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**Governance, Corruption and Income Inequality: A Panel Study of Selected Asian Countries** Faisal Abbas<sup>1</sup>; Rehmat Ullah Awan<sup>2</sup>; Falak Sher<sup>3</sup>

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PAPER INFO	ABSTRACT
Information:	The study investigated the relationship among governance,
Received: 07 October, 2024	corruption, and income inequality in selected Asian countries over
Revised: 01 December, 2024	period 2000-2021. Data for Governance (Political Governance and
Published: December, 2024	Institutional Governance) was taken from voora Governance Indicators (WGI) Principal Component Analysis (PCA) was used
Keywords:	to create the governance index by using four indicators of WG:
Governance, corruption, income	Political stability; no violence and voice & accountability; Rules of
inequality, PCA, Asian countrie	s law and Control of corruption. Data of income inequality (Gini index) had been collected from Global Consumption and Income
Corresponding Author's email:	Project (GCIP). Data on corruption perception index (CPI) as proxy
abbas.eco383@gmail.com	for corruption were taken from Transparency International. Fully Modified and Dunamic OLS (FMOL and DOLS) were used for
	dynamic analysis. The study explored inverse connection between
	governance and income inequality while positive impact of
	corruption on income inequality. Study suggested that the country
	should improve the quality of Governance as it leads to the
	improvement in the institutions. The improved institutions and
	politically stable country can reduce the corruption and income inequality. Finally policymakers should establish the governance
	improving policies to tackle the corruption and income inequality.

## 1 Introduction

Adam Smith (1884) argued that a country cannot grow when a greater part of the individuals in the economy are poor and miserable. Income distribution and the laws affecting income distribution matter a lot in a political economy (Ricardo, 2009). Simon Kuznets was the first who talked about the positive influence of the greater income inequality on economic growth. The inequality grows due to the redistribution policies and it harms growth process (Ricardo, 2009). Numerous classical theorists suggested that the unequal growth leads to inequalities and its effect will take place in different directions (Aghion & Bolton, 1997; Alesina & Rodrik, 1994; Benabou, 1996; Galor & Zeira, 1993; Kuznets, 1955; Nguyễn *et al.*, 2020; Perotti, 1996; Persson & Tabellini, 1994b).

There are four main theoretical reasons why income and wealth inequality hamper long-term economic growth, according to recent endogenous growth literature (Perotti, 1996). Firstly, according to the political economy channel, political pressure from inequality causes the government to increase redistributive spending through unfair taxation, which lowers investment and growth. Secondly, inequality promotes socio-political instability and uncertainty about security of property rights, thus slowing capital formation and economic expansion. Thirdly, according to the credit market imperfections channel, inequality slows human capital accumulation, given the level of credit market

limitation, thereby slowing investment and growth. Lastly, inequality slows the production of new capital and economic growth because it raises fertility and decreases investments in human capital.

Corruption diminishes government lawfulness and efficiency, dampens investment and cuts the tax revenues (di Tella Rafael, 1994; Knack & Keefer, 1995; Mauro, 1998; Shen & Williamson, 2005; Wei, 1997). Corruption declines the usefulness of projects sponsored by external help (Doig, Mc IVOR, & Moran, 1999; Isham, Narayan, & Pritchett, 1995).

When creating and enacting public policies, government employees may use their position of power for own benefit. This situation benefits officials more with no or very small share of public costs (V. Tanzi, 1997a). Thus, government's role in resource allocation is distorted by corruption. According to an argument made by Vito Tanzi (1995), those who are more socially connected and typically come from higher socioeconomic classes are more likely to benefit from corruption. Corruption consequently affects income distribution, investment and growth among other macro variables. It has also been suggested that corruption causes poverty by making it harder for the poor to access social services and by encouraging investment in capital-intensive rather than labour-intensive projects (Rose-Ackerman, 1997). The poor are denied opportunities to generate income due to this bias in investment strategy.

For a government to exercise its authority in regard to issues and public affairs in an optimal manner, a number of conditions must be optimised. These conditions are represented by quality of government (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1999). State capacity, on other hand, is a measure of the state's capacity to carry out tasks. It can also be thought of as the effectiveness with which the state's agents can persuade people to take actions that they otherwise wouldn't (Lindvall & Teorell, 2016).

