

Re-examining the Relationship between Income Inequality and Corruption by Using Index of Public Integrity

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Abstract

Against the backdrop of recent global events which have highlighted the political salience of rising income inequality and corruption, this paper has sought to re-examine the relationship between income inequality and corruption by employing an objective measure for control of corruption, the recently developed Index of Public Integrity (IPI) that constitutes a marked departure from previous research which has used subjective measures for corruption. The cross-country analysis indicates that a strong negative correlation exists between income inequality and control of corruption measured by Gini coefficient and IPI respectively, which means that increased income inequality is associated with increased level of corruption. The strength of the relationship remains strong with the inclusion of controls for level of democratisation and economic development.

Keywords: Corruption, income inequality, cross-country analysis

1. INTRODUCTION

From the Petrobras corruption scandal in Brazil that saw the ouster of Brazilian President Dilma Rousseff to the release of Panama Papers which gained worldwide attention, corruption has made headlines in recent times. Widespread media coverage of corruption shows the endemic nature of corruption around the world. From being carried at the top echelons to the bottom strata of society, corruption poses grave consequences for the society at large. It inhibits political legitimacy of elected officials and results in declining trust in the state [Uslaner (2007)]. More importantly, it distorts allocation of resources and incentive structures in an economy, thereby resulting in market inefficiencies [Tanzi (1998)] and negatively affecting overall growth levels [World Bank (1997)].

Another trend observed worldwide is rising income inequality, which indicates widening disparities between the ‘haves’ and ‘have-nots’ within a society. It is considered as one of the “biggest threats to the global economy” [Forbes (2017)] with far-reaching consequences. In the wake of Brexit and US 2016 election results, rising income inequalities appear to be “spilling over into

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real-world politics” [WEF (2017: 10)] which have contributed to declining confidence in liberal democracies, anti-establishment populism and erosion of social cohesion.

Due to the political salience of income inequality and corruption in recent times, this paper aims to analyse the relationship between income inequality and corruption through conducting a cross-country analysis. It seeks to investigate the impact of income inequality on corruption across a sample of 51 countries having high income, upper middle income and low middle income status by using Gini coefficient and Index of Public Integrity (IPI) as measures of income inequality and corruption respectively.

Given the recent development of IPI with first country scores being published in 2015, the present study is the first attempt to use this index to empirically investigate the inequality-corruption relationship. Past scholarly work has measured corruption by using either or both Transparency International’s Corruption Perception Index (CPI) and World Bank’s Control of Corruption Index (CCI). However, both CPI and CCI are perception-based indicators which are heavily criticized for their subjectivity, inconsistency in data sources, use of varying conceptual definitions, problems with weighting schemes, lack of transparency, and overall conceptual imprecision [Knack (2007); Hawken and Munck (2011); Voigt (2013); Mungiu-Pippidi and Dadašov (2016)]. The methodological problems with these two indicators and their use in scholarly work undermines the validity of empirical results produced by existing studies on inequality and corruption. This paper, therefore, seeks to overcome this problem by employing IPI which is based on “objective and actionable data to measure control of corruption” [Mungiu-Pippidi and Dadašov (2016: 432)]. Unlike other indicators, IPI is firmly grounded in theory, uses an explicit definition of corruption, presents thoroughly systematised concepts, and transparently reports its data sources. Any research employing it, therefore, is expected to yield empirical results which have greater validity and reliability.

The empirical findings show that there is a strong negative correlation between income inequality and control of corruption, which indicates that increased income inequality is associated with increased level of corruption. The strength of the relationship remains strong with the inclusion of controls for level of democratisation and economic development. The empirical findings lend support to the argument that the presence of high income inequality presents fertile breeding ground for corruption. In highly unequal societies, the rich and the wealthy are motivated to maintain their existing societal position through either obtaining illicit support from public officials or coercing them into submission [Glaeser, *et al.* (2002)]. Public officials who are aware of the

resourcefulness of the rich and/or mindful of consequences of non-submission are likely to give in to the demands of the rich and thereby engage in corrupt activities. On the other hand, widening income disparities present unequal access of public services to the poor, which motivates them to resort to petty corruption in order to achieve desired level of service delivery.

