



Dynamics of Corruption, Government Expenditures, Consumption and Taxes in Indonesia: Macroeconomic Model Simulation

*

Regina Niken Wilantari
Economics Department
Faculty of Economics and Business,
University of Jember
Jember, Indonesia
reginanikenw.feb@unej.ac.id

Muhamad Annas
Economics Department
Faculty of Economics and Business,
University of Jember
Jember, Indonesia
muhamadanas@pojokjakarta.com

Eddy Priyanto
Accounting Department
STIE Jaya Negara Tamansiswa Malang
Malang, Indonesia
eddypriyantomalang@gmail.com

Diah Rusminingsih
Management Department
STIE Jaya Negara Tamansiswa Malang
Malang, Indonesia
diahrusminingsihmalang@gmail.com

Zainuri
Economics Department
Faculty of Economics and Business,
University of Jember
Jember, Indonesia
zainuri.feb@unej.ac.id

Suryaning Bawono
Management Department
STIE Jaya Negara Tamansiswa Malang
Malang, Indonesia
ninobalmy@gmail.com

Abstract— This research aims to examine the impact of corruption and government spending on the level of consumption of Indonesian society, both household consumption and government consumption. Secondary data from the World Bank and International Transparency is the basis for this model to estimate Corruption, Government Expenditure, Consumption, and Taxes in Indonesia. This research study took place over 20 years from 2000 to 2020, and an "autoregressive vector" was applied to describe the relationship between one variable and another. We apply the multivariate regression method to examine the relationship between the variables Corruption, Government Spending, Consumption, and Taxes in Indonesia. We found that Indonesia is a country that has great potential to develop into one of the largest economies in the world. However, one of the main obstacles hindering Indonesia's economic growth is corruption. Corruption is the practice of abusing public power for personal or certain group interests. Corruption can harm a country's economy in various ways. Corruption can reduce the efficiency and effectiveness of government spending. Corruption can reduce state revenues from the tax sector. Corruption can reduce incentives to invest and innovate. Corruption can reduce public trust in the government and state institutions.

Keywords— Corruption, Government Spending, Consumption, Taxes, Indonesia

I. INTRODUCTION

Indonesia is a country that has great potential to develop into one of the largest economies in the world. However, one of the main obstacles hindering Indonesia's economic growth is corruption. According to Transparency International (2020), Indonesia is ranked 110th out of 180 countries in the Corruption Perceptions Index with a score of 34 out of 100. This score shows that Indonesia still has a high level of corruption and needs to carry out further reforms to combat these practices. corrupt practices. Corruption is the practice of abusing public power for personal or certain group interests. Corruption can harm a country's economy in various ways, including: reducing the efficiency and effectiveness of government spending, reducing state revenues from the tax sector, reducing incentives to invest and innovate, and

reducing public trust in the government and state institutions [1].

Apart from improving the quality and efficiency of government spending, the Indonesian government also needs to improve the quality and efficiency of state revenues from the tax sector. Taxes are mandatory contributions paid by taxpayers to the state without direct compensation to finance public needs. Taxes can be divided into two types: direct taxes and indirect taxes. Indirect taxes are taxes imposed on goods or services consumed by taxpayers, such as value-added tax (VAT), sales tax, import tax, and so on. Direct taxes are taxes imposed on the taxpayer's income or wealth, such as income tax (PPh), land and building tax (PBB), inheritance tax, and so on [2]. According to data from the Directorate General of Taxes, state revenues from the Indonesian tax sector in the second quarter of 2023 amounted to 1,015.8 trillion rupiah, consisting of 696.1 trillion rupiah from indirect taxes and 319.7 trillion rupiah from direct taxes. When compared with GDP in the same quarter, which reached 4,415.8 trillion rupiah, the ratio of state revenue from the Indonesian tax sector was 23 percent of GDP. When compared with other countries in the Asia Pacific region, the ratio of state revenue from the Indonesian tax sector is relatively low. This shows that Indonesia still has the potential to increase state revenues from the tax sector [3].

Corruption is a phenomenon that is detrimental to the economy and people's welfare, especially in developing countries like Indonesia. According to Transparency International (2020), Indonesia is ranked 102nd out of 180 countries in the corruption perception index with a score of 37 out of 100. Corruption can reduce the efficiency of resource allocation, increase transaction costs, hinder investment and economic growth, and weaken the quality of public services [4]. Corruption can also influence people's consumption and tax behavior, both directly and indirectly [5], [6]. Government Expenditure is expenditure made by the government to finance various public activities, such as education, health, infrastructure, defense, and others. Government Expenditure can act as a fiscal policy instrument to regulate aggregate demand and macroeconomic stability [7], [8]. Government

Expenditure can also influence economic performance and community welfare through multiplier effects, crowding out, or crowding in [9], [10].