Good governance is a necessary complement to comprehensive economic policies, and it is critical to create and maintain a background that promotes strong and equitable development (Bank, 1992). Both national and global governance have an impact on inequality, but good governance can ensure a fair distribution of income and wealth across the country (Dollar & Kraay, 2002). There are two widely held beliefs about the central relationship between governance and inequality (Zhuang, de Dios, & Martin, 2010). Firstly, the political organizations contend that because the poor receive a relatively unimportant share of national income in inegalitarian economies, a democracy with a more egalitarian of political rights may also result in a more equal distribution of income (Li et al., 1998). Secondly, the corruption network contends that because corruption perpetuates unequal asset distribution, it raises income inequality and poverty, so measures to condense corruption will also lower inequality (Gupta *et al.*, 2002).

Numerous researchers claimed that inequality can be related to governance. Governance deals with the activities performed for the people of the state by the government of the state for development purposes (Rubayet, 2009; Williams & Young, 1994). The poor governance may take any form of following: corruption, poverty, income inequality, abuse of rule of laws, bureaucratic discrimination, low per capita income, underutilization of resources, low level of human resource development etc. (Rubayet, 2009). Bad governance also causes corruption and then corruption influences the income inequality positively (Brempong & Camacho, 2006; Gupta, Davoodi, & Alonso-Terme, 2002; Nadia & Teheni, 2014). The good governance leads to the equal distribution of income (Nadia & Teheni, 2014). For the Latin American and Caribbean countries, the good governance should be the basic development goal.

The relationship between corruption, governance, and income inequality has long been a topic of interest to many researchers, academicians and policy makers. To reduce poverty and income inequality is the mediate objective of most of the countries, particularly of emerging economies. Many studies have explored the relationship among governance, corruption, and, income inequality but those studies were testing relationship between any two of these at a time (see for example, Asongu

& Odhiambo, 2020; Choudhary, Zaman, & Ejaz, 2018; Haq & Zia, 2009; Iqbal & Mehar, 2015; Mammon & Rabbani, 2017; Matti, 2014; Nadia & Teheni, 2014; Polat, 2020). As shown above, governance, corruption, and, income inequality is interlinked and it is in this context that present study aims to investigate the relationship among governance, corruption, and, income inequality simultaneously. A new insight has been provided into the literature by taking governance, corruption and income inequality altogether.

The main objective of the study is; to investigate the interplay between governance, corruption, and income inequality within specific Asian nations. The specific objectives are to investigate the impact of governance, corruption and income inequality in lower middle-income and upper middle-income countries of Asian and to give policy recommendations based on findings of the study.

Within the theoretical framework of this study, this study draws upon Amartya Kumar Sen's Capability Approach as a guiding principle. Sen's approach presents two fundamental normative assertions. Firstly, it underscores the moral significance of individuals' freedom to pursue happiness. Secondly, it highlights the importance of considering capable individuals when discussing the right to pursue happiness. In essence, this framework places a strong emphasis on valuing the real opportunities individuals have to realize their potential and lead fulfilling lives (Todaro & Smith, 2009).

The Capability Approach posits that a person's ability to pursue happiness hinges upon their capacity for action and self-expression. This, in turn, enables them to live more productive lives. Sen argues that conventional measures such as possessions, wealth, and emotional responses (utility) provide an incomplete perspective on the overall well-being and quality of life (Todaro & Smith, 2009).

Additionally, the study delves into the Grease Wheel Hypothesis and the Sand Wheel Hypothesis. Leff (1964) postulated, 'If the government's decision-making process is suboptimal, then corruption might provide a more viable route.' This perspective suggests that corruption can sometimes facilitate the functioning of bureaucratic systems. In contrast, Huntington (1968) contended, 'In terms of economic progress, a society with a rigid, centralized, fraudulent bureaucracy is no worse than one with an inflexible, centralized, honest bureaucracy.' They argue that under certain conditions, corruption may impede progress. When governance in a country is deficient, corruption can be advantageous, as proposed by the Grease Wheel Hypothesis (GWH). On the other hand, the Sand Wheel Hypothesis (SWH) advocates that when the government is effective, corruption becomes detrimental (Kéita & Laurila, 2016).

