Interaction of corruption, governance, institutional quality and underground economy in Nigeria

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Abstract

The underground economy is a pervasive feature of countries throughout the world. This paper aims to investigate to what extent corruption, governance and quality of institutions influenced the underground economy in Nigeria from 1996 to 2020. The technique of analysis is the generalised method of moments, which is a statistical method that combines observed economic data with the information in population moment conditions to produce estimates of the unknown parameters of an economic model. It was generally observed that when all the control variables were introduced, institutional quality (INST) and unjust distribution of income (GIN) continued to show a positive and significant relationship with the underground economy. As such, this paper recommends that Nigeria’s government strengthen its institutional environment and apply a combination of fiscal policy and labour and financial market reforms to reduce economic inequality.

Keywords: Corruption, generalised method of moments (GMM), governance, Nigeria, underground economy;

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1. Introduction

The underground economy refers to economic transactions that are deemed illegal, either because the goods or services traded are unlawful or because transactions fail to comply with governmental reporting requirements (Bloomenthal, 2019). Alternatively referred to as the shadow economy, the black market, or the informal economy, the underground economy in Nigeria is about 59.5% of the nation’s economy, according to a survey by Schneider (2007). This value of the underground economy has shown no sign of abating, as more current data by the International Monetary Fund (Moses, 2019) indicates that it has only marginally reduced to 56.67% in 2015.

For several years, policy efforts by the government to encourage businesses in the underground economy to transition to the formal economy over the years have yielded very little fruit due to several reasons including prohibitive taxes, bureaucratic bottlenecks and, of course, the dire problem of endemic corruption (Moses, 2019). Corruption is a serious global issue. Governments, policymakers global institutions and academics are fascinatingly concerned about the effect of corruption practices on economic development and enabling the business environment (Awasthi & Bayraktar, 2015; Dutta and Sobel, 2016; Xie et al., 2017).

1.1. Related studies

The relationship between corruption and the institutional arrangements of countries seems to be well documented and obvious. Indeed, Beuhn and Schneider (2012) found that corruption, which is generally defined as the abuse of public power for private gain, reflects a deficiency in political and administrative systems and its persistence is linked to the failure of the judicial system and rules of law. Thus, the existence of corruption implies a weakness in governance in general (Worimegbe, 2020). In this sense, one can agree with Shleifer and Vishny (1993) that corruption reflects the lack of effectiveness of governance and even alters this effectiveness.

Several authors, including Johnson et al. (1997), Friedman et al. (2000), Djankov et al. (2002) and Dreher and Schneider (2010), highlighted the idea that corruption and the underground economy are complementary. Several studies highlighted the role of the quality of institutional settings in explaining the informal economy (Chowdhury, 2005; Dreher et al. 2009; Torgler & Schneider, 2009). Similarly, several scholars have examined the governance and informal economy nexus (Abed & Gupta, 2002; Hossein et al. 2007; Kus, 2010).

Although the interest in determining the causes of the underground economy and other illegal activities has strongly increased in recent years (using cross-country data, cross-sectional data and panel analysis), the causes of the underground economy are still an undeveloped area of research (especially using within-country data). Notwithstanding, the empirical evidence on the underground economy is still very scanty in Nigeria (Ariyo & Bekoe 2012; Elijah & Uffort, 2007; Ihendinihu 2013; Ihendinihu & Ochonma 2010; Nmesirionye & Ihendinihu, 2016; Ogbuabor & Malaolu, 2013), and that justifies the need to focus on the country and to take account of the country specifics.

1.2. Purpose of the study

Nonetheless, this paper explores the interaction of corruption, quality of institutions, governance and underground economy in Nigeria empirically. This paper focuses not just on corruption alone but investigates to what extent governance and the quality of institutions affect the underground economy in Nigeria.
2. Materials and methods

To examine the interaction of corruption, quality of institutions, governance and the underground economy in Nigeria, the underground economy as a percent of total annual GDP (UND) was used as a dependent variable. Concerning corruption, the Transparency International corruption perceptions index (COR) was used as an indicator of perceptions of public sector corruption, i.e., administrative and political corruption. The indicator values are determined by using information from surveys and assessments of corruption, collected by a variety of reputable institutions.