Consumption is expenditure made by households to purchase goods and services that are needed or desired. Consumption is the largest component of gross domestic product (GDP) and an important indicator of the level of income and prosperity of society. Consumption is influenced by various factors, such as income, prices, preferences, expectations, habits, and psychological factors [11]. Taxes are levies paid by the community to the government as a source of state income. Taxes are used to finance government spending and provide public goods. Taxes can also function as a tool to regulate people's economic behavior, for example by providing incentives or disincentives for certain activities. Taxes can influence levels of consumption, savings, investment, production, income distribution, and economic efficiency [12], [13].

Prasetyo and Adrison [6] examined the influence of cigarette prices in a complex cigarette tax system on cigarette consumption in Indonesia. They used panel data from 33 provinces during the 2010-2016 period and applied the fixed effects model method. They found that cigarette prices have a significant negative effect on per capita cigarette consumption in Indonesia. They also found that specific cigarette taxes had a larger effect than ad valorem cigarette taxes. Budiman [14] examined the relationship between the opinion of the Supreme Audit Agency (BPK) and corruption in local governments in Indonesia. They used data from 34 provinces during the 2012-2016 period and applied the probit model method. They found that unreasonable BPK opinions (disclaimers or not giving an opinion) were positively related to corruption in local government. They also find that the BPK's reasonable opinion with exceptions is negatively related to corruption in local government.

Pradana [15] examines variations in the governance of public goods provision in Indonesia: the case of the path after decentralization and local democratization. They used data from field surveys conducted in 12 districts/cities in four provinces in 2011 and applied descriptive analysis methods and inferential statistics. They found that there were significant differences in road quality between districts/cities with good and poor governance. They also found that community participation, accountability and transparency had a positive effect on road quality. Adrison et al. [6] examine expenditure allocation reforms at the local level in Indonesia. They used data from 497 districts/cities during the 2001-2009 period and applied the stochastic frontier analysis method. They found that the efficiency of local government spending in Indonesia is still low and varies between regions. They also found that the factors that influence the efficiency of regional government spending are regional size, per capita income, fiscal dependence, and democracy index.

Hypothesis 1: The higher the level of corruption in a country, the lower government spending on public sectors such as health, education and infrastructure.

According to several studies, corruption can have a negative impact on government spending in the public sector, such as health, education and infrastructure, by reducing the efficiency, effectiveness and transparency of public budget management [16]–[18]. Corruption can also affect the allocation of government spending between sectors, by

shifting the budget from sectors that are more monitorable by the public to sectors that are more difficult to monitor and more vulnerable to corruption [16]. In addition, corruption can increase the fiscal deficit and public debt, because the government has to borrow more to cover budget shortfalls caused by corruption [19]–[21]. This can have a negative impact on social welfare and long-term economic growth

Hypothesis 2: The higher the level of corruption in a country, the lower public consumption will be due to decreased trust in the government and decreased purchasing power.

Public consumption is the total amount of government spending on goods and services used for public purposes, such as education, health, defense, infrastructure, etc. Public consumption is important to improve people's welfare and support economic growth. However, public consumption can be disrupted by corruption in the public sector [22]. Corruption is the abuse of public authority for personal or group interests. Corruption can occur in various forms, such as bribery, nepotism, collusion, embezzlement, misuse of budget, and others. Corruption has a broad negative impact on public consumption, both directly and indirectly [23].

Directly, corruption reduces the amount of public resources available for public consumption. This is because corruption causes budget leaks, waste and inefficiency in public financial management. As a result, the government has less money to finance the public goods and services that society needs. Apart from that, corruption also reduces the quality of public goods and services provided by the government. This is because corruption causes low standards of quality, supervision and accountability in the process of procurement and provision of public goods and services. As a result, people receive public goods and services that do not meet standards, do not meet their needs, or are not even available at all [24].