This paper is divided into four sections. The first section reviews existing empirical literature on income inequality and corruption. The second section presents the methodological approach adopted in this study. The third section presents empirical findings. The last section presents concluding remarks and presents implications for future research.

2. LITERATURE REVIEW

Corruption is commonly defined as the abuse of public office for private gain [World Bank (1997)]. Some scholars view it as an “umbrella concept” under which concepts like patronage, clientelism, patrimonial-ism, and state capture fall [Varraich (2014)]. While these concepts share conceptual similarities, they are not synonymous and cannot be used interchangeably. For instance, clientelism involves dyadic relationships within a strict hierarchy where resources, treated as rewards, are mutually exchanged between patrons and clients [Kobayashi (2006)]. It is different from corruption as corruption involves a “lack of personal element and the lack of continuity” [Muno (2010: 8)] as opposed to patron-client relationships which are tightly-knit and often last for a long term. For the purpose of this paper, the phenomenon of corruption instead of other side-lining concepts is considered with relation to income inequality.

Empirical research has identified a number of predictors for corruption. Structural factors such as sectarian fragmentation [Mauro (1995); Fearon and Laitin (1996)], abundance of natural resources [Leita and Weidmann (1999)], low life expectancy, low average schooling and rural residence [Mungiu-Pippidi (2015)] increase the likelihood of corruption in societies. The level of economic development is found to reduce corruption in societies, meaning that rich countries tend to be less corrupt than poor ones [Treisman (2000)]. Research on effects of democratisation on corruption has generated mixed results. While certain aspects of democratisation like free elections and party-based competition are associated with more corruption [Little (1996); Johnston (1997)], features of liberal democracies such as civil freedoms and independence of judiciary are linked to less corruption [Schwartz (1999); Sung (2004)].

Within the corruption literature, a small strand of literature has analysed the relationship between income inequality and corruption. This literature is composed of three types of empirical studies: (a) those which analyse the effect of income inequality on corruption by treating income inequality as an independent variable (IV) and corruption as the dependent variable (DV); (b) those which analyse the effect of corruption on income inequality by considering income equality as a DV and corruption as an IV; and (c) some studies analyse the bidirectional nature of inequality-corruption relationship.

Through a comparative analysis of 129 countries, Jong-Sung and Khagram (2005) analysed the effect of income inequality on the level of corruption. They have contended that income inequality holds as much explanatory power as the conventionally accepted causes of corruption such as economic development. They found that income inequality increases the level of corruption through material and normative mechanisms. While explaining the material mechanism, they have argued that in unequal societies, the rich have “more to lose through fair political, administrative, and judicial processes” [Jong-Sung and Khagram (2005: 138)]. They use their resources to influence policymaking through illicit means like informal payments and bribery. Due to increased inequality, there is greater demand for redistribution in a society through progressive taxation. In order to circumvent taxation, the rich have increased motivation to exercise their influence on tax enforcement and collection methods. Additionally, in societies where there is a high level of inequality, the poor may face inequitable access to basic services like health and education. Therefore, “they are more likely to rely on petty corruption or to be the targets of bureaucratic extortion in their efforts to secure basic services” [Jong-Sung and Khagram (2005: 139)]. The poor are also more likely to engage in vote selling in exchange for money or gifts from the wealthy. Apart from the aforementioned material mechanism, inequality also increases corruption through a normative channel. Jong-Sung and Khagram (2005) have argued that increased perceptions of inequality entrench corruption norms in society as the rich regard corruption as an “acceptable way of preserving and advancing their societal position” [Jong-Sung and Khagram (2005: 139)].

