



## OPTIMIZING PROVINCIAL TAX COMPLIANCE: IMPLEMENTING GOOD CORPORATE GOVERNANCE PILLARS

Anggit Kuncoro Aji<sup>1)</sup>; Ilham Permadana<sup>2)</sup>; Amrie Firmansyah<sup>3)\*</sup>

<sup>1)</sup> [anggit\\_4132230004@pknstan.ac.id](mailto:anggit_4132230004@pknstan.ac.id), Polytechnic of State Finance STAN

<sup>2)</sup> [ilham\\_4132230035@pknstan.ac.id](mailto:ilham_4132230035@pknstan.ac.id), Polytechnic of State Finance STAN

<sup>3)</sup> [amriefirmansyah@upnvj.ac.id](mailto:amriefirmansyah@upnvj.ac.id), Universitas Pembangunan Nasional Veteran Jakarta

\* corresponding author

### Abstract

Tax revenue in the province is still low, even though the central government has handed over the tax base to the regions for more than 20 years. The concept of GCG can improve performance and tax revenue in the regions. This study examines the relationship of each pillar of Good Corporate Governance (GCG) to tax compliance and determines the types of GCG pillars that can be prioritized for implementation in a local government agency. This study uses the regional financial management transparency index (ITPAD) as an indicator of the transparency pillar, the fiscal independence index (IKF) as an indicator of the independence pillar, and financial statement audit opinion for the accountability and responsibility pillars. Finally, the Gini ratio is an indicator of fairness. The research sample was taken from all 34 provinces in Indonesia. Secondary data is sourced from publications, books, web pages, and previous research from 2016 to 2020. This period was chosen to exclude data from the COVID-19 pandemic era in Indonesia. The analysis method is panel data multiple linear regression with a random effect model. The results showed that fiscal independence and transparency of a region's budget management positively influence public tax compliance in a provincial area in Indonesia, while the opinion of financial statements and the Gini ratio have no influence. This study implies that to improve public tax compliance in a provincial area in Indonesia, and local governments can prioritize the implementation of the transparency and independence pillars achieved by increasing the ITPAD and IKF scores in their regions. The Ministry of Home Affairs can also encourage regions to enhance transparency and independence by improving ITPAD and IKF so that tax revenue in the regions can increase.

**Keywords:** Compliance, GCG, Independence, Local Tax, Transparency

### INTRODUCTION

The fiscal decentralization policy officially began on January 1, 2001, with the enactment of Law No. 22/1999 on Regional Government and Law No. 25/1999 on Fiscal Balance between Central and Regional Governments (Harefa, 2017). These laws have been revised several times, with the latest being Law No. 23/2014 and Law No. 1/2022 concerning Financial Relations between the Central and Regional Governments (HKPD Law). This policy grants regions authority in various fields, accompanied by the transfer of funding sources, including the tax base and funding assistance through a transfer mechanism based on the principle of "money follows function." Thus, it is expected to reduce regional dependence on the central government (Harefa, 2017).

The role of local tax in regional development is still limited because most local governments still rely on balancing funds to meet their fiscal needs (Permana, 2017). Not all regions have the same ability to seek revenue sources, especially through local tax. Nevertheless, the potential for local revenue through local tax is still considerable, as seen from the average region's low tax ratio and tax per capita (Permana, 2017). The realization of local tax revenue is one indicator of the success of a region's performance.