The rest of paper is organized as follows. Section 2 contains the literature review. Data and model specification are given in section 3. Section 4 reports results and discussions. Section 5 provides conclusions and policy recommendations.

## 2 Literature Review

This section discussed the previous studies which has been analysed theoretically and empirically on governance, corruption, and income inequality.

A study by Brunetti *at al.* (1998) explored the impact of credibility perceived by local entrepreneurs on a country's economic performance. They found that credibility was significantly linked to differences in growth and investment among 41 countries, especially when focusing on small, medium, and purely local businesses. The study also examined transition economies and found a close relationship between credibility and growth.

Haq and Zia (2009) explored the link between governance and pro-poor growth using data from 1996-2005. It was found that good governance promotes economic growth by creating favorable conditions for savings, risk management, market certainty, and international trade. pro-poor growth was measuring through poverty and inequality indicators. The results indicated that good governance,

characterized by factors like accountability, political stability, regulatory quality, and the rule of law, plays a significant role in reducing poverty and controlling corruption in the long run.

Mahmood (2010) investigated public procurement and corruption in Bangladesh, focusing on challenges and opportunities. The study emphasized the importance of improving public administration and accountability in combating corruption in procurement. It was found that procurement is susceptible to above-board corruption with the suggestion Thus, enhancing the quality of public administration is essential for good governance.

Nadia and Teheni (2014) examined the relationship between finance, governance, and inequality. Composite indices for financial development and governance were constructed. Data for 39 economies across Asia and the Pacific; Europe and North America, and Latin America and Caribbean were utilized. A strong positive connection between financial development and governance, as well as a significant relationship between governance, financial development, and income inequality was found.

Matti (2014) investigated the links between corruption, inequality, and subsequent economic growth. Using data from 134 countries, study revealed that corruption negatively affects an economy's prosperity, and poorer economies tend to grow faster. The study highlighted a negative correlation between income inequality and growth, while primary education completion showed a strong positive correlation. Relationships between inflation, trade, and growth were found to be weak.

Iqbal and Mehar (2015) studied governance issues in Pakistan and their impact on income inequality. They used governance indicators by Kaufmann and Kraay (2008) and found a significant negative impact of inequality on governance. Pakistan faced challenges related to poor governance, including energy crises, low tax-to-GDP ratios, corruption, subsidies, and tax evasion.

Mammon and Rabbani (2017) conducted a comprehensive study of economic development and welfare indicators in Pakistan. They used the ARDL method to analyze the impact of economic development on governance, finding that governance was significantly affected in both short and long run. Inflation and income inequality were identified as contributors to poor governance, emphasizing the need for policies addressing corruption and inequality.

Mustapha *et al.* (2017) examined the impact of Value Added Tax (VAT) on income equality in developing countries. also it was investigated how corruption control moderates the relationship between VAT and income inequality. Quantile regression analysis results revealed that in highly corrupt countries, VAT benefits income equality more when income inequality is high rather than low. VAT seemed to enhance tax collection efficiency, enabling governments to invest in programs that benefit the poor. The study also found that controlling corruption helps reduce income inequality by reallocating funds to productive sectors and identifying tax revenue leakages.

Dantani and Muftau (2017) explored the connection between corruption and sustainable inclusive growth in Nigeria. They found a negative impact of corruption on inclusive growth, with corruption causing poverty indirectly. The study also revealed a one-way causal link from corruption to inclusive growth, emphasizing that corruption hinders Nigeria's progress towards sustainable inclusive growth.

Choudhary *et al.* (2018) investigated the dynamic links between corruption, economic growth, and income inequality in Pakistan. They used two models to analyze the effects of corruption on economic growth and income inequality. The study found that while a small amount of corruption might have short-term benefits, it isn't a sustainable solution for long-term economic growth.

Saleemi and Amir-ud-Din (2019) studied impact of governance quality on crime rates in Asian countries. They found significant correlations between various governance indicators and different types of crime, with socioeconomic factors, law and order, corruption, foreign conflicts, investment

patterns, and ethnic tensions playing crucial roles. The study emphasized the importance of the rule of law and socioeconomic conditions in reducing criminal activity.