In a cross-country analysis that assessed the impact of corruption on income inequality, Gupta, *et al.* (2002) found that corruption increases income inequality by reducing the tax base due to presence of biased tax systems, lowering the level and effectiveness of social programs, by perpetuating an unequal distribution of asset ownership and unequal access to education. They found a statistically significant relationship between corruption and income inequality when real per capita GDP was not included in the regression

analysis. They have presented a possible explanation for this by suggesting that the causality may run from high income inequality to higher level of corruption rather than the other way round. Using a sample of African countries, Gyimah-Brempong (2002) also found a positive correlation between corruption and income inequality “suggesting that the poor bear the brunt of the economic effects of corruption in African countries” [(Gyimah-Brempong (2002: 207)]. A positive relationship between corruption and high income inequality is also corroborated by Dincer and Gunalp (2008) who used data from U.S. states. Through using panel data of 71 countries, Ullah and Ahmad (2016) have also found a positive relationship between corruption and income inequality. However, Dobson and Ramlogan (2009), while studying Latin American countries, found that lower corruption is actually associated with higher levels of income inequality. They have argued that institutional reforms in the form of corruption-reducing measures exacerbate income inequality in countries having a large informal sector as they “impose transaction costs on this sector whose members are among the poorest” [Dobson and Ramlogan (2009: 5)]. Li, *et al.* (2000) found an inverted U-shape relationship between corruption and income inequality. They hold that “inequality in countries with an intermediate level of corruption is higher than that in countries with little or rampant corruption” [Li, *et al.* (2000: 159)].

Uslaner (2007) has conceptualised the relationship between income inequality and corruption by viewing it from the lens of trust and social solidarity within societies. Through analysing the case of transition economies, he has argued that perceptions about rising income inequalities and their attribution with increased level of corruption lowers trust in government, reduces social solidarity and decreases support for a market economy.

In a study using panel data from 50 U.S. states over the period 1980 to 2004, Apergis, *et al.* (2010) found a bidirectional Granger-causality between corruption and income inequality. They found that income inequality has a significant and positive effect on corruption and corruption also has a significant and positive impact on income inequality. Dwiputri, *et al.* (2018) have also found similar results in Asian countries. These findings are in line with cross-country results of Chong and Gradstein (2007). These results suggest that income inequality and corruption may be mutually reinforcing due to which countries remain trapped in the vicious cycle of high income inequality and high corruption [Jong-Sung and Khagram (2005)].

A brief overview of the literature above highlights that academic scholars have adopted different approaches to analyse the inequality-corruption relationship, which has produced different and often contradictory research

findings. In line with the criticism highlighted by Begović (2006), corruption as a factor of inequality has been poorly explained theoretically, even though empirical evidence has been presented. Literature explaining inequality as a cause for corruption has much stronger theoretical basis albeit limited empirical findings. Given the dearth of empirical literature that has analysed the effect of income inequality on the level of corruption, this paper considers income inequality as a contributing factor for corruption.

The presence of high income inequality presents fertile breeding ground for corruption. As Glaeser, *et al.* (2002: 1) have highlighted in their theory of institutional subversion, income inequality enables the “rich to subvert the political, regulatory, and legal institutions of society for their own benefit”. The rich and the wealthy are motivated to maintain their existing societal position through either obtaining illicit support from public officials or coercing them into submission [Glaeser, *et al.* (2002)]. Public officials who are aware of the resourcefulness of the rich and/or mindful of consequences of non-submission are likely to give in to the demands of the rich. On the other hand, widening income disparities present unequal or limited access of public services to the poor. The poor are likely to be forced into informal payments, bribery and petty corruption in order to achieve the desired level of service delivery.

3. DATA AND METHODS

Past scholarly work has studied the relationship between income inequality and corruption by using the widely-used measure of income redistribution, the Gini coefficient, and various composite corruption indicators.

