DOI: 10.17747/2618-947X-2022-2-129-133

Causality dynamics of corruption and economic growth in an emerging economy

B.W. Mazviona[1]

[1] National University of Science and Technology (Bulawayo, Zimbabwe)

Abstract

Leveraging on the Ibrahim Index of African Governance (IIAG) and economic growth rate data from the World Bank (WB), this study employs a robust VAR time series methodology in delineating the relationship between corruption and economic growth in Zimbabwe. Noting the worsening corruption levels coupled with a grim economic performance, this study informs policy for the new political administration keen to fight corruption. The study affirms a unidirectional causality flowing from corruption to economic growth and a negative impulse response. To increase the fortunes of the economy in the future, current action to 'stop' corruption is obligatory.

Kewords: Ibrahim Index of African Governance (IIAG), corruption, economic growth, robust VAR, Zimbabwe.

For citation:

Mazviona B.W. (2022). Causality dynamics of corruption and economic growth in an emerging economy. *Strategic Decisions and Risk Management,* 13(2): 129-133. DOI: 10.17747/2618-947X-2022-2-129-133.

Introduction

The Ibrahim Index of African Governance (IIAG)[1] of 2017 shows that though governance slightly improved in Zimbabwe, it remains in the lower echelons of the African governance rankings (40 out of 54 at an overall score of 45.4)[2]. Zimbabwe's 2017 IIAG overall score is below the African average of 50.8 as well as the average for Southern Africa of 58.6 (IIAG 2018)[3]. The Corruption Perception Index (CPI) for Zimbabwe also worsened amongst a number of Southern African countries. Zimbabwe's CPI in 2000 was at 30 and in 2017 it was at 22. For the period 2015–2016, Zimbabwe slipped on its CPI rankings from 150 to 154 The (Open Society Initiative for Southern Africa (OSISA), 2017) showing the grossness of the corruption scourge in the country. But how has corruption manifested in Zimbabwe?

As if in confirmation of the worsening corruption measures, recently the local[4] and foreign[5] media has been awash with re-

[1] The index gauges the extent and trend of governance in Africa making use of four key components: safety and rule of law; participation and human rights; sustainable economic opportunity and human development. Corruption undermines good governance [Measuring corruption in Africa.., 2016], thus the IIAG reflects on the level of corruption through monitoring governance trends.

[2] The higher the IIAG index, the lower the incidence of corruption. The same interpretation applies to the CPI.

[3] http://iiag.online/.

[4] Newsday, 9 May, 2018; The Chronicle, 28th April, 2018; The Herald 20 April, 2018.

[5] BBC 20 April, 2018; eNCA 7 May, 2018; Aljazeera 20 April, 2018.

ports of the former president being invited to answer to a parliamentary portfolio committee on the missing $ 15 billion diamond revenue (The Chronicle, 28th April 2018)[6]. Massive bribe soliciting has been linked to Zimbabwe Republic Police (ZRP) and the Vehicle Inspection Department (VID); bogus tenders in the power utility - Zimbabwe Electricity Supply Authority (ZESA); import duty-related corruption involving Zimbabwe Revenue Authority (ZIMRA) employees and officials; shadowy deals around the acquisition of new planes by Air Zimbabwe and the Ministry of Transport; abuse of toll-gate revenues by high-ranked politicians at Zimbabwe National Roads Administration (ZINARA) are amongst a plethora of widespread cases of corruption. Writing about Zimbabwe, [Tizor, 2009] notes that, "corruption has become an accepted and almost expected way of doing business especially in the public sector."