Dwiputri (2019) investigated the relationship between corruption and capital growth, finding that corruption can harm an economy. The study rejected "grease-the-wheel" hypothesis and supported "sand-the-wheel" hypothesis, suggesting that efforts to combat corruption should be taken more seriously and consistently to promote economic growth.

Nguyen *et al.* (2020) examined the combined impact of fiscal decentralization, corruption, and inequality in Vietnam. Using panel data, they found strong positive relationships among these variables, indicating that fiscal decentralization can affect income inequality and corruption, with higher per capita income leading to greater inequality and improved governance quality linked to increased decentralization.

De Sousa (2021) studied the impact of corruption on income inequality in 108 countries. The research found that higher levels of corruption control were associated with reduced income inequality.

Abbas *et al.* (2023) examined institutional quality, corruption and income inequality in SAARC countries (2000-2021) using data from sources such as Global Governance Indicators and Transparency International. Studies have shown that the quality of institutions reduces income inequality. While combine effect of corruption and the quality of institutions exacerbate inequality. These findings highlight the need for institutional quality improvement and anti-corruption policies. and provide useful insights for equitable income distribution. and addressing income inequality across the region.

## 3 Data and Model Specification

## 3.1 Data

Present study used panel data of selected Asian countries for the period of 2000-2021.

Variables	Description	Source
Gini	Measure of income inequality ranges	Global consumption and
	from 0 to 1	income project (GCIP).
Gov	Governance	World Governance indicators
Corr	Corruption perception index	Transparency international
CPI	Consumer price index	WDI
POPG	Population growth (annual %)	WDI
GDPPG	Proxy of income per capita (GDP per	WDI
	capita yearly growth)	

# Table 1 Description of Variables

Variables used along with description and their data source are given in Table 1. Main variables of interest of present study are governance, corruption, and income inequality. Analysis is carried out separately lower-middle-income and upper-middle-income nations of Asia region and then results are compared for both samples. Table 2 reports list of countries included in lower-middle-income and upper-middle-income samples.

Lower-middle income countries		Upper-middle	Upper-middle income countries		
Bangladesh	Lao PDR	Armenia	Thailand		
Bhutan	Mongolia	Azerbaijan	Turkey		
Cambodia	Nepal	China			
India	Pakistan	Georgia			
Jordan	Philippines	Indonesia			
Kyrgyz Republic	Sri Lanka	Kazakhstan			
Tajikistan		Malaysia			

# Table 2List of Selected Asian Countries

Note. World Bank

3.2 Model Specification

Present study proposed econometric model as under:

 $Gini_{it} = \beta_0 + \beta_1 Corr_{it} + \beta_2 GOV_{it} + \beta_3 CPI_{it} + \beta_4 GDPPC_{it} + \beta_5 POPG_{it} + \Box_{it}$ (1)

where the Corr is the corruption perception index (CPI) of country i in period t; Gini is a measure of income inequality; GOV is Governance index (Political stability and no violence; voice & accountability; and rules of law and control of corruption); CPI is consumer price index used as proxy of inflation; GDPPC is GDP per capita and POPG is population growth;  $\beta_0$  is the constant and  $\square$  is error term.

## 4 Results and Discussion

Table 3 and table 4 show descriptive statistics for Lower-Middle Income Economies. Result of cross-sectional dependence LM

Descriptive Statistics (Case of Lower-Windule medine Leonomics)						
	GINI	GOV	CORR	POPG	GDPPC	CPI
Mean	0.46	-0.19	3.2	1.64	4.55	106.6
Median	0.45	-0.68	2.9	1.57	4.76	102
Maximum	0.57	4.55	6.8	5.42	16.2	219
Minimum	0.35	-2.87	0.4	-0.27	-3.1	28
Observations	286	286	286	286	286	286
GINI	1					
GOV	-0.1	1				
CORR	-0.09	0.84	1			
POPG	0.35	-0.04	0.12	1		
GDPPC	0.04	0.19	0.15	-0.21	1	
CPI	-0.24	0.14	0.28	-0.05	0.13	1

# Descriptive Statistics (Case of Lower-Middle Income Economies)

Table 3

Note. Author's Own Calculation

### Table 4

## **Descriptive Statistics (UPPER-MIDDLE INCOME ECONOMIES)**

	GINI	GOV	CORR	POPG	GDPPC	СРІ
Mean	0.48	0.27	3.51	0.77	5.26	104.42
Median	0.46	0.10	3.50	0.87	4.51	101.50
Maximum	0.54	2.87	5.80	2.32	32.80	315.00
Minimum	0.33	-1.96	1.50	-1.94	-15	20.60