In academic literature, “the dominant approach to examining corruption is to measure not corruption *per se*, but rather people’s perceptions of corruption” [Olken (2005: 2)]. This approach forms the basis of two of the widely-used perception-based corruption indices, Transparency International’s Corruption Perception Index (CPI) and World Bank’s Control of Corruption Index (CCI). Given the subjective nature of perception-based data, it is difficult to assess the extent to which these indicators reflect the real level of corruption in countries.

Apart from the subjectivity of CPI and CCI, scholars have raised methodological concerns related to the two indices. Both CPI and CCI are composite corruption indices which are constructed from multiple and distinct sources of corruption indicators [Knack (2007)]. According to one estimate, CPI relies on nearly one dozen sources and CCI uses over two dozen sources of corruption indicators [Hawken and Munck (2011)]. Both CPI and CCI

standardize different corruption indicators and calculate an average score for a single country such that an “index value can be computed for any country for which data is available from even one of the many sources used” [Knack (2007: 8)]. Since the sources used in these indices frequently change over time, it generates inconsistencies and creates problem related to over-time comparability [Voigt (2013)]. A change in sources also reflects an implicit change in the way corruption is defined by these indices, thereby resulting in conceptual imprecision of the two indices [Knack (2007); Mungiu-Pippidi (2016)]. An additional problem is the use of differential weighting schemes for aggregation of indicators which induces bias and poses “a significant threat to the validity” [Hawken and Munck (2011: 12)] of CCI and CPI. Due to the aforementioned methodological weaknesses, scholars have cautioned against drawing strong conclusions from empirical studies relying on these two corruption measures.

Some scholars have called for “a change in standard practices” [Hawken and Munck (2011: 3)] and suggested the development and use of objective as opposed to subjective indicators for measuring corruption, which are guided by both theory and empirical evidence [Olken (2005); Mungiu-Pippidi and Dadašov (2016)].

In light of the validity concerns with existing corruption indices, this paper seeks to re-examine the relationship between income inequality and corruption by using the recently developed Index of Public Integrity (IPI) which measures the Control of Corruption (CoC) in over 100 countries of the world. IPI is an objective measure of corruption, which is firmly grounded in theory and supported by empirical evidence. It uses an explicit definition of corruption, presents thoroughly systematised concepts, and transparently reports its data sources [Mungiu-Pippidi and Dadašov (2016)]. Through employing IPI as a measure for corruption, this paper aims to overcome the methodological shortcomings of previous literature on income inequality and corruption which has used CPI and CCI [Jong-Sung and Khagram (2005); Basna (2018)] and hopes to generate empirical findings that have greater validity and reliability.

Corruption Measure

Corruption, treated as the dependent variable, is measured using IPI which is a composite index that measures control of corruption on a scale from 1-10, 1 indicating the highest level of corruption and 10 representing the lowest level of corruption. While developing IPI, Mungiu-Pippidi and Dadašov (2016) have conceptualised control of corruption on a continuum, with absolute

particularism on one end and ethical universalism on the other end. Absolute particularism entails allocation of public resources and goods on the basis of connection between the power-holders and recipients while ethical universalism involves allocation of resources on the basis of impartiality, impersonality and equality. Mungiu-Pippidi and Dadašov (2016) posit that in corrupt societies, particularism is the dominant norm while in less corrupt societies, transactions are based on ethical universalism. Against the backdrop of this conceptualisation of control of corruption, Mungiu-Pippidi and Dadašov (2016: 421) define corruption as “an equilibrium determined by the resources available for spoiling by the government and its clients and the constraints that the rest of the society can inflict to prevent such an occurrence. The outcome of the balance between opportunities or resources and constraints is equilibrium in social allocation that oscillates between particularism and universalism in government transactions”.

Based on the aforementioned definition and subsequent empirical testing, Mungiu-Pippidi and Dadašov (2016) have identified six components which reflect the resources and constraints that determine the corruption equilibrium. These components form the basis of the IPI and include the degree of judicial independence, the extent of administrative discretion, the level of trade openness, the degree of budget transparency, the endowment of citizens with electronic means, and the degree of free media.