Table 1. Local Tax Ratio from 2016 to 2020

Tahun	Average Tax Ratio	Min Tax Ratio	Max Tax Ratio
2016	1.058%	0.461%	2.053%
2017	1.126%	0.508%	2.232%
2018	1.188%	0.481%	2.199%



2019	1.198%	0.596%	2.195%
2020	1.088%	0.552%	1.780%
<b>Average</b>	<b>1.132%</b>	<b>0.519%</b>	<b>2.092%</b>

Source: Author's Process from Statistics Indonesia

One of the efforts to streamline local tax collection is establishing HKPD Law. This is because fiscal decentralization was launched in 1998, but until 2023, not all local governments have matured in managing their finances (Kurniati, 2023). One of the causes of immature local financial management is the low level of tax collection in the regions, and the local tax collection rate is only 60 percent (Rachman, 2023). The average local tax ratio score is still very low; some regions have only 0.46 percent, and the highest is only 2.2 percent, as shown in Table 1. Ideally, the value of the local tax ratio is 3 percent (Avisena, 2023). The average contribution of local tax and levies to local revenue is still low, below 20 percent, and only 16.8 percent in 2020 (Bhakti et al., 2022). In addition, local government public services are the most complained about by the public (Rahayu, 2019). In the private sector, there is the concept of Good Corporate Governance (GCG), which is a solution to the crisis in Asia due to poor corporate management (Binus University, 2019). This concept is built on the principle of agency theory, which describes the relationship between management and owners based on the principle that management as an agent has the responsibility to optimize the profits of the owners or principals. In its application, this concept is used to build a management control system mechanism and balance (check and balance) to prevent resource misuse (Nur'ainy et al., 2013). According to Maulana (2021), GCG underlies the relationship process between management and other parties to create value-added and increase company value to shareholders. GCG implementation is necessary because it is related to controlling top management behavior, which is broader in scope than the management control system (Merchant & Stede, 2017).

The application of GCG in managing government agencies can lead to significant improvements. This is because GCG can help control the behavior of top management in regional government agencies, which currently hold substantial autonomy. By implementing GCG principles, government management becomes more trustworthy, increasing the agency's value and public trust (Sinambela & Sembiring, 2020). In government GCG, the public is considered the principal, while government employees are the agents. GCG ensures that employees, as agents, are responsible for maximizing resources and making decisions that benefit the public as principals. It also regulates the behavior of regional heads and top officials, who provide instructions to their staff. Therefore, research on the impact of each GCG pillar on the performance of regional government agencies, particularly local tax revenue, is important. Improved local tax revenue would reduce regional dependency on the central government and support effective regional autonomy.

Five pillars of GCG can be sought separately for their influence on the local tax performance of a province. The five pillars of GCG, according to KNKG (2006), consist of transparency, accountability, responsibility, independence, and fairness. Given the variety of cultures, regulations, and resources in local government agencies, the adoption of GCG by local governments will certainly be easier if there is a priority scale based on the level of influence of each GCG pillar.

Research Nicola & Saleh (2023) concluded that GRDP, capital expenditure, and population affect local tax revenue. Research Saraswati & Nurharjanti (2021) and Nursyamsiah (2021) state that the fiscal independence factor of a region affects tax revenue. Meanwhile, research by Alwi et al. (2021) states that the audit opinion on regional finances positively influences a region's tax revenue. Finally, based on research by Puron-Cid et al. (2019) and Zahra et al. (2023), transparency affects the performance of government agencies, which in turn



affects tax revenue. Several proxies can be used from these studies to measure the implementation of each GCG pillar. The responsibility and accountability pillars can use the financial report opinion from BPK RI, the transparency pillar can use the Regional Budget Management Transparency Index (ITPAD) (Nulailah & Syamsul, 2021), fairness can use the Gini index per province, and independence can use the fiscal independence index (IKF).

The amount of tax revenue in each region is influenced by factors such as population, inflation, and Gross Regional Domestic Product (GRDP), which are uncontrollable factors for each employee in the local government (Lumy, Kindangen & Engka, 2018). Therefore, the tax ratio is a more appropriate indicator to measure a region's tax revenue performance. The local tax ratio is obtained by dividing the tax collected by a region with the region's GRDP (Puspita et al., 2021). This indicator is also one of the tools to measure tax compliance (Waluyo, 2020).

