Spry Journal of Economics and Management Sciences
Published by Spry Publishers

Spry Publishers

Spry Journal of Economics and Management Sciences

ISSN: 2959-06787
Vol. 1, Issue. 2
(Jul-Dec 2023)
Page no: 92- 107
DOI: https://doi.org/10.62681/sprypublishers.sjems/1/2/3

A Rigorous Economic Analysis of Corruption in the Landscape of Pakistan

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Abstract

Background: *Corruption can be defined as the misuse of public assets, which is a global issue because it can affect the overall economic condition of the country. Since 1947, Pakistan has faced a lot of corruption, which affects various factors of the country including political growth as well as economic growth.*

Research Aim: *This paper has studied the relationship between economic growth and corruption and what are the factors of corruption in Pakistan.*

Methodology: *This study is an empirical study based on using the data from 1998-2022. The following analysis which includes the Augmented Dickey- Fuller test and Tobit Model of Censored Regression has been used for analyzing the determinants of corruption in Pakistan.*

Results: *The results found that there is a negative influence of GDP growth and the literacy rate of Pakistan on corruption while most prominently inflation has been found to*

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be a positive influence on corruption.
Conclusion: To conclude GDP, Literacy rate and Economic integration have a positive influence on corruption in Pakistan while Literacy Rate and Inflation are significant economic determinants of corruption.

Keywords: Corruption, Economic Growth, Pakistan's Economy, Economic Analysis.

Introduction

Corruption can be defined as using public assets for the benefit of one's own interest. It is so common that it can be found in practice in every other society. Corruption plays an important role in the downfall of the country's economy. It is considered as one of the biggest challenges for the developing or developed countries. According to the IMF (Internal Monetary Fund) reports of 2016, about 25% of the total GDP of the world comprises corruption. Mudassaar et al. (2019) state that around two trillion US dollars is the total cost of corruption. According to Sindzingre and Milelli (2010) the reports of The World Bank state that the corruption caused by smuggling, fraud, money laundering, bribes and extortion, affects the country's social and economic development (Awan et al., 2018). It is important to study the effects of corruption presently as the cases of the corruption of government officials which includes Panama and paradise paper cases which have adversely affected the economic condition of the country.

The Transparency International corruption index indicates three types of corruption; Grand corruption which includes the government to be involved in the corruption directly or indirectly. Medium corruption which involves the government and other private institutions using their links for their own benefit, then comes piety corruption which involves normal people to their own links or power for their own benefit. In terms of Pakistan's corruption, grand corruption is taken into consideration which involves the involvement of the government directly or indirectly. Almost all the sectors of government in Pakistan are involved in the misusing of assets. This has resulted in politicians losing the respect of the people of Pakistan. In the past year 2016, Pakistani political leaders have faced the cases of Panama and other corruption because of that the country's economic stability and growth were affected. Pakistan's political history is a mixture of democracy and military. However, according to the index of Transparency International's Corruption Perceptions, Pakistan's rank in 2020 was 124, and in 2021

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and 2022 was 140, it was found that the corruption index remains the same in both the leadership. For this study, secondary data has been used which includes the collection of the information from State Bank of Pakistan's Publication, Financial Yearbook Statics FBS, World Development Indicators, Transparency International Corruption Index and International Monetary Fund reports. The time series model is used to measure the relationship between corruption and economic growth.

Research Objectives

To find the determinants responsible for corruption through empirical study. To find the effect of corruption on Pakistan's economy from 1998 to 2022.

The Economic Growth of Pakistanfrom1998-2022 Pakistan is a country with a higher degree of corruption is observed, than any other Asian country (Uroos et al., 2022). The GDP of Pakistan in the years is shown in Figure 1. This showed a great deal of fluctuation in the graph. This fluctuation in the GDP of Pakistan's economy is due to the political instability. The Transparency Corruption Perception Index in Figure 2 presents the rank of Pakistan from 1998 to 2022, this shows that Pakistan's consistency and increase in the corruption index is alarming for the policymakers of the country.