Income Inequality Measure

Income Inequality, treated as an independent variable, is measured using the Gini coefficient, which “measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution” [World Bank (2018a)]. A Gini coefficient of 0 implies perfect equality, while a coefficient of 1 indicates perfect inequality. Gini coefficient values for 2015 were taken from the World Bank database. Missing values were added from UNU-WIDER World Income Inequality Database and OECD Income Distribution Database (IDD).

Other Variables

In addition to income inequality and corruption, two other variables were included in the empirical analysis which might have an association between inequality and corruption. These are related to the extent of democratisation in countries and their level of economic development

The level of *democratisation* is measured using Polity IV’s democracy indicator. Based on an eleven-point scale from 0-10, this indicator conceives

democracy as a combination of three interdependent elements and defines it as a form of governance in which “(a) political participation is unrestricted, open, and fully competitive; (b) executive recruitment is elective; and (c) constraints on the chief executive are substantial” [Marshall, *et al.* (2016: 15)].

The log of *GDP per capita* (in US dollars) is used as a proxy for economic development.

Data are obtained from the World Bank indicators which defines GDP per capita as the “gross domestic product divided by mid-year population” [World Bank (2018b)].

Cross-Country Analysis

A cross-country analysis is conducted using OLS regression. Since the IPI has been recently developed, it has control of corruption scores for only two years, 2015 and 2017, for over 105 countries. The original intention was to use average values of 2015 and 2017 IPI scores for all countries included in the index. However, Gini co-efficient values were not available for 2017. Additionally, Gini coefficient values for 2015 were not available for all countries covered by the IPI despite using three multiple data sources for obtaining them. Due to missing values, only 51 countries are included in the empirical analysis. Based on World Bank income classification, 28 of these countries fall under high income class, 11 are upper middle income countries and 12 countries have lower middle income status. A complete list of countries used in the empirical analysis can be found in the Annex.

4. RESULTS

To analyse the relationship between income inequality and corruption, the following basic model was estimated by using ordinary least squares (OLS):

$$\text{Control of Corruption} = \alpha + \beta_1 (\text{Inequality}) + \beta_2 (X) + \varepsilon \dots (1)$$

Control of corruption (COC) indicates the level of corruption measured by IPI in 2015. *Inequality* represents income inequality in 2015 measured by the GINI coefficient, while X represents a set of other variables that affect corruption which include level of democratisation (DEM) and economic development measured by log of GDP per capita (Log_GDP). ε represents the error term.

The results of OLS estimation are given in Table 1 and visualised in Figures 1 and 2. The R^2 ranges from 0.23 to 0.67.

In all regressions, the estimated coefficient for inequality is negative and highly significant highlighting an inverse relationship between income

inequality and control of corruption. This means that an increase in income inequality results in a decrease in control of corruption. In other words, increasing income inequality is associated with high levels of corruption.

Table 1: Results of OLS estimation

Variable	(1) Model-1	(2) Model-2	(3) Model-3
GINI	-8.569*** (2.080)	-7.446*** (1.517)	-7.474*** (1.426)
DEM		0.372*** (0.0369)	0.370*** (0.0349)
Log_GDP			0.0717* (0.0381)
Constant	10.39*** (0.812)	6.919*** (0.645)	6.141*** (0.727)
Observations	51	51	51
R-squared	0.234	0.665	0.677

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1.