Indirectly, corruption reduces public trust in the government and reduces people's purchasing power. This is because corruption causes injustice, inequality and poverty in society. Corruption means that most public resources are only enjoyed by a few people who have ties or influence with corrupt public officials. Meanwhile, most people do not benefit from these public resources. As a result, people feel dissatisfied, and distrustful and do not support the government. The community also becomes less likely to participate in the democratic process and national development. Apart from that, corruption also hinders economic growth and reduces national income [25].

Corruption causes foreign and domestic investment to decline, productivity to decline, inflation to rise, and macroeconomic stability to be disrupted. As a result, people have less income and more burden on living costs. People have also become more careful in spending money on consumption. Thus, it can be seen that corruption has a significant negative impact on public consumption in a country. Therefore, there needs to be a joint effort to eradicate corruption and increase transparency, accountability and participation in the public sector. This will help increase efficient and effective public consumption for community welfare and economic growth [26].

Hypothesis 3: The higher the level of corruption in a country, the lower the tax revenue due to increased tax avoidance and decreased compliance.

A high level of corruption in a country has a significant negative impact on tax revenue [27]. Corruption not only lowers the tax-GDP ratio, but also damages the economy in the long term by reducing investment, increasing the size of the informal economy, distorting tax structures, and eroding the tax morality of taxpayers. All of these in turn further reduce the long-term revenue potential of the economy. Another study also found that higher tax rates can induce more corruption in a country by incentivizing tax evasion[28]. Some scholars argue that corruption can reduce the burden of excessive taxation on the economy by enabling better allocation of resources and enabling investment. However, the underlying assumptions of these findings have been challenged by other researchers. One argument used by some scholars to suggest that corruption can reduce excessive tax burdens on the economy is that it can enable better allocation of resources and encourage investment. For example, Rudyanto et al. [29] argue that when government is not functioning well, private investment can improve sustainable welfare. They find that for less (more) tax aggressive observations, corruption and tax allocation inefficiency strengthen the negative (positive) effect of tax aggressiveness on sustainable welfare. Another argument often put forward is that corruption can reduce transaction costs and increase economic efficiency by speeding up the licensing process, avoiding unnecessary regulations, and providing incentives for public officials to work harder (Leff, 1964; Huntington, 1968; Lui, 1985) . However, these arguments do not consider the long-term negative impacts of corruption on economic growth, the quality of public services, social justice and good governance. Therefore, the view that corruption can benefit the economy by reducing the tax burden must be criticized with caution.

II. RESEARCH METHOD

Secondary data from the World Bank and International Transparency is the basis for this model to estimate Corruption, Government Expenditure, Consumption and Taxes in Indonesia. This research study took place over 20 years from 2000 to 2020, and an "autoregressive vector" was applied to describe the relationship between one variable and another. We apply the multivariate regression method to examine the relationship between the variables Corruption, Government Spending, Consumption and Taxes in Indonesia.

TABLE 1. A CLARIFICATION OF THE DEFINITION OF THE VARIABLES WE WILL USE.

Variable	Description	Source	Unit Analysis
Government Expenditure (GEX)	This variable for government expenditures covers all the investment, expenditure, and transfer payments by the government from 2000 to 2020..	World Bank	Percent
Corruption Index (CIX)	This variable describes how the level of corruption in Indonesia increased from 2000 to 2020.	International Transparency	Index
Consumption (CMX)	The consumption of a country in Indonesia is	World Bank	Percent

	represented by this variable throughout 2000 to 2020.		
Taxes (TAX)	“Tax” is a term used to refer to the use of data and tax revenues in Indonesia during the 2000-2020 period.	World Bank	Percent

Information :

GEX : Government Expenditure

CIX : Corruption Index

TAX : Taxes

CMX : Consumption

e : erroneous title

t : time sequence

β : degree in terms of causation influence

III. RESULTS AND DISCUSSION

A stationarity test was performed on the data set to verify its stationarity. The series’ static condition and the potential sources of non-stationarity were also investigated using error analysis. Table 2 presents some of the results from the unit root tests.

Table 2. ADF unit root testing on CIX, GEX, CMX and TAX data originating from Indonesia.