Three indicators were used to capture institutional quality, which depicts the level of law enforcement to curb corruptive practices of public official: i) regulatory quality (RQ) – perceptions of the ability of the government to formulate and implement sound policies and regulations that permits and promotes private sector development. ii) Rule of law (RL) – perceptions of the extent to which agents have confidence in and abide by the rules of society and, in particular, the quality of contract enforcement, property rights, the police and the courts, as well as the likelihood of crime and violence. iii) Control of corruption (CC) – 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. To capture institutional quality, principal component analysis was used to condense these three indicators to form a composite index (INST).

Three indicators were used to capture governance, which is the government's ability to make and enforce rules and deliver services, regardless of whether that government is democratic or not (Fukuyama, 2013): i) voice and accountability (VA) – perceptions of the extent to which a country's citizens can participate in selecting their government, as well as freedom of expression, freedom of association and a free media. ii) Political stability and absence of violence (PS) – perceptions of the likelihood that the government will be destabilised or overthrown by unconstitutional or violent means, including politically motivated violence or terrorism. iii) Government effectiveness (GE) – perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation and the credibility of the government’s commitment to such policies. To capture institutional quality, the first component via principal component analysis of these three indicators was used to form a composite index (GOV).

In exploring the influence of corruption, quality of institutions and governance on the underground economy in Nigeria, control variables were introduced. The control variables encompass interest rates, unjust distribution of income, tax burden and unemployment, which are all economic causes of underground or shadow economy. The unjust distribution of income is proxied by the Gini coefficient (GINI), which is a measure of income inequality. The choice of this proxy is because increased income inequality causes greater conflict over income distributional issues. In addition, income inequality affects the behaviour of aggregate demand and influences the incentives of a firm to join the shadow economy. The unemployment rate (UNEM) refers to the share of the labour force that is without work but available for and seeking employment. The real interest rate (INT) is the lending interest rate adjusted for inflation as measured by the GDP deflator. The tax burden is the ratio of the taxes that are paid to the government in a particular term and the revenues that are earned in that same term. This is proxy by average tax revenue (ATAR).

1.3. Data collection

The data for these variables ranges from 1996 to 2020. The choice of this period is based on the availability of data. The underground economy as a percent of total annual GDP was collected from the
global economy. The CountryEconomy.com website and theglobaleconomy.com website collected the data for the Transparency International corruption perception index. World Bank Governance Indicators created institutional quality and governance indices. These indices were collected from the globaleconomy.com website.

1.4. Data analysis

1.4.1. Model specification

The models in this paper were specified to suit the country-specific nature, the peculiarity of this study and to examine the interaction of corruption, quality of institutions, governance and underground economy in Nigeria. The model is stated as follows:

\[ \bar{Y}_t = \bar{\alpha}_0 + \bar{\alpha}_3 \bar{R}_t + \bar{\alpha}_2 \Phi_t + \bar{\alpha}_3 \bar{H} + \mu_t \]  

where \( \bar{Y}_t \) represents underground economy as percent of total annual GDP (UND) at time \( t \); \( \bar{R} \) stands for corruption (COR) proxy by corruption perceptions index; and \( \bar{H} \) is a vector of institutional quality. The variables include RL, RQ and CC; similarly, \( \Phi \) represents a vector that captures governance. The variables include VA, PS and GE; \( \bar{H} \) is a set of control variables that include real interest rates (INT), unjust distribution of income (GIN), tax burden (ATAR) and unemployment (UEM); \( \mu \) is an error term; and \( \bar{\alpha} \) is the unknown coefficient of variable.

The technique of analysis is the generalised method of moments (GMM) which is a statistical method that combines observed economic data with the information in population moment conditions to produce estimates of the unknown parameters of an economic model. Advantages of the GMM approach: all that is needed is a moment condition; no need to log-linearise anything; non-linearities are not a problem; robust to heteroscedasticity and distributional assumptions.