Figure 1. Relationship between CoC and income inequality

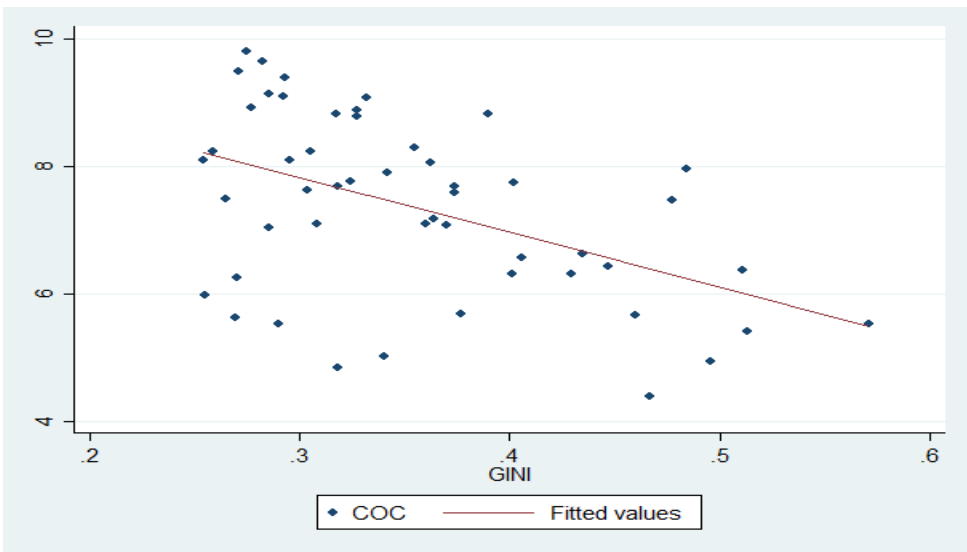
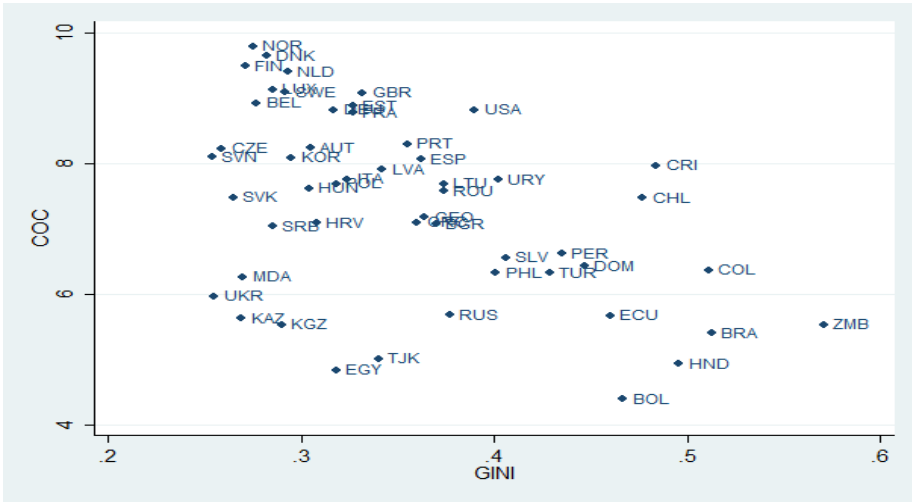


Figure 2. Relationship between CoC and income inequality



Contrary to the findings of Jong-Sung and Khagram (2005) who found inequality to be insignificant when single-year CPI was used which they attributed to correlation of measurement error in CPI to either inequality or other independent variables, the present study finds income inequality statistically significant when using 2015 values for control of corruption.

The level of democratisation — measured in terms of unrestricted political participation, openness and competitiveness of executive recruitment and constraints on executive authority — has a positive and statistically significant relationship with control of corruption. It implies that higher level of democratisation is associated with decreased level of corruption.

Economic development, measured by taking log of GDP per capita, is also positively correlated with control of corruption, implying that higher level of economic development is associated with lower levels of corruption. However, economic development appears to have a relatively weak effect on control of corruption in contrast to income inequality and democracy which exhibit high statistical significance at $p < 0.05$.

Table 2 shows the relationship between income inequality and control of corruption for different categories of countries according to their income status. The relationship is analysed by creating dummy variables for lower middle income and upper middle income countries, where the high income category has been used as a reference category. The results lend support to the presence of a negative relationship between income inequality and control of corruption. The relationship has been visualized in Figure 3.