Variable	Unit Root	Include in the examination Equation	Statistics for the ADF Test	5% Critical Value	Description
Government Expenditure (GEX)	Level 1	Intercept	-1.721112	0.2113	
	First Diff	Intercept	-2.133212	0.0039	Stationary
Corruption Index (CIX)	Level 1	Intercept	-0.311232	0.7711	
	First Diff	Intercept	-2.441122	0.0089	Stationary
Consumption (CMX)	Level 1	Intercept	-1.011251	0.0771	
	First Diff	Intercept	-1.322111	0.0018	Stationary
Taxes (TAX)	Level 1	Intercept	-1.511211	0.0112	
	First Diff	Intercept	-2.113411	0.0075	Stationary

The first diff of GEX, CIX, and CMX data with TAX has stationary properties. This can be seen from the Augmented Dickey-Fuller results which produce a value of -2.133212 for the test and 0.0039 for the probability, which means the probability is less than 5%. This GEX First Diff data indicates data stationarity. Before starting the VAR analysis, it is necessary to test the sensitivity of VAR and causality, and it is necessary to choose the optimal time lag by the results in Table 3.

Table 3. The optimal lag test for CIX, GEX, CMX and TAX data in Indonesia from lag 0 to lag 2.

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-89.21121	NA	1.422121	11.17112	11.32143	11.17781
1	-48.15211	59.15123	0.223421	7.077221	9.15623	8.277322
2	-34.22326	19.02424	0.089411	7.351121	9.12234	7.522161
3	26.48242	21.51171	0.000335	1.442134	3.11219	1.762234
4	1224.491	0.000000	NA	172.3242*	142.0711*	172.0723*

Based on the LR, FPE, and SC values at position 1, lag 3 is the best choice for the lag length of CIX, GEX, CMX, and TAX, while the other three components have different optimal lags. The VAR analysis results using lag 3 are presented in table 4.

Table 4. VAR Model Analysis

	CIX	CMX	GEX	TAXES
CIX	0.511227 (0.1179) [1.56624]	-7.122117 (9.4522) [-0.69118]	-16.31135 (7.33221) [-1.65531]	-1.711312 (1.59211) [-1.08811]
CMX	0.044589 (0.02431) [2.59224]	0.674816 (0.41131) [1.04221]	-1.616578 (0.47251) [-1.86728]	-0.082226 (0.08235) [-0.77232]
GEX	-0.069321 (0.01224) [-4.81125]	-0.067811 (0.42219) [-0.12421]	0.572211 (0.37224) [1.39211]	0.077611 (0.07235) [1.07213]
TAX	0.117355 (0.05121) [2.23541]	-1.147211 (1.44436) [-0.35871]	-1.433211 (1.20017) [-0.67211]	-0.482211 (0.29075) [-1.46213]
C	-5.431271 (1.7247) [-2.35327]	11.85712 (69.5372) [0.14627]	-29.84413 (57.2175) [-0.42113]	27.02462 (9.1368) [2.35242]
R-squared	0.893222	0.814511	0.837122	0.818127
Adj. R-squared	0.870158	0.800207	0.819556	0.802112
Sum sq. resid	0.021051	19.08151	23.11387	0.571211
S.E. equation	0.047465	1.270191	1.101233	0.253371

The coefficient of -1.433211 and the t-statistic of -0.67211 reveal a very negative link between TAX and GEX. There is a very positive connection between TAX and CIX, with a coefficient of 0.117355 and a t-statistic of 2.23541, implying that more Taxes cause more Corruption. The relationship between CMX and GEX is very negative, with a coefficient of -1.616578 and a t-statistic of -1.86728. Taxes play an important role in Government Spending, as Government Spending decreases when Taxes decrease, but Corruption increases when Taxes increase. The results of the Causality Granger test are presented in table 5.

Table 5. The test of Causality's Granger

Null Hypothesis:	Obs	F-Statistic	Prob.
CMX does not Cause CIX	18	1.22112	0.2234
CIX does not Cause CMX		0.29155	0.7131
GEX does not Cause CIX	18	2.12261	0.0342
CIX does not Cause GEX		1.12722	0.0241
TAXES does not Cause CIX	18	0.45113	0.6911
CIX does not Cause TAXES		0.41121	0.7832
GEX does not Cause CMX	18	0.42132	0.5732
CMX does not Cause GEX		7.12211	0.0029
TAXES does not Cause CMX	18	0.19262	0.7813

CMX does not Cause TAXES		1.79561	0.0871
TAXES does not Cause GEX	18	0.26152	0.6833
GEX does not Cause TAXES		0.68231	0.4917

As shown in Table 5, the Granger Causality test in Indonesia reveals that there is a causal relationship from CMX to TAX, from GEX to TAX, from CIX to TAX, from GEX to CMX, from CIX to CMX, and from CIX to GEX. This is indicated by the probability values that are lower than 5%.