3. Results

Table 1 presents the descriptive statistics of variables used in the analysis. The sample size is 25. The result reveals that the mean values of the distribution for UND, COR, INST, GOV, GIN, ATAR, UNEM and INT are 54.26040, 20.64000, -1.78E-17, -3.55E-17, 45.37560, 2.099163, 13.06360 and 5.973600, respectively, while the median which is the centre of distribution less sensitive to outliers relative to the mean are 55.84000, 22.00000, -0.474127, -0.499038, 45.08000, 1.804233, 13.90000 and 7.200000, respectively. In the same order, the maximum values for the distribution include 65.11000, 28.00000, 3.226191, 3.563139, 56.00000, 4.502187, 23.90000 and -42.31000, respectively.

UND, COR and INT displayed negative skewness of -3.624306, -0.697855 and -1.562279, respectively, indicating that the left tail of their distribution is larger than the right (in a perfect normal distribution, the skewness is zero). In a perfect normal distribution, the kurtosis is zero. The descriptive statistics in Table 1 show that UND has a kurtosis of 17.00681, which is the highest among the data sets (Data sets with higher kurtosis have heavier tails than data sets with lower kurtosis. Kurtosis is a measure of whether the data points are heavy-tailed or light-tailed relative to a normal distribution).

<table>
<thead>
<tr>
<th>Variable</th>
<th>UND Mean</th>
<th>COR Mean</th>
<th>INST Median</th>
<th>GOV Median</th>
<th>GIN Mean</th>
<th>ATAR Median</th>
<th>UNEM Mean</th>
<th>INT Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>55.84000</td>
<td>22.00000</td>
<td>-0.474127</td>
<td>-0.499038</td>
<td>45.08000</td>
<td>1.804233</td>
<td>13.90000</td>
<td>7.200000</td>
</tr>
<tr>
<td>Mean</td>
<td>54.26040</td>
<td>20.64000</td>
<td>-1.78E-17</td>
<td>-3.55E-17</td>
<td>45.37560</td>
<td>2.099163</td>
<td>13.06360</td>
<td>5.973600</td>
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</table>


<table>
<thead>
<tr>
<th>Minimum</th>
<th>6.000000</th>
<th>7.000000</th>
<th>-1.984161</th>
<th>-1.406596</th>
<th>35.10000</th>
<th>0.402533</th>
<th>2.900000</th>
<th>-42.31000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Std. dev.</td>
<td>10.86118</td>
<td>6.270832</td>
<td>1.498087</td>
<td>1.377623</td>
<td>5.793571</td>
<td>1.564311</td>
<td>5.945455</td>
<td>14.10801</td>
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<tr>
<td>Skewness</td>
<td>-3.624306</td>
<td>-0.697855</td>
<td>0.996090</td>
<td>1.295369</td>
<td>0.168832</td>
<td>0.428519</td>
<td>0.013503</td>
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<td>Kurtosis</td>
<td>17.00681</td>
<td>2.279982</td>
<td>3.040709</td>
<td>3.594304</td>
<td>2.301982</td>
<td>1.654787</td>
<td>1.890493</td>
<td>6.626535</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>259.0969</td>
<td>2.569198</td>
<td>4.135877</td>
<td>7.359499</td>
<td>0.626298</td>
<td>2.650117</td>
<td>1.283057</td>
<td>23.86939</td>
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<tr>
<td>Probability</td>
<td>0.000000</td>
<td>0.276761</td>
<td>0.126446</td>
<td>0.025229</td>
<td>0.731141</td>
<td>0.265787</td>
<td>0.526487</td>
<td>0.000007</td>
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<tr>
<td>Sum</td>
<td>1,356.510</td>
<td>516.0000</td>
<td>-2.22E-16</td>
<td>1.33E-15</td>
<td>1.134.390</td>
<td>52.47907</td>
<td>326.5900</td>
<td>149.3400</td>
</tr>
<tr>
<td>Sum sq. dev.</td>
<td>2,831.166</td>
<td>943.7600</td>
<td>53.86236</td>
<td>45.54830</td>
<td>805.5712</td>
<td>58.72962</td>
<td>848.3624</td>
<td>4,776.864</td>
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Source: Author’s computation using EViews 10 software.