Thus, the empirical results above show a strong relationship between income inequality and corruption. The strength of the relationship remains strong with inclusion of controls for level of democratisation and GDP per capita. These findings indicate that income inequality is a strong predictor for corruption when using IPI and Gini as measures of corruption and income inequality respectively.

Figure 3. Relationship between Income Inequality and CoC for Different Categories of Countries

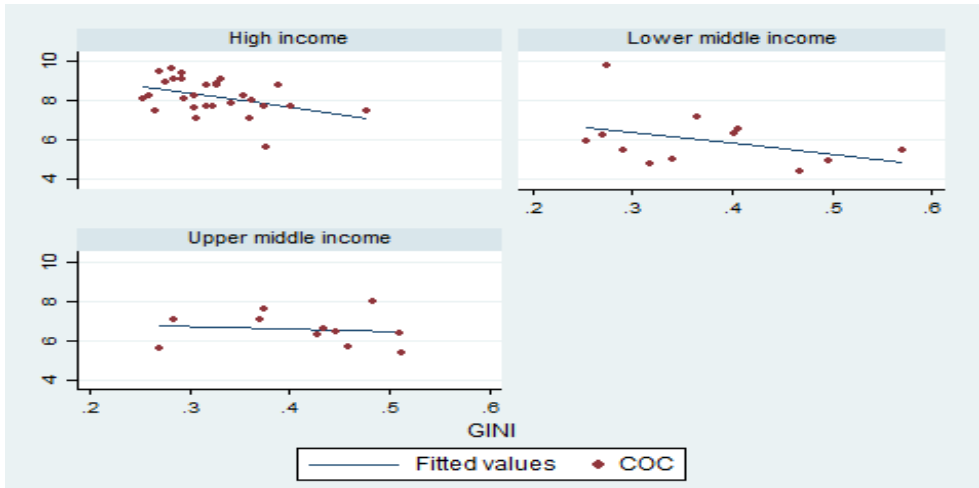


Table 2. Relationship between Income Inequality and CoC for Different Categories of Countries

Variable	CoC
GINI	-4.768** (2.139)
Lower Middle Income	-1.975*** (0.469)
Upper Middle Income	-1.233*** (0.378)
Constant	9.771*** (0.706)
Observations	51
R-squared	0.552

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1.

5. CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

Recent global events have highlighted the political salience of both corruption and rising income inequality in the world. Given the strong and far-reaching implications of both income inequality and corruption, this paper aims to examine the effect of income inequality on the level of corruption.

Conventional corruption indicators, like Transparency International's Corruption Perception Index (CPI) and the World Bank's Control of Corruption Index (CCI) have been criticized for their lack of methodological rigour, subjectivity, and conceptual imprecision. The methodological problems with existing corruption indicators and their use in scholarly work undermines the validity of existing empirical studies which have used these indicators to examine the inequality-corruption relationship. This paper, therefore, has sought to re-examine the inequality-corruption relationship by using an objective measure of control of corruption, the recently developed Index of Public Integrity (IPI), with the purpose of generating empirical results that have higher validity and reliability.

The cross-country analysis indicates that there is a strong negative relationship between income inequality and control of corruption. This means that increased income inequality is associated with increased level of corruption. The strength of the relationship remains strong with inclusion of controls for level of democratisation and GDP per capita.

The empirical findings lend support to the argument that the presence of high income inequality presents fertile breeding ground for corruption. In highly unequal societies, the rich and the wealthy are motivated to maintain their existing societal position through either obtaining illicit support from public officials or coercing them into submission [Glaeser *et al.*, (2002)]. Public officials who are aware of the resourcefulness of the rich and/or mindful of consequences of non-submission are likely to give in to the demands of the rich and thereby engage in corrupt activities. On the other hand, widening income disparities present unequal access of public services to the poor, which motivates them to resort to petty corruption in order to achieve desired level of service delivery.