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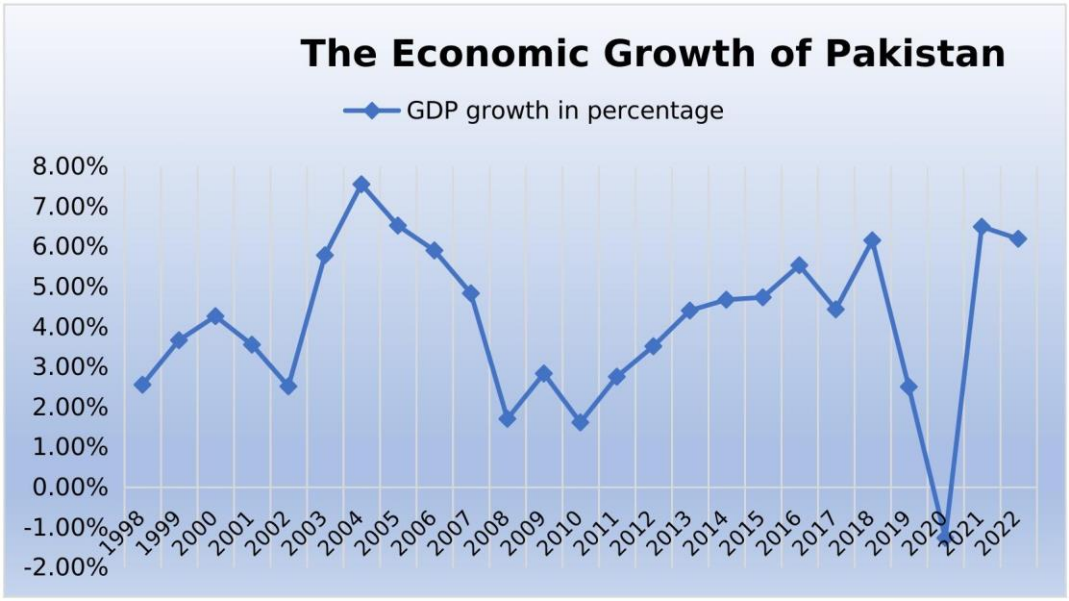