IV. CONCLUSION

Indonesia is a country that has great potential to develop into one of the largest economies in the world. However, one of the main obstacles hindering Indonesia's economic growth is corruption. Corruption is the practice of abusing public power for personal or certain group interests. Corruption can harm a country's economy in various ways. Corruption can reduce the efficiency and effectiveness of government spending. Corruption can reduce state revenues from the tax sector. Corruption can reduce incentives to invest and innovate. Corruption can reduce public trust in the government and state institutions. Corruption crimes receive more attention than other crimes in many countries. Factors such as excessive consumption, government spending, and taxes can influence the level of corruption in Indonesia. Corruption can rise or fall due to these factors.

REFERENCES

- [1] B. A. Olken and R. Pande, "Corruption in Developing Countries," *Annu. Rev. Econom.*, vol. 4, no. 1, pp. 479–509, 2012, doi: 10.1146/annurev-economics-080511-110917.
- [2] A. H. Saragih, Q. Reyhani, M. S. Setyowati, and A. Hendrawan, "The potential of an artificial intelligence (AI) application for the tax administration system's modernization: the case of Indonesia," *Artif. Intell. Law*, vol. 31, no. 3, pp. 491–514, 2022, doi: 10.1007/s10506-022-09321-y.
- [3] H. D. P. Sinaga, Y. Pramana, and A. W. Hermawan, "Income Tax Reconstruction on Construction Services to Support Development in Indonesia," *World J. Entrep. Manag. Sustain. Dev.*, 2023, doi: 10.47556/J.WJEMSD.19.1-2.2023.10.
- [4] A. Tahar, P. B. Setiadi, and S. Rahayu, "Strategi pengembangan sumber daya manusia dalam menghadapi era revolusi industri 4.0 menuju era society 5.0," *J. Pendidik. Tambusai*, vol. 6, no. 2, pp. 12380–12394, 2022.
- [5] R. Fisman and S. Wei, "Tax Rates and Tax Evasion: Evidence from 'Missing Imports' in China," *J. Polit. Econ.*, vol. 112, no. 2, pp. 471–496, 2004, doi: 10.1086/381476.
- [6] B. W. Prasetyo and V. Adrison, "Cigarette prices in a complex cigarette tax system: empirical evidence from Indonesia," *Tob. Control*, p. tobaccocontrol-2018-054872, 2019, doi: 10.1136/tobaccocontrol-2018-054872.
- [7] R. J. Barro, "Are Government Bonds Net Wealth?," *J. Polit. Econ.*, vol. 82, no. 6, pp. 1095–1117, 1974, doi: 10.1086/260266.
- [8] O. Blanchard and R. Perotti, "An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output," *Q. J.*