In the light of the aforementioned findings, policy makers, when developing control of corruption measures, should pay special attention to developing economically inclusive institutions which reduce economic disparities at the grass-roots level. While the formulation of comprehensive anti-corruption legislation and establishment of anti-corruption agencies are welcome steps, governments should not solely rely on such legislative and

institutional mechanisms but rather, seek to carry out economic reforms across the board which reduce opportunities for corruption.

This paper lays the foundation for future research on inequality and corruption which employs objective corruption measures as opposed to subjective ones. As IPI country scores for future years are made available, further research can be expanded by using panel data to analyse the long-term effect of income inequality on corruption. The analysis can also be expanded by examining a larger number of countries depending on data availability. Given the contradictory empirical results in the past, future research can also employ IPI to investigate whether bidirectional relationship exists between income inequality and corruption.

APPENDIX

Table A.1: Country Data

Sr. #	Country	Income Class	IPI score	GINI Coefficient
1	Austria	High income	8,24	0,305
2	Belgium	High income	8,93	0,277
3	Bolivia	Lower middle income	4,39	0,467
4	Brazil	Upper middle income	5,4	0,513
5	Bulgaria	Upper middle income	7,07	0,37
6	Chile	High income	7,47	0,477
7	Colombia	Upper middle income	6,37	0,511
8	Costa Rica	Upper middle income	7,97	0,484
9	Croatia	High income	7,09	0,308
10	Czech Republic	High income	8,23	0,259
11	Denmark	High income	9,65	0,282
12	Dominican Republic	Upper middle income	6,43	0,447
13	Ecuador	Upper middle income	5,67	0,46
14	Egypt, Arab Rep.	Lower middle income	4,84	0,318
15	El Salvador	Lower middle income	6,56	0,406

Sr. #	Country	Income Class	IPI score	GINI Coefficient
16	Estonia	High income	8,88	0,327
17	Finland	High income	9,49	0,271
18	France	High income	8,78	0,327
19	Georgia	Lower middle income	7,18	0,364
20	Germany	High income	8,82	0,317
21	Greece	High income	7,1	0,36
22	Honduras	Lower middle income	4,93	0,496
23	Hungary	High income	7,62	0,304
24	Italy	High income	7,76	0,324
25	Kazakhstan	Upper middle income	5,63	0,269
26	Kyrgyz Republic	Lower middle income	5,53	0,29
27	Latvia	High income	7,91	0,342
28	Lithuania	High income	7,69	0,374
29	Luxembourg	High income	9,13	0,285
30	Moldova	Lower middle income	6,26	0,27
31	Netherlands	High income	9,4	0,293
32	Norway	Lower middle income	9,8	0,275
33	Peru	Upper middle income	6,62	0,435
34	Philippines	Lower middle income	6,32	0,401
35	Poland	High income	7,69	0,318
36	Portugal	High income	8,3	0,355
37	Romania	Upper middle income	7,58	0,374
38	Russian Federation	High income	5,68	0,377
39	Serbia	Upper middle income	7,04	0,285
40	Slovak Republic	High income	7,48	0,265
41	Slovenia	High income	8,1	0,254
42	Korea, South	High income	8,09	0,295
43	Spain	High income	8,06	0,362
44	Sweden	High income	9,09	0,292

Sr. #	Country	Income Class	IPI score	GINI Coefficient
45	Tajikistan	Lower middle income	5,01	0,34
46	Turkey	Upper middle income	6,32	0,429
47	Ukraine	Lower middle income	5,97	0,255
48	United Kingdom	High income	9,08	0,332
49	Unites States	High income	8,82	0,39
50	Uruguay	High income	7,75	0,402
51	Zambia	Lower middle income	5,53	0,571

Table A.2: Summary Statistics of Variables Used

Variable	Obs	Mean	Std. Dev.	Min	Max
Control of Corruption (COC)	51	7.348039	1.413274	4.39	9.8
Gini	51	.3549804	.0797994	.254	.571
Dem	51	8.254902	2.504741	0	10
Log_GDP	51	11.26356	2.123317	8.325335	17.23847

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