Figure 1. Economic Growth of Pakistan from 1998-2022

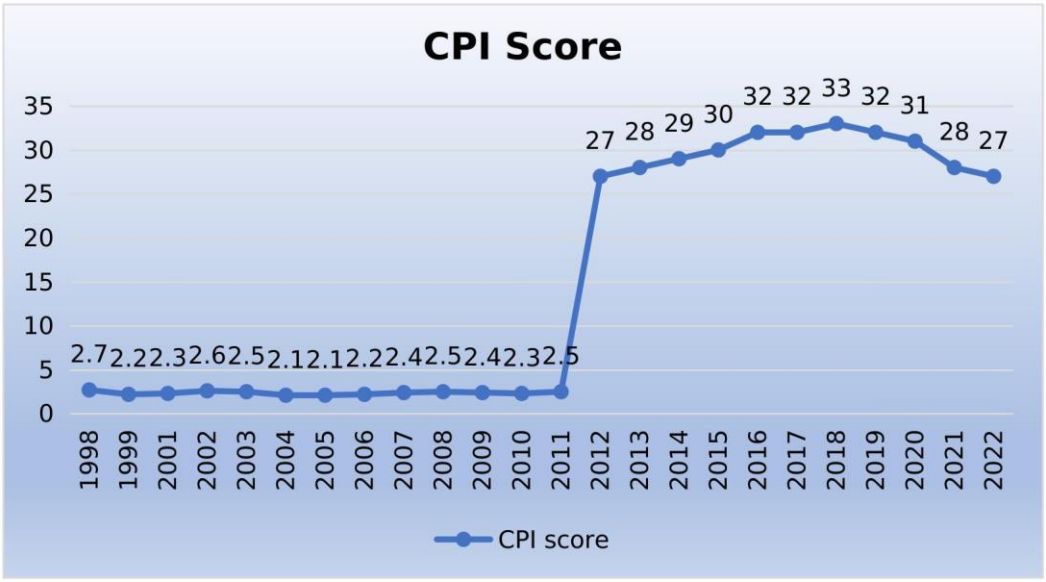

Figure 2. The Transparency Corruption Perception Index from 1998-2022

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CPI score means the level of corruption occurred in the publicsector on a scale of 0-100, in this 0 means high corruption and 100 means not corrupted at all. The graph shows that during the years 1998-2001. the corruption increases, Pakistan was among those countries that were highly corrupt. The Transparency Corruption Perception Index did not include Pakistan in the year 2000, which does not mean that the country was free from corruption, but there was not enough data available to measure the accuracyof the level of corruption. then in 2002-2003, the country performed better by improving the law and government in reducing corruption. In 2004-2006, because of the poor quality of government, the country's corruption increased. In 2009, the country was recorded as highly corrupt in the corruption index. According to the reports of the Global Competitiveness Report, in 2007-2011 it was stated that due to the poor quality of infrastructure and corruption in the public sector, the country faced decline. Transparency International recorded 2012 to 2014, Pakistan scored 27 to 29, from 2015 to 2020, the score decreased to 32, and again from 2021 to 2022, it increased, according to further reports the factors that could be responsible for the increase in the corruption would be low salaries, monopoly, discretionary power, red-tapism or power of influential people. On the other hand, the capitalist society in Pakistan is earning more and more because the income distribution system of Pakistan is unjust. This is due to the institutions that are misused by the governments and other individuals which has caused instability and a weak system of judicial. Frequent change in the government has caused a weak control system in Pakistan that results in corruption. This has proved that there was no control of the government on the public institutions due to their ruling period instability.

Literature Review

The connection between economic growth and corruption is not a new concept. A lot of economists have tried their luck to explore the link between corruption and a country's economic growth, corruption in the country include the GDP of the

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country, literacy rate, poverty as well as trade etc. Mauro (1995) attempted to find out the link between economic growth and corruption, while the link between corruption and income distribution was studied by Saleem et al. (2020).

Mo (2001) used data from 67 countries and found that political instability like flux or volatility has an inverse impact on the economic growth of corruption. After that Shabbir and Anwar (2007) used data from 41 countries and found that there are economic and non- economic determinants responsible for the perceived corruption which include globalization, increased economic freedom and as well as reduced income. It was further found that corruption increased with the increase in the level ofeducation, which resulted that non- economic factors should be of more concern in reducing the perceived level of corruption in the country. In previous studies, the economic factors promoting corruption were literacy rate, employment, black market, overspending of government, inflation, weak law and order of thecountry and low economic growth. Past studies have proved that it is complicated to study corruption and it was identified that only economic factors were not responsible for corruption but there have been political, cultural and social impacts on corruption. The study of Acemoglu and Verdier (2000), emphasized that corruption is an outcome of the government's negative interference.

The countries that face corruption tend to increase gradually economically because corruption reduces the salaries of the deprived, decreases poor public spending and promotes capital manufacturing which leads to unemployment (Ndikumana, 2006). Saleem et al. (2019) recognized, a decrease in foreign and domestic investments and inflation due to corruption. Information and Communication Technology can help in the reduction of corruption. Charoensukmongkol and Moqbel (2014) stated that there were found to be both positive andnegative impacts of

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corruption on Information and Communication Technology. ICT could help in increasing transparency and reducing corruption (Kanyam et al., 2017), in a manner that mobile phones could be used as a tool to promote social awareness against corruption.

Methodology

Data Collection

To determine the economic factors responsible for corruption this study used the time series from 1998 to 2022 of Pakistan. This study utilizes a secondary source of data for its quantitative analysis. The sources of data include from State Bank of Pakistan's Publication,Financial Yearbook Statics FBS, World Development Indicators,Transparency InternationalCorruption Index and InternationalMonetary Fund reports.