Against this background, the economy since 2000 has gone through a rutted transition and continues to be in the abyss. Despite the sound recovery of the economy from the negative growth rate experienced during the hyper-inflationary period, the exceptional growth registered during the Government of National Unity (GNU)[7] slumped after the 2013 elections. From a growth rate of 13.6% in 2012, growth fell to 5.3% in 2013 and even slipped further to 1.4% in 2015 [Economic partnership agreement.., 2016]. In a country whose national budget falls below $ 4.5 billion and manages to lose $ 15 billion diamond revenue, as well as towering unemployment and grim poverty levels, questioning the link between corruption and economic growth is an obligation. Growth remains relevant in the fight against poverty and inequality. Growth is a cog relevant in reversing the poverty dent on societies as backed by a multiplicity of empirical work [Dollar, Kray 2002; Fosu 2011; 2014; Abdelaziz, Helmi, 2017]. This explains the perennial desire to grow economies by various governments. Despite these known benefits of economic growth, Zimbabwe's economy continues to miss the Regional Indicative Strategic Development Plan (RISDP) benchmark of 7% per annum.

Taking a wealth maximization cue from corporate finance, governments exists to serve the people and as such, just like a company, should seek to maximise the welfare of the shareholders who are the electorate. The welfare of a nation is measured by the gross domestic product (GDP) per capita and therefore increasing output of a nation and fully maximising a country's resources is a key government's responsibility. In recognition of the same and acknowledging the worsening corruption in Zimbabwe, it is government's role to remove obstacles (corruption) to economic growth. Aggravated corruption is worrying especially for Zimbabwe which recently came out of nearly four decades of autocracy. In the new dispensation since November 2017, the Government of Zimbabwe was presented with a mammoth task of correcting the previous and current inefficiencies which derail economic growth. It is against this status quo that we seek to establish scientifically (through unit root tests, Granger causality tests, vector autoregressive (VAR) model and impulse response function) the relationship between corruption and economic growth in Zimbabwe and provide recommendations to the new administration. Our methodology accommodates the possibility of economic growth generating more resources to fight corruption thereby allowing for quizzing whether weak growth cultivate corruption too. With the government selling the 'Zimbabwe is open for business' mantra – laying bare the 'greasing' or 'sanding' effect of corruption is plausible as the Government of Zimbabwe has set institutions and laws to fight corruption.

1. Literature review

Whereas a burgeoning expanse of empirical work debated whether corruption 'greases' or 'sands' economic growth [Wei, 2001; Pierre-Guillaume, Khalid, 2005; Mayo, 2013; Linhartova, Zidova, 2016], the subject remains relevant for a number of developing countries facing erratic growth in the face of worsening corruption. By engaging in corruption, economic agents can circumvent trade-stifling regulations – unlocking colossal business deals unavailable under restrictive regulations thereby 'greasing' economic growth [Méon, Weill, 2010]. The 'sanding' hypothesis concedes the 'cost of corruption' in relation to "reduced domestic and foreign investment, increased cost of production, misallocation of national resources, higher inequality and poverty, uncertainty in decision making" [Wright, Craigwell, 2012].

Although prior studies acknowledge the schism and lack of equi-finality on the 'greasing' and 'sanding' debate [Mironov, 2005; Chiam, 2015; Nyoni, 2017; Ondo, 2017], a leading strand of recent evidence from developing countries buttresses the growing need to arrest corruption if economic fortunes are to be unleashed [Mikaelsson, Sall, 2015; Teymurov, 2016; Wang, 2016; Boussalham, 2018]. Startling empirics by [Lambsdorff, w.y] show that "an increase in corruption by one point on a scale from 10 (highly clean) to 0 (highly corrupt) lowers productivity by 4 per cent of GDP and decreases net annual capital inflows by 0.5 per cent of GDP." The compromised rule of law and governance evident of corrupt-ridden economies explain the contraction of capital inflows (foreign direct investment) – scattering investment, capital formation and growth. On the contrary, [Wright, Craigwell, 2012] noted that, "an improvement with regard to corruption by 6 points of the Transparency International Corruption Perceptions Index – for example, Tanzania improving to the level of the United Kingdom – increases GDP by more than 20 per cent and increases net annual capital inflows by 3 per cent of GDP." Notably, reducing corruption edifies growth but, how does corruption afflict growth?