Previous research on the effect of GCG on local tax revenue was conducted by Suhendro et al. (2021) using data from 33 provinces from 2008 to 2012. This quantitative method research shows that GCG significantly positively affects local tax revenue. Research conducted by Khale & Worku (2015) in Tshwane, South Africa, also recommends implementing GCG in officials and managers. Sunardi et al. (2019) researched the effect of GCG implementation on local government performance with a specific location at the Regional Tax and Retribution Management Agency of Musi Rawas Regions, which provided results that GCG principles had a significant positive effect on local government performance. However, of the many studies on the impact of GCG, no one has conducted further research on applying each pillar of GCG to local tax compliance in the provinces of Indonesia. This is important to study because, despite regional autonomy and fiscal decentralization initiated in 1998, many regions still struggle to maximize local tax revenues by 2023, resulting in a low overall tax ratio in Indonesia. Therefore, in-depth research on the separate implementation of each GCG pillar is necessary to enhance tax compliance in provincial regions. Adopting GCG gradually, starting with prioritized pillars, is more effective. Regional heads should identify which pillars influence tax performance to develop effective policy plans.

## **LITERATURE REVIEW**

Local tax is a levy determined and implemented by a local government, either provincial or district/city, and the results are used to finance the administration of regional government and development (Lumy, Kindangen & Engka, 2018). Local taxes are contributions that must be given to autonomous regions, are obligatory, follow statutory regulations without getting direct rewards, and aim to improve people's welfare (BPS RI, 2022). The local tax ratio level can measure community compliance in fulfilling tax obligations (Wildan, 2021). The tax ratio is the ratio between tax revenue and gross domestic product (GDP), which measures revenue performance in a particular region or country (DJP RI, 2024). In Indonesia, the local tax ratio is between local tax realization and GRDP performance for a certain period (Bhakti et al., 2022).

The value of the local tax ratio is used as an indicator to evaluate the performance of local tax revenue and the level of community compliance in a region related to tax payments (Mahwiyah, Khotimah & Betara, 2023). According to the Director General of Fiscal Balance of the Ministry of Finance, the ideal tax ratio is 3 percent (Wildan, 2021). The higher the local tax ratio of a province, the higher the level of compliance of its people and the higher the tax revenue performance of the province. Considering that local tax revenue is one of the measures of local government success, as stated in Permendagri Number 19 of 2020 concerning the Measurement of the Regional Financial Management Index (IPKD), a region needs to optimize tax compliance in its area so that the tax revenue is sufficient to finance regional expenditure.

Agency theory describes the framework used to study contracts between principals and agents and predict standards' economic consequences (Godfrey et al., 2010). This theory centers



on the dynamic between two parties: the principal, who entrusts their interests (e.g. the owner), and the agent, who acts on behalf of the principal (e.g., a manager). All parties are considered to act in their interests and maximize their benefits; the principal wants the maximum investment return, and the agent wants to receive financial compensation for his performance (Lesmono & Siregar, 2021). It emphasizes the importance of investment in information systems to control agent opportunism and accommodate organizational uncertainty about the future (Alamsyah, 2006).

Agency theory can be applied to the community and the government (Sonbay, 2022). The community mandates the government to perform tasks that benefit the community, and the government must prioritize the community's interests because the government works for the community. This is in line with the view of Buchanan (1975) that the state represented by politicians elected by the democratic system is the agent, and the people who have demands on the government are the principal. Therefore, in implementing local tax collection, a province's people act as principals and local governments as agents. The agency theory is highly relevant in the relationship between local governments as agents and the community as principals, as it reflects the dynamics of responsibility and expectations between both parties. In this framework, the community (principal) mandates the local government (agent) to manage resources and perform governmental duties, including the collection and management of local taxes (Sonbay, 2022). The local government must efficiently and responsibly manage the taxes paid by the community to meet their needs and interests. Ultimately, the effectiveness and fairness with which local governments manage taxes can significantly influence community tax compliance and trust, further underscoring the relevance of agency theory in shaping policies for enhanced financial governance.

