics*, Online Edition, Palgrave Macmillan, 03 June 2014 doi:10.1057/9780230226203.1925

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- Dzhumashev, R. 2014, Corruption and growth: The role of governance, public spending, and economic development. *Economic Modelling*, Vol. 37, Pp. 202-215.
- Friedrich, C. J. 1972, *The Pathology of Politics: violence, betrayal, corruption, secrecy, and propaganda*, New York: Harper & Row.
- Ghazi, F. 2014, *Corruption and Growth*, Doctoral dissertation, Bowling Green State University.
- Gupta, S., Davoodi, H. R., & Tiongson, E. 2000, *Corruption and the provision of health care and education services* (No. 2000-2116), International Monetary Fund.
- Heyneman, S. P. 2004, Education and corruption. *International Journal of Educational Development*, Vol. 24, No. 6, Pp. 637-648.
- Heyneman, S. P., Anderson, K. H., & Nuraliyeva, N. 2007, The cost of corruption in higher education. *Comparative Education Review*, Vol. 52, No. 1, Pp. 1-25.
- Jain, A. K. 2001, "Corruption: A review". *Journal of Economic Surveys*, Volume 15, No. 1, pp. 71-121.
- Knox, C. 2009, Dealing with sectoral corruption in Bangladesh: developing citizen involvement, *Public Administration and Development*, Vol. 29, No. 2, Pp. 117-132.
- Leff, N. H. 1964, Economic development through bureaucratic corruption. *American behavioral scientist*, Vol. 8, No. 3, Pp. 8-14.
- Lewis, M. 2006, 'Governance and corruption in public health care systems', Center for Global Development, Washington DC
- Mauro, P. 1995, 'Corruption and growth', *The quarterly journal of economics*, Vol. 110, No. 3, Pp. 681-712.
- Mauro, P. 1998, 'Corruption and the composition of government expenditure,' *Journal of Public Economics*, Vol. 69, No. 2, Pp. 263-279.
- McMullan, M. 1961, 'A theory of corruption', *The Sociological Review*, Vol. 9, No. 2, Pp. 181-201.
- Mo, P. H. 2001, 'Corruption and economic growth', *Journal of comparative economics*, Vol. 29, No. 1, Pp. 66-79.
- Nye, J. S. 1967, 'Corruption and political development: A cost-benefit analysis,' *American political science review*, Vol. 61, No. 2, Pp. 417-427.
- Pacific, Y. K. T., Ramadhan, A. A., & Gabriella, N. M. A. 2017, 'Does Control of Corruption Accelerate Economic Growth in Botswana?', *Global Journal of Human-Social Science Research*, Volume 17, No. 6, pp. 41-50.
- Rumyantseva, N. L. 2005, 'Taxonomy of corruption in higher education', *Peabody Journal of Education*, Vol. 80, No. 1, Pp. 81-92.
- Vian, T. 2002, Corruption and the health sector, *USAID/MSI Sectoral Perspectives on*.
- Wei, S. J. 1999, 'Corruption in economic development: Beneficial grease, minor annoyance, or major obstacle?', Policy Research working paper; No. WPS 2048. Washington, DC: World Bank.
- Yakautsava, T., and Dissou, Y., 2012, 'Corruption, Growth, and Taxation,' *Theoretical Economics Letters*, Vol. 2 No. 1, pp. 62-66.