Gross haemorrhage of investment funds through illicit financial flows (IFFs)[8], diversion and misappropriation of ear-marked development funds explains deficient investment and growth in corrupt countries [Measuring corruption in Africa.., 2016][9]. Whereas Africa received ODA totalling $ 1 trillion over the past 50 years, Africa also lost nearly the same amount in IFFs. It is on record that $ 50 billion is lost from Africa annually through IFFs though this estimate might be an understatement given the shadowy nature of IFFs[10]. Accounting for its share of IFFs, Zimbabwe lost $ 12 billion through IFFs and smuggling from 1980–2000 [Global financial integrity, 2017]. Also, between 2005 and

[6] http://www.chronicle.co.zw/robert-mugabe-called-to-testify-in-15-billion-diamonds-probe/.
[7] 2009–2013.
[8] Most IFFs are underhand and corruption-induced movement of funds meant to conceal the source of such funds.
[9] Corruption coupled with poor growth has taken a toll on the welfare of citizens given the grim effect of corruption on the poor, aggravated inequalities, worsening social services and pitiable governance culture.
[10] Impliedly, without the loss of resources through IFFs Africa could fund her investment and growth.

2015 a staggering $ 15 billion diamond revenue was lost – an amount nearly matching four times the annual national budget of slightly above $ 4 billion. In this realm, un-capitalized infrastructure investments as well as Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZIMASSET[11]) could have been financed effortlessly. Acknowledging the various facets of corruption and the effect of the same on governance, investment, politics, service delivery and public finance management, the toll of corruption on economic growth is imminent. But, what has research shown on the relationship between corruption and economic growth, especially for developing countries and Zimbabwe alike?

Though tainted by an estimation technique with a feeble explanatory power[12], [Teymurov, 2016] quizzed the relationship between corruption, FDI and economic growth and concluded that corruption repels FDI and since economic growth is dependent on capital (FDI), it is in turn undercut by corruption[13]. Without assuming a quantitative approach, [Bonga et al., 2015] focused on the economic and social impact of corruption in Zimbabwe and suggested the "return to the teaching of moral education to empower children with the spirit of stewardship, while adults live exemplary lives, reflecting truth, kindness, dignity of labour, and integrity" as a way of suppressing corruption. A decade ago, [Ngulube, 2007] explored the impact of corruption on economic growth in SADC and recommended a "holistic approach" in redefining governance if corruption afflicted countries are to experience growth. Noting the effort to describe the roles of different stakeholders in fighting corruption in Zimbabwe [Moyo, 2014], this study making use of a robust time series methodology capitalizing on both CPI and IIAG delineates the nexus between corruption and economic growth in Zimbabwe. The current effort seeks to chlorinate a non-quantitative study[14] which hailed the incidence of corruption in Zimbabwe describing it as "a blessing in disguise" [Nyoni, Bonga, 2017].

Theory and practise presumes that corruption 'causes' economic growth given the damaging effect of corruption on key variables (governance, rule of law, business confidence and investment) shaping economic growth. [Wright, Craigwell, 2012] provide an alternative facet of this relationship observing that the level of economic growth might explain the extent of corruption (reverse causality). Economic growth may provide extra financial resources instrumental in fighting corruption whereas erratic and poor economic growth might deprive the state of the necessary resources to curb corruption. By allowing for the testing of the direction of causality, this study presents a mature introspection into this relationship. In pursuit of the same, the next section details the data sources as well as the methodology assumed.

2. Data and methodology

We model economic growth (EG) using the Gross Domestic Product (GDP) at local currency. Corruption (COR) is measured using the IIAG. The corruption index for IIAG is denoted COR. The series for IIAG covers the period 2000 to 2016. The GDP series consistently covers similar period as the IIAG series and was obtained from World Bank. To accentuate the causality and impact of EG and COR we specify their respective adapted definitions from [Barro, 2003] as follows:

$$EG_t = \ln\left(\frac{GDP_t}{GDP_{t-1}}\right)$$

$$COR_t = \ln\left(\frac{IIAG_t}{IIAG_{t-1}}\right),$$

where t and t-1 is the time denoting current and previous year respectively, In – is the natural logarithm.