Table 2. Simple correlations

<table>
<thead>
<tr>
<th></th>
<th>UND</th>
<th>COR</th>
<th>INST</th>
<th>GOV</th>
<th>GIN</th>
<th>ATAR</th>
<th>UNEM</th>
<th>INT</th>
</tr>
</thead>
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<tr>
<td>UND</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COR</td>
<td>-0.284</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INST</td>
<td>0.259</td>
<td>-0.741</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GOV</td>
<td>0.300</td>
<td>-0.689</td>
<td>0.465</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GIN</td>
<td>0.437</td>
<td>-0.412</td>
<td>0.175</td>
<td>0.563</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATAR</td>
<td>-0.190</td>
<td>0.134</td>
<td>-0.067</td>
<td>-0.347</td>
<td>-0.427</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNEM</td>
<td>0.071</td>
<td>0.248</td>
<td>-0.250</td>
<td>0.136</td>
<td>0.479</td>
<td>-0.582</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>INT</td>
<td>-0.005</td>
<td>0.063</td>
<td>0.079</td>
<td>0.036</td>
<td>-0.018</td>
<td>0.056</td>
<td>-0.108</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Author’s computation using EViews 10 software.

Simple correlations are reported in Table 2. Each cell shows the correlation between two specific variables. Some correlations have the expected signs while some do not. For instance, the correlation between UND and COR is -0.284, which indicates that they are weakly and negatively correlated; in other words, they are inversely related. This result is surprising. In the same manner, ATAR and UND, GIN and COR, ATAR and GOV, GIN and ATAR, and UNEM and INT all show a weak negative correlation.

A further look at Table 2 reveals that the correlation between COR and INST is -0.741, which indicates that they are strongly and negatively correlated. In the same vein, the correlation value of -0.689 depicts a strong inverted correlation of GOV and COR, while the correlation between ATAR and UNEM is negatively and moderately strong (-0.582). Still from Table 2, the correlation between GIN and UNEM is 0.479, which indicates that they are weakly positively correlated. Similarly, the correlation result shows a weak positive trend between UND versus INST, GOV versus UND, GIN versus UND, ATAR versus UNEM, UNEM versus COR, GIN versus INST, GOV versus INST, and GIN versus UNEM. However, there appears to be a moderately strong positive correlation between GOV and GIN as indicated by the correlation value of 0.563. The values for INT versus UND, INT versus COR, INT versus INST, INT versus GOV, INT versus GIN, and INT versus UNEM indicate that they are not correlated.

While the results of the simple correlation presented here are useful, an additional econometric approach is undertaken to assess the robustness of the correlations while controlling for other factors. The estimation results of the interaction of corruption, quality of institutions, governance and underground economy in Nigeria, using the GMM estimator is presented in Table 3. Similarly, the validation of the instrument is essential for the consistency of the GMM estimator. Cragg–Donald statistics, which is a generalisation of the F statistic (low values point to weak instruments), and Stock–
Yogo critical values were used to test for weak instruments. The null hypothesis being tested is that the estimator is weakly identified in the sense that it is subject to unacceptably large bias.

The critical values of the test are determined by the number of instruments, the number of included endogenous regressors and the size of estimator bias. The results presented in Table 1 show that Cragg–Donald statistics are above the Stock–Yogo TSLS 10% critical values (relative bias) and Stock-Yogo 15% critical values (size) in specification 1. In specification 2, Cragg–Donald statistics are above the Stock–Yogo TSLS 5% critical values (relative bias) and Stock-Yogo 15% critical values (size). Specification 3 reveals that Cragg–Donald statistics are above the Stock–Yogo TSLS 5% critical values (relative bias) and Stock–Yogo 15% critical values (size).