Observations	198	198	198	198	198	198	
GINI	1						
GOV	-0.1	1					
CORR	-0.09	0.84	1				
POPG	0.35	-0.04	0.12	1			
GDPPC	0.04	0.19	0.15	-0.21	1		
CPI	-0.24	0.14	0.28	-0.05	0.13	1	

*Note.* Author's Own Calculation

CDS test is reported in table 5. As P values are not greater than 0.05, study rejected H0 of existence of no cross-sectional dependence and concluded that there exists cross-sectional dependence. As according to Breusch-Pagan LM, and Pesaran scaled LM there is existence of cross-sectional dependence. Table 5 shows the cross-sectional dependence in all the three model.

Table 5

	Tuble 5				
	Cross Sectional Depen	dence LM Te	est		
Lower-Middle Income	Test	Statistic	d.f.	Prob.	
	Breusch-Pagan LM	296.62	78	0	
	Pesaran scaled LM	17.503		0	
Upper-Middle Income	Breusch-Pagan LM	247.21	36	0	
	Pesaran scaled LM	24.89		0	

Note. Author's Own Calculation

#### Table 6

#### Second Generation / Cross Sectional Dependency Unit Roots

Variables	Pesaran-CIPS	Stationarity	
Gini	<0.01	I (0)	
GOV	<0.10	I (0)	
CORR	< 0.05	I (0)	
CPI	< 0.01	I (0)	
POPG	<0.01	I (0)	
GDPPC	<0.01	I (0)	

Note. Author's Own Calculation

Unit root results are shown in the Table 6. Series: income inequality (Gini), Corruption (Corr), Population Growth (POPG), and GDP per capita (GDPPC) are found to be I(0) while Inflation (CPI) and Governance (GOV) are found to be I(1).

Table '	7
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Hausman Test					
LOWER-MIDDLE INCOME UPPER-MIDDLE INCO ECONOMIES ECONOMIES					
Test Summary	Cross-section random		Cross-section random		
Chi-Sq. Statistic	13.06	13.06			
Chi-Sq. d.f.	5		5		
Prob.	0.03		0		

Note. Author's Own Calculation

Durbin Watson Results					
	Lower-Middle Upper-Middl				
	income	Income			
Durbin-Watson stat	0.17	0.167			

Note. Author's Own Calculation

### Table 9

#### Pedroni Residual Co-Integration

		Lower-Middle	Upper-Middle
		Income	Income
With Dimension	Panel v-Statistic	-2.93(0.99)	0.71(0.24)
	Panel rho-Statistic	1.76(0.96)	-0.31(0.38)
	Panel PP-Statistic	-1.48(0.07)	-8.72(0.00)
	Panel ADF-Statistic	-1.61(0.05)	-5.29(0.00)
Without Dimension	Group rho-Statistic	2.3(0.99)	1.5(0.93)
	Group PP-Statistic	-6.35(0.00)	-9.23(0.00)
	Group ADF-Statistic	-2.72(0.00)	-4.25(0.00)

Note. Author's Own Calculation

Results of Hausman test are given in table 7. As P value less than 0.05, H1 is rejected with the conclusion of existence of problem of endogeneity.

To test the occurrence of autocorrelation in the models, the study also applied Durbin Watson test. Results of Durbin Watson test are shown in table 8.

Next step is to check for long run association by applying cointegration test. This study used the test Pedroni panel cointegration test. Pedroni panel cointegration test (1999, 2004) includes seven statistical values to decide whether long run relationships exist or not. These values include panel ADF statistics, panel v statistics, panel PP statistics, panel rho statistics, three group statistics rho, ADF, and PP.

Results of Pedroni Residual Co-Integration are reported in Table 9. Results show co-integration relationship in case of Lower-middle income economies sample. To estimate the dynamic and nature of causality for the panel data, the study used the DOLS and Fully Modified Ordinary Least Square (FMOLS). Results of Fully Modified Ordinary Least Square are shown in Table 10, indicating that Governance and Corruption have impact on Income Inequality.