We adopt econometric methods namely The Augmented-Dickey-Fuller (ADF) test for unit root, lag selection test, Granger causality, unrestricted vector autoregressive (VAR) model, and impulse-response tests to determine the short run association between EG_t and COR_t. EViews 10 software was used for the data analysis.

3. Empirical results

The Augmented Dickey Fuller test was used to test for unit root of the logarithm series of IIAG and GDP. The null hypothesis is that the series under consideration is non-stationary or has unit root. A stationary series implies a constant probability distribution over time making statistical inference easy to be conducted.

Table 1
Augmented Dickey Fuller test

Logarithm series	p-value	Order	Comment
IIAG	0.0032*	I(1)	Stationary
GDP	0.0311*	I(1)	Stationary

* Significant at 5% level of significance.

Findings from Augmented Dickey Fuller test in table 1 highlights that the logarithm series of IIAG and GDP has no unit root after the first differencing. Probability values of the series are both less than 5% level of significance and therefore the null hypothesis of unit root is rejected.

Our interest in this study is the short run dynamics of economic growth and corruption. We use Granger causality test to investigate whether a directional relationship exists between economic growth and corruption.

Table 2
Granger causality test

Null hypothesis	F-statistic	*p*-value
COR does not Granger cause EG	5.52330	0.0170*
EG does not Granger cause COR	1.87283	0.2089

* Significant at 5% level of significance.

We find that corruption does Granger cause economic growth since the p-value is 0.0170, which is less than the 5% level of significance. However, we fail to reject the null hypothesis that economic growth does not Granger cause corruption. Our results

[11] An Zimbabwean economic transformation blueprint which suffered a still birth owing to the lack of the requisite $ 27 billion funding.
[12] The R^2 and the Adjusted R2 was a paltry 30%.
[13] The study was based on a panel of 40 countries (Zimbabwe included) drawn from across the world.
[14] This is against Wright and Craigwel (2012) who proclaimed that "the causal pattern between corruption and economic growth cannot be determined theoretically and one must undertake an empirical analysis to resolve this issue."

reveal that there is only one directional relationship from corruption to economic growth debunking the possibility of reverse causality inked by [Wright, Craigwell, 2012]. We therefore proceed to select the lag order of a vector autoregressive (VAR) model using the Akaike information criteria (AIC). The lag order is crucial because few lags will result in our statistical inferences failing to capture all the information whereas large lags result in unbiased estimated coefficients [Stock, Watson, 2015]. The lag chosen is one which corresponds to a low AIC value. A lag of order one was chosen for the VAR model and the associated AIC value is -1.582372 as presented in Table 3.

Table 3
VAR test results with economic growth as the dependent variable

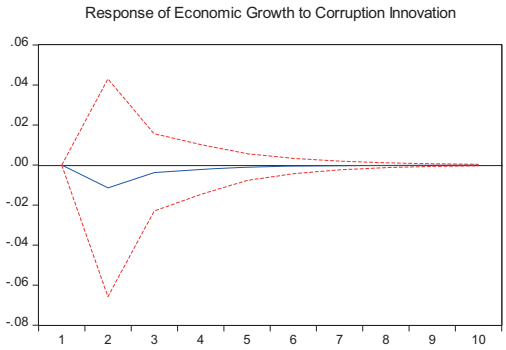
	EG
EG (-1)	0.585182
COR (-1)	-0.413558*
AIC	-1.582372
R^2	0.247967

* Significant at 5% level of significance.

Statistical inference results in table 3 with economic growth as the dependent variable indicates that past corruption significantly and negatively affects economic growth because of a negative significant beta coefficient value of -0.413558. Corruption contributes nearly 25% of variation in economic growth as reported by the *R*-square, further amplifying the corruption-growth relationship identified earlier. Our findings are consistent with policy-oriented theory of corruption which suggest that corruption "bruises" an economy and hampers its growth [Odi, 2014]. The responsiveness of the economy on account of the incidence of corruption is captured by the impulse response (fig. 1).