Cragg–Donald statistics are above the Stock–Yogo TSLS 5% critical values (relative bias) and Stock–Yogo 10% critical values (size) in specification 4. Specification 5 shows that Cragg–Donald statistics are above the Stock–Yogo TSLS 5% critical values (relative bias) and Stock–Yogo 10% critical values (size). In sum, regarding critical value (relative bias), Cragg–Donald statistics are above the Stock–Yogo TSLS 5% critical value in all four specifications, but above the Stock–Yogo TSLS 10% critical value only in specification 1. Concerning critical values (size), Cragg–Donald statistics are above the Stock–Yogo 15% critical values in specifications 1, 2 and 3, but above the Stock–Yogo 10% critical value in specifications 4 and 5. Overall, the weakness of instruments is rejected. Invariably, the indication in Table 1 is that the instrumental variables are relevant (strong) in each specification.

In exploring the influence of corruption, quality of institutions and governance on the underground economy in Nigeria, control variables were introduced. However, the variables of interest are COR, which is corruption (proxy by corruption percept index), quality of institutions (INST), governance (GOV) and the underground economy. As mentioned earlier, to capture institutional quality (INST) and governance (GOV), principal component analysis was used to condense some indicators to form these composite indices. The results in Table 1 report that in specification 1, where all the variables of interest were regressed against underground economy, corruption (COR) proxy by corruption perceptions index, although having positive sign [aligning with Esaku (2021a) whose findings suggest that, for the case of Uganda, an increase in corruption contributes to the rise in the size of the shadow economy], is insignificant in determining underground economy in Nigeria within this period of study.

Nevertheless, Page (2018) sees corruption as the single greatest obstacle preventing Nigeria from achieving its enormous potential. According to Page (2018), it drains billions of dollars a year from the country’s economy, stymies development and weakens the social contract between the government and its people. Nigerians view their country as one of the world’s most corrupt and struggle daily to cope with the effects (Page, 2018).

Across the socio-economic class divide, there is a feeling that the effects of bad governance will catch up with everyone someday. The recent protests by young Nigerians against police brutality and the End SARS protests exposed the gross human rights abuses suffered by many Nigerians at the hands of the institutions created to protect them. More than the police themselves, the protests demonstrated the youth’s discontentment with governance throughout the country (Kasali, 2020). Statistically speaking, Nigeria has consistently ranked low in the World Governance Index in areas such as GE, political stability and the presence of violence and terrorism, RL and CC. Nigeria is perceived in the 2020 Transparency International Corruption Perception Index as a highly corrupt country with a score of 25/100, while its corruption ranking increased from 146 in 2019 to 149 in 2020 out of 180 countries surveyed (Okoi & Iwarwa, 2021). Nonetheless, in specification 1, institutional quality (INST) and governance (GOV) both showed statistical significance at a 1% level. They both have a positive relationship with the
underground economy. This result is contrary to Maulida and Darwanto (2018), whose findings revealed that institutional quality shows a negative relationship with the development of the shadow economy but aligns with Ouédraogo (2017) that poor institutional settings favour an increase in the informal (underground) economy.

In specification 2, when the first control variable [unjust distribution of income (GIN) proxy by Gini coefficient (GINI), which is a measure of income inequality] was included, COR still exhibited a positive sign but was insignificant in affecting the level of the underground economy. Institutional quality (INST) maintained a positive relationship with the underground economy and statistical significance at a 5% level (the magnitude of the coefficient on INST slightly increased when compared to its magnitude in specification 1), while governance (GOV) also showed a positive relationship with the underground economy but turned out to be statistically insignificant at any of the standard statistically significant levels (1%, 5% or 10%). Invariably, GOV lost its significance once the influence of another factor (unjust distribution of income GIN) was considered.