The Cadbury Committee introduced the term "Good Corporate Governance" in 1993 through their report known as the Cadbury Report (Sinambela & Sembiring, 2020). According to Agoes & Ardana (2011), GCG is a regulatory system that manages the relationship between the Board of Commissioners, Directors, shareholders, and other stakeholders and characterizes a transparent process in setting company goals, achieving these goals, and evaluating its performance. GCG is good governance in corporate governance, a mechanism and process that helps ensure that companies are directed and successful in creating value for their owners while fulfilling responsibilities to other stakeholders (Merchant & Stede, 2017). The Asian financial crisis in 1997, followed by the collapse of major companies such as Enron and Worldcom in 2002 and the subprime mortgage crisis in the United States in 2008, has made the world realize the urgency of implementing GCG principles.

The five pillars of GCG initiated by KNKG (2006) are (a) Transparency, in the form of openness in presenting important and relevant information for the decision-making process; (b) Independence, in the form of professional management of the company without conflict of interest or influence that violates corporate rules and principles; (c) Accountability, in the form of openness in the function and implementation of corporate responsibility to ensure effective management; (d) Responsibility, in the form of suitability and compliance with sound corporate principles and laws and regulations; and (e) Fairness, in the form of justice and equality in fulfilling stakeholder rights based on agreements and applicable regulations.

The GCG concept is built on the principle of agency theory, which describes the relationship between management and owners based on the principle that management as an agent has the responsibility to optimize the profits of the owners or principals (Binus University, 2019). The application of GCG principles in managing government agencies is of great importance because it can solve agency problems between the public as the principal and the government as the agent. By applying GCG principles, the management of government agencies can be more trustworthy, increasing public value and trust (Sinambela & Sembiring,



2020). The implementation of GCG in government agencies ensures that the implementation of government agencies is carried out responsibly by managing resources optimally and making decisions that benefit the community.

GCG is concerned with controlling the behavior of top management, which is broader than the management control system (Merchant & Stede, 2017). Therefore, GCG functions as a controller of the behavior of regional heads and echelon officials who act as top management and give instructions to employees. Previous research conducted by Suhendro et al. (2021), Khale & Worku (2015), and Sunardi et al. (2019) states that GCG can improve local government performance and/or tax compliance in a region. So, in implementing GCG in government agencies, this concept cannot be considered as a whole. There are five pillars of GCG, as described by KNKG (2006), that may have a separate influence on local tax performance in a province.

According to Puron-Cid et al. (2019, transparency reduces the possibility of corruption cases, encourages financial performance, and can increase public trust in the government. Transparency is the first pillar of GCG, relating to openness in presenting information that can be used for decision-making (KNKG, 2006). Information disclosure has become a must for the government in Indonesia since the enactment of UU No. 14/2008 on Public Information Disclosure. This law was implemented by the Minister of Home Affairs Regulation Number 35 of 2010 concerning Guidelines for the Management of Information and Documentation Services within the Ministry of Home Affairs and Local Governments.

To strengthen information disclosure, the Minister of Home Affairs issued the Instruction of the Minister of Home Affairs of the Republic of Indonesia No. 188.52/1797/37/SJ/2012 on Increasing Transparency in Regional Budget Management (TPAD). This step was supported by the Presidential Instruction of the Republic of Indonesia No. 7 of 2015 on Action and Prevention and Eradication of Corruption. The Ministry of Home Affairs issued Circular Letter No. 900/1843/Keuda/IX/2015 on TPAD as a follow-up. These various regulations and policies reflect the government's commitment to increasing transparency, especially in strengthening Regional Budget management (Syamsul, 2020).

Zahra et al. (2023) state that transparency affects government agencies' performance. Therefore, TPAD can be used as a proxy for applying the transparency pillar of GCG in provincial government agencies. The basis for determining indicators for measuring the level of transparency in a region is Presidential Instruction (Inpres) Number 7 of 2015 on action to prevent and eradicate corruption (Nulailah & Syamsul, 2021). The measurement result is a TPAD index that describes the availability, accessibility, timeliness, and completeness of publications on local government websites.