Table 10 is illustrating the coefficient of governance has the negative and significant impact in both FMOLS and DOLS. If the governance increase (improve) it will lead to decrease the income inequality. The corruption has significant and positive impact on income inequality in both FMOLS and DOLS. Income inequality will increase with the increase in corruption.

		Table 10			
		FMOLS/DOLS	5		
		FMOLS		DOLS	
	Variables	Coefficient	Prob.	Coefficient	Prob.
	GOV	-0.058	0	-0.05	0.0005
Lower-Middle Income	CORR	0.084	0	0.06	0.0003
	POPG	0.04	0.052	0.09	0
	GDPPC	0.018	0	0.02	0.003
	CPI	0.00001	0.885	-0.0004	0.12
	GOV	-0.08	0	-0.094	0

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Upper-Middle Income	CORR	0.14	0	0.12	0
	POP	0.005	0.65	0.06	0.01
	GDPPC	0.004	0.04	0.006	0.04
	CPI	-0.0002	0.36	-0.0002	0.6

*Note.* Author's Own Calculation

FMOLS and DOLS results show positive and significant impact of population on income inequality. GDPPC also has the significant and positive impact on income inequality. On the other hand, CPI has positive and insignificant effect FMOLS and negative and insignificant in DOLS. In both FMOLS and DOLS model, GOV has negative and significant impact on income inequality. Specifically, one unit increase in governance (improvement in governance) leads to decrease in income inequality by 0.09%. Corruption has positive and significant impact on income inequality. As corruption increases by 1 unit the income inequality will also increase by 0.13%. Population has positive but only insignificant in FMOLS. GDPPC has positive and significant impact on income inequality. CPI (inflation) has negative and insignificant both the models.

	Lower-Middle Income		Upper-Middle Incor	ne
Variable	Coefficient	Prob.	Coefficient	Prob.
С	0.00004	0.975	0.001	0.41
D(GOV)	-0.005	0.129	0.0001	0.98
D(CORR)	-0.003	0.421	0.004	0.32
D(POPG)	0.003	0.537	0.002	0.65
D(GDPPC)	0.0003	0.362	0.000004	0.99
D(CPI)	-0.0002	0.305	-0.00007	0.66
ECT (-1)	-0.1	0	-0.12	0.0001

Table 11
Error Correction Model

Note. Author's Own Calculation.

To check short run dynamics, present study also applied error correction model. Results of short run relationships for both samples are shown in Table 11. In case of lower-middle income countries sample. the value of error correction term is -0.10 and it significant. On the other hand, for Upper-middle income countries sample, value of error correction term is -0.12 and it significant. So, values of error correction term are indicating the convergence from short run towards long run equilibrium for both the samples.

## 5 Conclusion and Policy Recommendations

Present study has explored role of governance, corruption, and income inequality by using data of 22 selected Asian countries for the period 2000- 2021. Political stability, no violence and voice & accountability, rules of law and control of corruption are used to represent governance. Corruption perception index of Transparency International is used as the corruption and Gini index is used to represent the income inequality. After analysing the cross-sectional dependence, Pesaran-CIPS test was used to check stationarity of series. For empirical investigation of variables, the fixed effect model, FMOLS, DOLS, and short run test has been employed.

The results show that governance is negatively correlated with income inequality (Huang, *et al.*, 2018; Nguyen *et al.*, 2020; Touitou, 2021). It implies that good governance (better governance) can decrease the income inequality or better governance will lead to more equal distribution of income. Corruption has the positive effect on income inequality (Rose-Ackerman, 1997; Mauro, 1998; Gupta *et al.*, 2002;), indicating that worse country's condition in corruption will lead to more unequal distribution of income. The positive impact of corruption on income inequality is contradicted by numerous studies such as Policardo, and Carrera, 2018; Keneck-Massil, Nomo-Beyala, and Owoundi, 2021.

Present study suggests that the country should improve the quality of governance as it will lead to the improvement of institutions and political stability. The improved institutions and political stability will then lead to reduction of corruption. Also based finding that corruption is positively correlated, certain measures should be taken to curb corruption activities through strict laws and punishment. It will ultimately decrease the income inequality. Policies aiming at good governance should be focused to decrease corruption and income inequality.

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