The impulse response function in fig. 1 shows that economic growth responds negatively to a shock in corruption. Findings in fig. 1 buttress the point illustrated by the VAR results that past corruption negatively affect economic growth. The corruption shock fades away after approximately 5 years implying that past corruption incidences continue to afflict the economy in the short run (5 years). The empirical results are in line with [United Nations.., 2001] which assert that misallocation of resources in the past (which stifle investment and scare away investors) reduces economic fortunes of a country [Mo, 2001] highlights the drivers of corruption shocks as bureaucratic inefficiencies in institutions and lack of a strong legislation and judicial systems. With regards Zimbabwe, past corruption-induced inefficiencies has negative effects on economic growth into the future (short run).

Fig. 1. Impulse response function



4. Conclusions and recommendations

We purposely sought to empirically establish the relationship between corruption and economic growth. The study employed time series econometric methods based on IIAG and GDP data for the period 2000-2016. A robust VAR model shows that corruption negatively affects economic growth in Zimbabwe and it runs from corruption to economic growth. The study also cements that past corruption incidences got a negative effect on economic growth in the short run. This implies that for the economy to recover in the future, current action to nip corruption is an obligation. The economy today therefore is suffering from corruption committed in the past thus the government of the day must take sweeping measures to arrest corruption to enhance economic fortunes in the future. In that realm, alleged political interference in government institutions must be investigated same as the gross embezzlement of state resources by public office bearers. Furthermore, adhering to international best practises in governance and non-politicization of the anti-graft institution go a long way in cleansing the economy of the widespread corruption – setting the stage for the rebound of the economy.

References

Abdelaziz H., Helmi H. (2017). Does corruption limit FDI and economic growth? Evidence from MENA countries. *International Journal of Emerging Markets,* 12(3): 550-571. https://doi.org/10.1108/IJoEM-06-2015-0118.

Barro R.J. (2003). Determinants of economic growth in a panel of countries. *Annals of Economics and Finance,* 4: 231-274.

Bonga W.G., Chiminya J., Mudzingiri C. (2015). An explanatory analysis of the economic and social impact of corruption in Zimbabwe. *IOSR Journal of Economics and Finance (IOSR-JEF),* 6(1): 11-20. https://ssrn.com/abstract=2399560.

Boussalham H. (2018). *The consequences of corruption on economic growth in Mediterranean countries: Evidence from panel data analysis*. Preprints, 2018020065. DOI: 10.20944/preprints201802.0065.v1.

Chiam C.C. (2015). Empirical studies: Corruption and economic growth. *American Journal of Economics*, 5(2): 183-188. DOI: 10.5923/c.economics.201501.22.

Dollar D., Kraay A. (2002). Growth is good for the poor. *Journal of Economic Growth,* 7(3): 195-225. http://dx.doi.org/10.1023/A:1020139631000.

Economic partnership agreement (EPA) between the SADC EPA States, of the one Part and the European Union and its Member States, of the other Part (SADC-EU EPA) (2016). SADC. Government Gazette No. R.1290. (NO. 1015). 2016. Oct. 21. https://www.sars.gov.za/legal-counsel/international-treaties-agreements/trade-agreements/sadc-eu-epa/.

Fosu A.K. (2011). Growth, inequality, and poverty reduction in developing countries. *Working Paper No. 2011/01, UNU-WIDER.*

Fosu A.K. (2014). Does inequality constrain poverty reduction programs? Evidence from Africa. *Journal of Policy Modeling,* 32(6): 818-827. http://dx.doi.org/10.1016/j.jpolmod.2010.08.007.

Global financial integrity (2017). *Illicit financial flows to and from developing countries: 2005-2014.* http://www.gfintegrity.org/wp-content/uploads/2017/05/GFI-IFF-Report-2017_final.pdf.