The second pillar, independence, is professional management without conflict of interest or influence that violates the rules. IKF is used to measure the level of independence in a region (BPK RI, 2021b). This index is the main indicator to measure the ability of regions to finance the implementation of local government without external assistance and intervention, including the central government. The essence of regional fiscal independence, as stated by Hunter (1977) in BPK RI (2021b), is that local governments have the freedom to determine sources of revenue and expenditure as regulated by law. To strengthen local fiscal independence and support the implementation of local government autonomy, UU No. 28/2009 on Local tax and Levies was passed as amended last by the HKPD Law. Through this regulation, local governments are given greater authority to increase local own-source revenue (PAD) by expanding local tax objects, increasing local retributions, and providing discretionary policies in setting tax rates (Kurniati, 2023).

The Supreme Audit Agency of the Republic of Indonesia (BPK RI) uses Hunter's (1997) formula in conducting a review of regional fiscal independence by adjusting the formula



following the structure of the Regional Budget (APBD) in Indonesia (Zakiah, 2022). BPS RI (2024) in the BPK RI Audit Report (LHP) on the 2020 Local Government Financial Statements (LKPD) classifies the level of regional fiscal independence into four categories, namely "Not yet Independent" ( $0,00 \leq IKF < 0,25$ ), "Towards Independence" ( $0,25 \leq IKF < 0,50$ ), "Independent" ( $0,50 \leq IKF < 0,75$ ), and "Very Independent" ( $0,75 \leq IKF < 1,00$ ) (BPK RI, 2021b).

According to research by Saraswati & Nurharjanti (2021), regional fiscal independence and local tax have a positive relationship. Likewise, research (Nursyamsiah, 2021) also states that Local tax and fiscal independence have a close relationship. The greater the local tax received, the higher the local revenue. That way, the ability of the region to finance its activities will be more remarkable, and the region's independence will increase.

Every year, BPK RI is given the task, based on UU No. 15/2006, to conduct a financial audit of the LKPD, which ultimately results in an Opinion (BPK RI, 2020). Regular audits of LKPD by independent institutions such as BPK RI are very important (Alwi et al., 2021). This opinion reflects the level of public trust in a government agency from the point of view of its responsibility and accountability (BPK RI Sumbar, 2018). According to research by Alwi et al. (2021), local finance's audit opinion positively influences a region's tax revenue. From this, it can be seen that the opinion of the audit results can be used as an indicator of the implementation of GCG pillars three and four, accountability and responsibility, in local governments.

Overview of Semester Audit Results (IHPS) I of 2021 published BPK RI (2021a) presents the results of the examination of 541 out of 542 LKPD in 2020. Of the 541 LKPD in 2020 that were examined, BPK RI gave 486 Unqualified Opinions (WTP) or as much as 90%, 49 Qualified Opinions (WDP), 4 Disclaimer of Opinion (TMP), and 2 Adverse Opinions (TW). When viewed from the provincial government level, the achievement of WTP opinion reached 97% or 34 provincial governments, 88% or 415 district governments, and 95% or 93 city governments. When viewed in Presidential Regulation (Perpres) No. 18/2020 on the National Medium-Term Development Plan for 2020-2024, the value of the achievement of WTP opinion in 2020 has exceeded the target of priority activities for reforming the performance accountability system of provincial, district and city governments.

The last pillar is fairness, which is the form of justice and equality in fulfilling stakeholder rights based on applicable regulations. An Italian statistician, Corrado Gini, created the Gini coefficient or index ratio. The Gini index is the most well-known instrument for inequality (Hasell, 2023). A high value of the Gini index reflects large economic inequality in a country, while a small value indicates more limited economic inequality (Handayani, 2023).