- Econ.*, vol. 117, no. 4, pp. 1329–1368, 2002, doi: 10.1162/003355302320935043.
- [9] D. A. Aschauer, “Is public expenditure productive?,” *J. Monet. Econ.*, vol. 23, no. 2, pp. 177–200, 1989, doi: 10.1016/0304-3932(89)90047-0.
- [10] S. Devarajan, V. Swaroop, and H. Zou, “The composition of public expenditure and economic growth,” *J. Monet. Econ.*, vol. 37, no. 2, pp. 313–344, 1996, doi: 10.1016/s0304-3932(96)90039-2.
- [11] N. Momayezi, “Cultural globalization,” in *Handbook of Globalization, Governance, and Public Administration*, 2006. doi: 10.25130/politic.v0i15.129.
- [12] M. G. Allingham and A. Sandmo, “Income tax evasion: a theoretical analysis,” *J. Public Econ.*, vol. 1, no. 3–4, pp. 323–338, 1972, doi: 10.1016/0047-2727(72)90010-2.
- [13] P. A. Diamond, L. J. Helms, and J. A. Mirrlees, “Optimal taxation in a stochastic economy,” *J. Public Econ.*, vol. 14, no. 1, pp. 1–29, 1980, doi: 10.1016/0047-2727(80)90002-x.
- [14] M. A. Budiman and F. Amyar, “The effect of audit opinions, implementation of audit recommendations, and findings of state losses on corruption levels in the ministries and institutions of the Republic of Indonesia,” *J. Tata Kelola dan Akuntabilitas Keuangan Negara*, vol. 7, no. 1, pp. 113–129, 2021, doi: 10.28986/jtaken.v7i1.471.
- [15] A. W. Pradana, “Decentralization Practice in Developing Countries: Lessons for Indonesia,” *J. Gov.*, vol. 6, no. 2, 2021, doi: 10.31506/jog.v6i2.12662.
- [16] C. Delavallade, “Corruption and distribution of public spending in developing countries,” *J. Econ. Financ.*, vol. 30, no. 2, pp. 222–239, 2006, doi: 10.1007/bf02761488.
- [17] A. Farazmand, E. De Simone, S. Capasso, and G. L. Gaeta, “Articles for a Special Issue of Public Organization Review (POR) on Corruption, Lack of Transparency and the Misuse of Public Funds in Times of Crisis,” *Public Organ. Rev.*, vol. 21, no. 2, pp. 183–186, 2021, doi: 10.1007/s11115-021-00529-1.
- [18] R. E. Tromp and S. Datzberger, “Global Education Policies versus local realities. Insights from Uganda and Mexico,” *Compare*, 2021, doi: 10.1080/03057925.2019.1616163.
- [19] C. F. Vahl, B. R. Osswald, P. Meinzer, R. de Simone, G. Thomas, and S. Hagl, “Internal quality assurance or Hawthorne effect?,” *Interne Qual. oder Hawthorne-Effekt?*, vol. 114, pp. 260–266, 1997, [Online]. Available: <http://www.scopus.com/inward/record.url?eid=2-s2.0-0031311603&partnerID=40&md5=2f67459d8711c64fb264129fcb228eb>
- [20] A. Farazmand, “Learning from the Katrina Crisis: A Global and International Perspective with Implications for Future Crisis Management,” *Public Adm. Rev.*, vol. 67, no. s1, pp. 149–159, 2007, doi: 10.1111/j.1540-6210.2007.00824.x.
- [21] A. Farazmand, “Innovation in Strategic Human Resource Management: Building Capacity in the Age of Globalization,” *Public Organ. Rev.*, vol. 4, no. 1, pp. 3–24, 2004, doi: 10.1023/b:porj.0000015649.54219.b7.