Lambsdorff J.G. (w.y). *How corruption affects economic development.* http://www.wiwi.uni-passau.de/fileadmin/dokumente/lehrstuehle/lambsdorff/Papers/C_Development.pdf/

Linhartova V., Zidova E. (2016). Corruption as an obstacle to economic growth of national economies. *18th International Scientific Conference on Economic and Social Development "Building Resilient Society"*. Zagreb, Croatia, December, 9-10.

Mayo R.L. (2013). *Does bribery grease the wheels of economic growth?* George Mason University. https://robertmayo.files.wordpress.com/2014/03/does-bribery-grease-the-wheels-of-economic-growth.pdf.

Measuring corruption in Africa: The international dimensions matter (2016). ECA, African Governance report IV 2016. Addis Ababa, UNECA.

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

Mikaelsson A., Sall S. (2015). *Does corruption have a significant effect on economic growth?* An empirical analysis examining the relationship between corruption and economic growth in developing countries. Bachelor Thesis, Soderton University.

Mo P.H. (2001). Corruption and economic growth. *Journal of Comparative Economics,* 29: 66-79.

Mironov M. (2005). *Bad corruption, good corruption and growth.* University of Chicago, Chicago. http://www.ipgrip.com/mironov/research/corruption.pdf.

Moyo S. (2014). *Corruption in Zimbabwe: An examination of the roles of the state and civil society in combating corruption.* PhD Thesis, University of Central Lancashire. http://clok.uclan.ac.uk/10965/1/Moyo%20Stephen%20Final%20e-Thesis%20%28Master%20Copy%29.pdf/.

Ngulube S. (2007). *Examining the impact of corruption on economic growth in Southern Africa development community.* http://unpan1.un.org/intradoc/groups/public/documents/idep/unpan026134.pdf.

Nyoni T. (2017). The curse of corruption in Zimbabwe. *International Journal of Advanced Research and Publications,* 1(5). ISSN: 2456-9992.

Nyoni T., Bonga W.G. (2017). An empiricalanalysis of the determinants of private investment in Zimbabwe. *Dynamic Research Journals Journal of Economics and Finance*, 2(4): 38-54.

Odi N. (2014). Impact of corruption on economic growth in Nigeria. *Mediterranean Journal of Social Sciences*, 5(6): 41-46.

Ondo A. (2017). Corruption and economic growth: The case of EMCCA. *Theoretical Economics Letters,* 7(5).

Pierre-Guillaume M., Khalid S. (2005). Does corruption grease or sand the wheels of growth? *Public Choice,* 122(1): 69-97. DOI: 10.1007/s11127-005-3988-0.

Stock J.H., Watson M.W. (2015). *Introduction to econometrics.* Harlow, Pearson Educated Limited.

Teymurov E. (2016). *Corruption, FDI and economic growth.* Master thesis. Rotterdam, Erasmus School of Economics, Erasmus University.

Tizor R.E. (2009). *Bureaucratic corruption in Zimbabwe.* Unpublished Thesis University of Oslo.

United Nations Global Programme against corruption (2001). *Anti-Corruption Toolkit.* www.odcep.org/pdf/crime/toolkit/fitof7.pdf.

Wang L. (2016). The impacts of anti-corruption on economic growth in China. *Modern Economy,* 7(2). DOI: 10.4236/me.2016.72013.

Wei Sh.-J. (2001). *Corruption in economic transition and development: Grease or sand?* Draft for the UNECE Spring Seminar in Geneva on May 7, 2001.

Wright A., Craigwell R. (2012). Economic growth, foreign direct investment and corruption in developed and developing countries. *Journal of Economic Studies,* 39(6): 639-652.

About the author

Batsirai Winmore Mazviona
National University of Science and Technology (Bulawayo, Zimbabwe).
winmoreb@gmail.com

The article was submitted on 28.04.2022; revised on 21.05.2022 and accepted for publication on 30.05.2022. The author read and approved the final version of the manuscript.