Data Analysis

In this study Augment Dicker Fuller test, and the Tobit Model testare used to determine the factors. The dependent variable corruptiondata was taken from the Corruption Perception Index (CPI), and inflation data was taken from theWorld Development Indicator (WDI).The index data score ranges from 0 to 100 which means a country close to 0 means more corrupt and a country close to 100 means less corrupt.

Statistical Analysis

The descriptive analysis is used to estimate the max and min range of variation between the variables, the variables used in this study are Gross Domestic Product per capita (GDP), Literacy rate (EDU), Inflation (INF), and Investments (FDI). The GDP per capita is used as an economic growth and development proxy inthe country.

Statistical Tool

The data has been examined using statistical EViews 12 was used, since the study is based on

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the quantitative approach, theresearch will be concluded.

Results and Analysis

Descriptive Statistics

The descriptive analysis shows the maximum and minimum values of all variables. Table 1 shows the details regarding all the values of mean, median, maximum, minimum and Skewness Kurtosisvalue. The value of Kurtosisindicates that GDP, EDU and INF are short-tailed with a value less than 3, and FDI with a valuegreater than 3 is a long-tailed short tail with a value greater than 3.

Table 1. Descriptive Statistical Analysis

Test	GDP	EDU	INF	FDI
Mean	0.0562	0.5261	0.0816	0.0107
Median	0.0609	0.5538	0.0744	0.0074
Maximum	0.263	0.623	0.2029	0.0367
Minimum	-0.1133	0.427	0.0253	0.0036
Standard Deviation	0.0880	0.0677	0.0096	0.0018
Skewness	0.1449	-0.6106	1.1681	2.0023
Kurtosis	0.0030	-1.1999	1.2190	3.0682
Confidence interval (95%)	0.0363	0.02795	0.0198	0.0037

Augmented Dicker Fuller Test

To check if the variables are stationary or not, the Unit Root Test must be applied. This requires time series data to check if the time series data have a stationary trend. The Augmented Dicker Fuller Unit Root test was applied by Granger et al. (2001) to test the stationary data of time series. Table 2 shows the Unit Root test of time series data.

Table 2. Unit Root test of time series data

	At Level		First Order Difference	
Variables	**ADF test**	**p-value**	**ADF test**	**p-value**
CPI	2.522018	0.020753	2.522018	0.020753
GDP	0.742595	0.46681	4.718022	0.000131
EDU	4.102639	0.00006	4.102639	0.00006
INF	0.869172	0.395601	2.534205	0.019735
FDI	-1.40177	0.177109	2.001345	0.059109

Critical values:
*1%= -3.67
**5%=-2.97
***10%=-2.62

The table shows the results from

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the Unit Root Test and indicates that the null hypothesis is rejected for the variables having a
p-value less than a significance level of 0.05. which shows that GDP, INF and FDI with a p-value >0.05are non-stationary at level but they are stationary after first order difference while EDU with a p-value
<0.05 is at a stationary level. Thus, accepting the null hypothesis for GDP, EDU, INF and FDI.

ARDL Approach

For cointegration analysis, the ARDL approach is considered. Due to its flexibility, this model can be applied in the case of variability in integration. The ARDL model is applied to stationary and non- stationary variables in this study. The results show the cointegration between CPI and GDP, EDU, INF and FDI. The value of the ADF test is greater than the critical value showing the stationarity of the variables. It also indicated that the variables have a long-run relationship, which means that a small deviation in the short run will lead to equilibrium in the long run.

Table 3. The results of the bound test

GDP, EDU, INF, FDI	2	18.75
Significance	I(0)	I(1) Bound

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10%	1.95	3.06
5%	2.22	3.39
2.5%	2.48	3.70
1%	2.79	4.10

In this approach with lagged variables, all the equations were estimated through OLS and joint significance tests. Table 3 shows the results of the bound test. Lower and Upper critical bound values are taken from Pesaran et al. (2001) who have given the critical values with significance level. The two assumptions were taken into consideration in this study first thatthe variables are integrated in order I (0) zero and second that the variables are integrated in order ofI (1). Between the variables CPI, GDP, EDU, INF and FDI, there is no cointegration which means that the null hypothesis is rejected.