- [22] S. Magdalena and R. Suhatman, “The Effect of Government Expenditures, Domestic Investment, Foreign Investment to the Economic Growth of Primary Sector in Central Kalimantan,” *Budapest Int. Res. Critics Inst. Humanit. Soc. Sci.*, vol. 3, no. 3, pp. 1692–1703, 2020, doi: 10.33258/birci.v3i3.1101.
- [23] B. Slamet Riyadi, “Culture of Abuse of Power Due to Conflict of Interest to Corruption for Too Long on The Management form Resources of Oil and Gas in Indonesia,” *Int. J. Criminol. Sociol.*, vol. 9, pp. 247–254, 2022, doi: 10.6000/1929-4409.2020.09.23.
- [24] N. Naher, R. Hoque, M. S. Hassan, D. Balabanova, A. M. Adams, and S. M. Ahmed, “Correction to: The influence of corruption and governance in the delivery of frontline health care services in the public sector: a scoping review of current and future prospects in low and middle-income countries of south and south-east Asia,” *BMC Public Health*, vol. 20, no. 1, p. 1082, Jul. 2020, doi: 10.1186/s12889-020-09197-0.
- [25] C. Beesley and D. Hawkins, “Corruption, institutional trust and political engagement in Peru,” *World Dev.*, vol. 151, p. 105743, 2022, doi: 10.1016/j.worlddev.2021.105743.
- [26] B. Zhang *et al.*, “The Effect of Economic Policy Uncertainty on Foreign Direct Investment in the Era of Global Value Chain: Evidence from the Asian Countries,” *Sustainability*, vol. 15, no. 7, p. 6131, 2023, doi: 10.3390/su15076131.
- [27] R. Hoinaru, D. Buda, S. N. Borlea, V. L. Văidean, and M. V. Achim, “The Impact of Corruption and Shadow Economy on the Economic and Sustainable Development. Do They ‘Sand the Wheels’ or ‘Grease the Wheels’?,” *Sustainability*, vol. 12, no. 2, p. 481, 2020, doi: 10.3390/su12020481.
- [28] R. Orsi and K. L. Seip, “Do Increased Tax Base and Reductions in the Underground Economy Compensate for Lost Tax Revenue Following a Tax Reduction Policy? Evidence from Italy 1982 to 2006,” *Economies*, vol. 11, no. 7, p. 177, 2023, doi: 10.3390/economies11070177.
- [29] A. Rudyanto, S. Utama, D. Martani, and D. Adhariani, “Tax aggressiveness and sustainable welfare: the roles of corruption and tax allocation inefficiency,” *Soc. Responsib. J.*, vol. 18, no. 3, pp. 619–635, 2021, doi: 10.1108/srj-10-2020-0427.
- [1] B. A. Olken and R. Pande, “Corruption in Developing Countries,” *Annu. Rev. Econom.*, vol. 4, no. 1, pp. 479–509, 2012, doi: 10.1146/annurev-economics-080511-110917.
- [2] A. H. Saragih, Q. Reyhani, M. S. Setyowati, and A. Hendrawan, “The potential of an artificial intelligence (AI) application for the tax administration system’s modernization: the case of Indonesia,” *Artif. Intell. Law*, vol. 31, no. 3, pp. 491–514, 2022, doi: 10.1007/s10506-022-09321-y.
- [3] H. D. P. Sinaga, Y. Pramana, and A. W. Hermawan, “Income Tax Reconstruction on Construction Services to Support Development in Indonesia,” *World J. Entrep. Manag. Sustain. Dev.*, 2023, doi: 10.47556/J.WJEMSD.19.1-2.2023.10.
- [4] A. Tahar, P. B. Setiadi, and S. Rahayu, “Strategi pengembangan sumber daya manusia dalam menghadapi era revolusi industri 4.0 menuju era society