The unjust distribution of income (income inequality – GIN) showed a positive significant relationship with the underground economy. A 1% increase in the unjust distribution of income will lead to a 0.626699% rise in the level of the underground economy in Nigeria. This result is statistically significant at a 5% level and aligns with Esaku’s (2021b) study, which revealed that a rise in income inequality significantly increases the size of the shadow economy in Uganda. Nonetheless, this positive relationship between the unjust distribution of income (GIN) and the underground economy (UND) could be attributable to income inequality. Income inequality is one of Nigeria’s most serious but least talked about challenges (Akinwotu & Olukoya, 2017). The scale of economic (income) inequality has reached extreme levels, and it finds expression in the daily struggles of the majority of the population in the face of the accumulation of obscene amounts of wealth by a small number of individuals (Proshare, 2019). It is this disparity between rich and poor, more than poverty itself, which generates anti-government sentiments and could fuel civil unrest down the road (Akinwotu & Olukoya, 2017).

Specification 3 introduced an additional control variable tax burden proxy by average tax revenue (ATAR). Tax burden (ATAR) showed a positive coefficient but was insignificant in determining underground economy within the period of study at any of the conventional statistically significant levels. The result shows that a 1% increase in tax burden (ATAR) will lead to a 0.580378% increase in the level of the underground economy. Statistically, this result is of no significance the existing estimates of the effect of taxes on the shadow economy are highly inconsistent across different studies and vary from being positive and significant in early one-country studies (Clotfelter, 1983; Slemrod, 1985; Schneider, 1986) to being insignificant or even strongly negative in cross-country literature (Friedman et al., 2000; Johnson et al., 1998; Torgler & Schneider, 2007).

Nevertheless, the result of this study suggests that the tax burden (ATAR) was not responsible for an increase in the level of the underground economy in Nigeria from 1996 to 2020. The conventional tax rates are low in the country, according to Premium Times (2021), but Nigerians pay one of the highest implicit tax rates in the world – way higher than developed countries. Implicit taxes are taxes borne but are not seen or recorded. For instance, Nigerians provide electricity for themselves via generators; they repair roads to their neighbourhoods if they can afford to; there are no social security systems; they provide security for their safety; and they provide boreholes for drinking water with their monies (Premium Times, 2021).

Specification 3’s results showed that COR still depicts a positive and insignificant relationship with the underground economy. Also, GOV was still positively related to the underground economy but
statistically insignificant. The coefficient of institutional quality (INST) still has a substantial positive influence over the underground economy, but its magnitude slightly diminished while its significance was still at 5%. In the same vein, the relationship between GIN and the underground economy was still positive and statistically significant at a 5% level.

The unemployment rate (UNEM) was included in specification 4. UNEM exhibits a negative sign, but it is statistically insignificant in influencing the level of the underground economy in Nigeria from 1996 to 2020. This result aligns with Schneider et al. (2010), who found that there is no evidence of a significant relationship between unemployment and the shadow (underground) economy. However, it should be noted that one in three Nigerians able and willing to work had no jobs in the fourth quarter of 2020, according to the National Bureau of Statistics (Adegboyega, 2021). Nigeria’s unemployment rate rose to 33.3%, translating to about 23.2 million people, the highest in at least 13 years and the second-highest rate in the world. The figure jumped from 27.1% recorded in the second quarter amidst Nigeria’s lingering economic crisis made worse by the coronavirus pandemic (Adegboyega, 2021). The unemployment rate in the country has more than quadrupled since 2016 when the economy slipped into recession. A second recession occurred in 2020.

Also, in specification 4, ATAR still displayed a positive and insignificant relationship with the underground economy. Similarly, COR still had a positive and insignificant relationship with the underground economy. Nonetheless, institutional quality (INST) and unjust distribution of income (GIN) continued to show a positive and significant relationship with the underground economy.

Finally, the real interest rates (INT) were incorporated in specification 5. The result showed an inverse relationship between real interest rates and underground economy, but its effect is somewhat marginal (this result from the estimation confirms the outcomes found in the simple correlation analysis). However, the relationship was not statistically significant at any conventional statistically significant level. That means, statistically, the real interest rate (INT) is insignificant in influencing the level of the underground economy within the period of this study. Nonetheless, Isenyo (2021) noted that for the past three decades, Nigeria has witnessed the most outrageous interest rates that any developing country can endure.