BPS RI (2023) presents Gini index data per provincial region. This data illustrates the level of equality and inequality between regions in Indonesia. The method of measuring the Gini index can be done through the income distribution or expenditure distribution approach, and in Indonesia, Statistics Indonesia (BPS RI) uses the expenditure distribution approach in measuring the Gini index. Therefore, it can be seen that the Gini index presented by Statistics Indonesia can be used to measure the implementation of the fairness pillar in a province. The high inequality in a region certainly makes the community more disobedient in carrying out their tax obligations. People feel dissatisfied with the performance of the government. After all, the rich are getting richer, while the poor do not experience economic improvement.

One indicator to measure prosperity in a region is the GRDP (Monica et al., 2017). GRDP, according to the definition of Indonesia's Central Bureau of Statistics, is the sum of the added value generated by all business units or enterprises in a region. In other words, GRDP includes the total final value of goods and services produced by all regional economic units (BPS RI, 2024). Based on research conducted by Nicola & Saleh (2023) and Susila & Pradhani (2022), GRDP positively affects local tax revenue. Therefore, the amount of GRDP in a



province is closely related to the tax compliance of its people because the divisor of the local tax ratio, which is an indicator of tax compliance, is GRDP.

## **METHODS**

This research employs a quantitative approach using panel data. It utilizes secondary financial data from all provinces in Indonesia, comprising 34 provinces, from 2016 to 2020. Including all provinces is aimed at providing comprehensive representation and capturing the variations across the regions in Indonesia. The selected five-year period allows for the exclusion of data from the COVID-19 pandemic era, which began in Indonesia on March 2, 2020 (Putra, 2021). This period was chosen to enable a long-term trend analysis. Data from the pandemic period were excluded due to anomalies in regional financial performance, such as the PAD effectiveness ratio, the ratio of local tax contributions to PAD, and the capital expenditure ratio during that time (Rahmawati & Kiswara, 2022).

Regional financial data for each province in Indonesia is sourced from the Central Bureau of Statistics of the Republic of Indonesia. The publication used is the Provincial Government Financial Statistics book, released annually on the official website of BPS RI (BPS RI, 2022). ITPAD data uses research conducted by (Nulailah & Syamsul, 2021). Gini index data uses the rural plus urban Gini index per province on the official website (BPS RI, 2023), resulting from the National Socio-Economic Survey (Susenas) from 2016 to 2020. Finally, audit opinion data by BPK RI is obtained from the IHPS published by BPK RI from 2016 to 2020 (BPK RI, 2021a). The fiscal independence indicator uses data on the Provincial Government's IKF obtained from the 2020 review report on the fiscal independence of the provincial government issued by BPK RI (BPK RI, 2021b). GRDP data for each province was also obtained from the BPS RI website.

The sampling technique used a purposive sampling method by considering the following provincial criteria:

- a.* It is a province that was formed in the period 2016 to 2020
  - b.* The province has all the data needed in the study, including ITPAD, regional financial data, fiscal independence data, GRDP, Gini index, tax revenue realization, and BPK audit opinion.
- Based on these criteria, all provinces have complete data, resulting in 34 provinces being included in the study, with five years from 2016 to 2020, or a total of 170 data observed.

This study uses independent variables in fiscal independence, BPK RI audit opinion, Gini index, and transparency of budget management. The dependent variable is the tax compliance of each province as measured by the local tax ratio. The IKF of each province is used to find the level of independence of a region. As BPK RI (2021b) stated, an IKF can be used to measure the level of independence in a region. The Fiscal Independence Index of a province is calculated using the Fiscal Autonomy Index (FAI) introduced by Hunter in 1977. For the model in this study, FAI is adjusted to the structure of the Regional Budget (APBD) in Indonesia by BPK RI.