- 5.0,” *J. Pendidik. Tambusai*, vol. 6, no. 2, pp. 12380–12394, 2022.
- [5] R. Fisman and S. Wei, “Tax Rates and Tax Evasion: Evidence from ‘Missing Imports’ in China,” *J. Polit. Econ.*, vol. 112, no. 2, pp. 471–496, 2004, doi: 10.1086/381476.
- [6] B. W. Prasetyo and V. Adrison, “Cigarette prices in a complex cigarette tax system: empirical evidence from Indonesia,” *Tob. Control*, p. tobaccocontrol-2018-054872, 2019, doi: 10.1136/tobaccocontrol-2018-054872.
- [7] R. J. Barro, “Are Government Bonds Net Wealth?,” *J. Polit. Econ.*, vol. 82, no. 6, pp. 1095–1117, 1974, doi: 10.1086/260266.
- [8] O. Blanchard and R. Perotti, “An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output,” *Q. J. Econ.*, vol. 117, no. 4, pp. 1329–1368, 2002, doi: 10.1162/003355302320935043.
- [9] D. A. Aschauer, “Is public expenditure productive?,” *J. Monet. Econ.*, vol. 23, no. 2, pp. 177–200, 1989, doi: 10.1016/0304-3932(89)90047-0.
- [10] S. Devarajan, V. Swaroop, and H. Zou, “The composition of public expenditure and economic growth,” *J. Monet. Econ.*, vol. 37, no. 2, pp. 313–344, 1996, doi: 10.1016/s0304-3932(96)90039-2.
- [11] N. Momayezi, “Cultural globalization,” in *Handbook of Globalization, Governance, and Public Administration*, 2006. doi: 10.25130/politic.v0i15.129.
- [12] M. G. Allingham and A. Sandmo, “Income tax evasion: a theoretical analysis,” *J. Public Econ.*, vol. 1, no. 3–4, pp. 323–338, 1972, doi: 10.1016/0047-2727(72)90010-2.
- [13] P. A. Diamond, L. J. Helms, and J. A. Mirrlees, “Optimal taxation in a stochastic economy,” *J. Public Econ.*, vol. 14, no. 1, pp. 1–29, 1980, doi: 10.1016/0047-2727(80)90002-x.
- [14] M. A. Budiman and F. Amyar, “The effect of audit opinions, implementation of audit recommendations, and findings of state losses on corruption levels in the ministries and institutions of the Republic of Indonesia,” *J. Tata Kelola dan Akuntabilitas Keuangan Negara*, vol. 7, no. 1, pp. 113–129, 2021, doi: 10.28986/jtaken.v7i1.471.
- [15] A. W. Pradana, “Decentralization Practice in Developing Countries: Lessons for Indonesia,” *J. Gov.*, vol. 6, no. 2, 2021, doi: 10.31506/jog.v6i2.12662.
- [16] C. Delavallade, “Corruption and distribution of public spending in developing countries,” *J. Econ. Financ.*, vol. 30, no. 2, pp. 222–239, 2006, doi: 10.1007/bf02761488.
- [17] A. Farazmand, E. De Simone, S. Capasso, and G. L. Gaeta, “Articles for a Special Issue of Public Organization Review (POR) on Corruption, Lack of Transparency and the Misuse of Public Funds in Times of Crisis,” *Public Organ. Rev.*, vol. 21, no. 2, pp. 183–186, 2021, doi: 10.1007/s11115-021-00529-1.
- [18] R. E. Tromp and S. Datzberger, “Global Education Policies versus local realities. Insights from Uganda and Mexico,” *Compare*, 2021, doi: 10.1080/03057925.2019.1616163.
- [19] C. F. Vahl, B. R. Osswald, P. Meinzer, R. de Simone, G. Thomas, and S. Hagl, “Internal quality assurance or Hawthorne effect? ,” *Interne Qual. oder Hawthorne-Effekt?*, vol. 114, pp. 260–266, 1997, [Online]. Available: <http://www.scopus.com/inward/record.url?eid=2-s2.0-0031311603&partnerID=40&md5=2f67459d8711c64fb264129fccb228eb>
- [20] A. Farazmand, “Learning from the Katrina Crisis: A Global and International Perspective with Implications for Future Crisis Management,” *Public Adm. Rev.*, vol. 67, no. s1, pp. 149–159, 2007, doi: 10.1111/j.1540-6210.2007.00824.x.
- [21] A. Farazmand, “Innovation in Strategic Human Resource Management: Building Capacity in the Age of Globalization,” *Public Organ. Rev.*, vol. 4, no. 1, pp. 3–24, 2004, doi: 10.1023/b:porj.0000015649.54219.b7.
- [22] S. Magdalena and R. Suhatman, “The Effect of Government Expenditures, Domestic Investment, Foreign Investment to the Economic Growth of Primary Sector in Central Kalimantan,” *Budapest Int. Res. Critics Inst. Humanit. Soc. Sci.*, vol. 3, no. 3, pp. 1692–1703, 2020, doi: 10.33258/birci.v3i3.1101.
- [23] B. Slamet Riyadi, “Culture of Abuse of Power Due to Conflict of Interest to Corruption for Too Long on The Management form Resources of Oil and Gas in Indonesia,” *Int. J. Criminol. Sociol.*, vol. 9, pp. 247–254, 2022, doi: 10.6000/1929-4409.2020.09.23.
- [24] N. Naher, R. Hoque, M. S. Hassan, D. Balabanova, A. M. Adams, and S. M. Ahmed, “Correction to: The influence of corruption and governance in the delivery of frontline health care services in the public sector: a scoping review of current and future prospects in low and middle-income countries of south and south-east Asia,” *BMC Public Health*, vol. 20, no. 1, p. 1082, Jul. 2020, doi: 10.1186/s12889-020-09197-0.
- [25] C. Beesley and D. Hawkins, “Corruption, institutional trust and political engagement in Peru,” *World Dev.*, vol. 151, p. 105743, 2022, doi: 10.1016/j.worlddev.2021.105743.
- [26] B. Zhang *et al.*, “The Effect of Economic Policy Uncertainty on Foreign Direct Investment in the Era of Global Value Chain: Evidence from the Asian Countries,” *Sustainability*, vol. 15, no. 7, p. 6131, 2023, doi: 10.3390/su15076131.
- [27] R. Hoinaru, D. Buda, S. N. Borlea, V. L. Văidean, and M. V. Achim, “The Impact of Corruption and Shadow Economy on the Economic and Sustainable Development. Do They ‘Sand the Wheels’ or ‘Grease the Wheels’?,” *Sustainability*, vol. 12, no. 2, p. 481, 2020, doi: 10.3390/su12020481.
- [28] R. Orsi and K. L. Seip, “Do Increased Tax Base and Reductions in the Underground Economy Compensate for Lost Tax Revenue Following a Tax Reduction Policy? Evidence from Italy 1982 to 2006,” *Economies*, vol. 11, no. 7, p. 177, 2023, doi: 10.3390/economies11070177.
- [29] A. Rudyanto, S. Utama, D. Martani, and D. Adhariani, “Tax aggressiveness and sustainable welfare: the roles of corruption and tax allocation inefficiency,” *Soc. Responsib. J.*, vol. 18, no. 3, pp. 619–635, 2021, doi: 10.1108/srj-10-2020-0427.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