Historically in Nigeria, according to Op-Ed Contributor (2020), interest rates have always been high, and this can be directly attributed to the monetary system in vogue since 2009, which sought to use FGN bonds/T-bills and OMO bills as a means of attracting USD into Nigeria to help stabilise the Naira. According to Stearsng (2019), Nigeria’s high interest rates stifle business growth and economic development. Also, in specification 5, COR and GOV were still positively related to the underground economy but statistically insignificant. Moreover, institutional quality (INST) and unjust distribution of income (GIN) continued to show a positive and significant relationship with the underground economy. But this time, the significant level of institutional quality (INST) diminished from 5% to 10%.

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
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<td>COR</td>
<td>0.083264</td>
<td>0.225221</td>
<td>0.258382</td>
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<td>0.378263</td>
</tr>
<tr>
<td></td>
<td>(0.4963)</td>
<td>(0.3657)</td>
<td>(0.3231)</td>
<td>(0.2277)</td>
<td>(0.2477)</td>
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<td>(0.0962) ***</td>
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<td>GOV</td>
<td>1.922261</td>
<td>0.330437</td>
<td>0.433031</td>
<td>0.463744</td>
<td>0.729259</td>
</tr>
<tr>
<td></td>
<td>(0.0025) *</td>
<td>(0.6352)</td>
<td>(0.5587)</td>
<td>(0.5818)</td>
<td>(0.4341)</td>
</tr>
<tr>
<td>GIN</td>
<td>0.626699</td>
<td>0.637488</td>
<td>0.764428</td>
<td>0.738673</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0106) **</td>
<td>(0.0121) **</td>
<td>(0.0126) **</td>
<td>(0.0230) **</td>
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</tr>
</tbody>
</table>

Table 3. GMM estimates
4. Discussion

The underground economy exists in every country, but its development and growth have led to many concerns in recent years. This paper investigates to what extent corruption, governance and quality of institutions affect the underground economy in Nigeria from 1996 to 2020 using the GMM estimator. In the first specification, where all the variables of interest were regressed against the underground economy, corruption (COR) proxy by corruption perceptions index, although having a positive sign, is insignificant in determining the underground economy in Nigeria within this period of study (Adegboyega, 2021).

Similarly, from specification 1, INST and GOV were shown to be positively related to the underground economy and they were both statistically significant at a 1% level (Esaku, 2021a). It was generally observed that even when all the control variables were included in the final specification, institutional quality (INST) and unjust distribution of income (GIN) continued to show a positive and significant relationship with the underground economy.

5. Conclusion

In sum, the paper concludes that institutional quality (INST) is weak and has brought about a significant increase in the underground economy in Nigeria. Similarly, the high scale of income inequality has significantly contributed to the growth of the underground economy in Nigeria. As such, this paper recommends that Nigeria’s government strengthen its institutional environment through reforms targeted at ensuring the independence and adequate funding of such institutions as the judiciary, the police and other law enforcement agencies to improve access to fair and equitable administration of the justice system. Furthermore, institutions that promote political rights and civil liberty, private sector development, political stability and an independent and credible judicial system for enforcement of contracts and property rights protection should be strengthened.

A multifaceted approach is required to reduce economic inequality in Nigeria given its multidimensional nature. As such, a combination of fiscal policy and labour and financial market reforms would be needed to tackle it. Regarding the fiscal policy, higher investments in education and healthcare are needed to improve access and quality. In addition, more active fiscal policies should be ensured in this area of social protection programmes. That is, the Federal Government of Nigeria should increase the funding and coverage of social protection programmes in Nigeria, especially, the aspect of income transfer. Similarly, tax policies need to be completely transformed to ensure wealth redistribution and a reduction in income inequality.

Pertaining to labour, the agricultural sector should be intensely focused on guaranteeing national food security and employment generation. Invariably, expanding assistance to small-scale agriculture is
necessary. In the same vein, local manufacturing should be encouraged to create more job opportunities. In terms of financial issues, giving loans to smallholder farmers will enhance the economic prospects of rural dwellers.

References


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