Within the time frame of 1998-2021, this study analyzes how rising GDP affects corruption levels in Pakistan. We utilized time-series data models to examine this association

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Dependent Variables Discussion

This research was conducted to analyze the effect of variables that are macro-level on corruption in Pakistan within the time frame of1998 to 2022, which is a global issue in economic development. For this time-series data model was used which includes the Augmented Dicker Fuller test and ARDL test. To analyze the variable's impact on corruption, this study used four independent variables which include Gross Domestic Product (GDP), Literacy rate (EDU), Inflation (INF), and Foreign Direct Investment (FDI).

In this study, it was concluded that GDP as well as economic integration have a negative effect on corruption. This result was similar to the study conducted by Parkash et al. (2022), which stated that when corruption increases, it will decrease the GDP of the country. Most economists like Sandholtz (2000) and Sandholtz and Gray (2003), used import and export as a combination in GDP when finding economic integration.

According to the results, inflation was found to be positively affecting corruption in Pakistan. This was consistent with the study carried out by Zeeshan et al. (2022), which states that corruption badly affects the economy and increases inflation. The secondary school enrolment was taken as a proxy of the literacy rate, and found to have an important factor responsible for corruption in Pakistan. This can be taken as, the lack of knowledge in terms of religion, laws and regulations automatically creating an environment which leads to corruption. The data on education used to analyze the relationship between corruption and theliteracy rate was also studied by Ades and Di Tella (1999). Our study found that the literacy rate has a negative impact on corruption. The results of this study wereinconsistent with the findings of Nizam (2022), which state that when the literacy rate decreases, itincreases corruption.

Extensive literature is available that studies the relationship between corruption and investments. Foreign Direct Investments are used in this study to determine the relationship

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between corruption and investment in Pakistan. This study found that investment has a negative impact on corruption, the results of this study were similar to the results of Tanzi (1998), which states that investment in a country that is corrupt is not suitable.

With the help of two reasons, the above result was concluded, first was the shortage of data and the second was the defilement spikes in monetary venture. Among the institutions and government, the legal crimes by the white collars show the corrupt performance of Pakistan. The current situation in Pakistan is proof of corruption, which is an alarming condition.

The results of this study will help the policymakers in future as it proposes the strengthening of the education sector, control of the inflation rate and stability in economic integration to address the corruption in the country. In from last few years, there is slow economic growth, trade deficit, lack of foreign direct investments and balance of payment deficit have been observed in Pakistan. For the improvement of corruption, Pakistan must adopt such policies that could help in controlling inflation, For the economic growth and development of the country, government intervention is necessary. For the long economic growth of the country, the anti- corruption agencies should play an important role. To decrease the corruption, the improvement in the institutional mechanism is necessary. For the reduction of rent-seeking behavior and to increase the competition Privatization and trade liberalization should be adopted in Pakistan.

Conclusion

Corruption is seen as the major agenda of the governments with the development goal, in the achievement of declared Millennium Development Goals. This study has investigated the corruption and its impact on the society and country. Corruption is considered a social issue because it deeply affects the growth of the economy. Due to the lack of the availability of the data, it is difficult to quantify corruption. The work which has been carried out was either in the domain of political science or criminology, has failed to uncover the reasons for corruption.

The contribution of this study

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is to provide insight into the corruption in Pakistan. Which found that GDP, Literacy rate and Economic integration have a positive influence on the corruption in Pakistan. The estimated result shows that education level and inflation are significant economic determinants of corruption. While GDP per capita and Investment are non-significant determinants of corruption in Pakistan. In deflating growth and supporting the demand for institutional reforms, the role of corruption was identified by this study.

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