The ITPAD data, as researched by Nulailah & Syamsul (2021), is used as a proxy to measure provincial transparency levels. The transparency measurement indicators are based on Presidential Instruction No. 7 of 2015 concerning actions to prevent and eradicate corruption. In calculating ITPAD, a dichotomous scoring method is used, where each criterion—such as availability, accessibility, timeliness, and completeness of publications on the local government's website—is assigned a score of 1 if met and 0 if not. Each criterion score is multiplied by 0.25, and the results are summed to obtain the total score. This total is divided by the maximum possible score and multiplied by one hundred to determine the final ITPAD score. The use of dichotomous scoring is relevant for objectively measuring transparency factors like



availability and accessibility, making ITPAD a strong indicator of a region's budget management transparency (Nulailah & Syamsul, 2021).

The audit opinion on the financial statements used in this study is the opinion issued by BPK RI on the LKPD, published in IHPS Semester I of 2021 (BPK RI, 2021a, 2021b). A dummy variable is used to convert the audit opinion variable, qualitative data, into quantitative data. A dummy variable categorizes qualitative data into nominal scale data (Artaya, 2019). The dummy variable model assigns a code of 1 for provinces with an Unqualified Opinion (WTP) audit opinion and a code of 0 for those other than WTP. The audit opinion by BPK RI serves as an appropriate proxy to measure the quality of a region's financial management. The local government's financial statements are a form of accountability from the regional government. An Unqualified Opinion indicates that the region's financial statements have been prepared following generally accepted accounting principles without significant findings (BPK RI, 2021b). Thus, this audit opinion is an objective indicator for assessing the responsibility and accountability of the region's financial management.

The Gini index is obtained from secondary data officially released through the official website of the Central Statistics Agency (BPS RI, 2023). Statistics Indonesia measures the Gini index through an expenditure distribution approach, so the inequality of population expenditure in each province in Indonesia is measured. The more evenly the distribution of population expenditure, the value of the Gini index will be close to zero, whereas if the inequality is greater in a region, then the value of the regional Gini index will certainly be high (BPS RI, 2023). The type of gini index chosen is the rural+urban type. This type is the average of the rural and urban gini indexes, thus illustrating the overall inequality or equality in the area. Income inequality is often linked to tax compliance, as high inequality can reduce public trust in the government and increase incentives for tax evasion (Suriyanrattakorn & Chang, 2022). Therefore, the Gini index is a highly relevant proxy for measuring the fairness pillar concerning tax compliance at the regional level.

Tax compliance of a region is measured by the tax ratio proxy for each province. As researched by Wildan (2021), the level of community compliance of a region in carrying out its tax obligations can be measured by the local tax ratio level. The local tax ratio is found by dividing the realization of tax revenue by gross regional domestic income and multiplying it by 100 percent (DJP RI, 2024). The local tax ratio is obtained by dividing the tax collected by a region with the region's GRDP (Puspita et al., 2021). If formulated:

$$\text{Tax Ratio} = (\text{Local Tax Realization} / \text{GRDP}) \times 100\%$$

This study uses each province's GRDP amount as a control variable. The value of GRDP is obtained from the Statistics Indonesia website, with the value used as Constant Price 2010. This is done to exclude the influence of the inflation rate on the GRDP component (BPS RI, 2024).

This research was conducted using multiple linear regression analysis for panel data. The research model used in testing the four hypotheses is:

$$\text{TAXRATIO}_{it} = \beta_0 + \beta_1 \text{IKF}_{it} + \beta_2 \text{TRANS}_{it} + \beta_3 \text{OPINI}_{it} + \beta_4 \text{GINI}_{it} + \beta_5 \text{LNPNDRB}_{it} + \epsilon_{it}$$

Where :

- TAXRATIO : Tax Ratio of a province i in year t
- IKF : Fiscal Independence Index of a province i in year t
- TRANS : Transparency of regional budget management of a province i in year t
- OPINI : BPK Audit Opinion of a province i in year t
- GINI : Gini index value of a province i in year t
- LNPNDRB : Natural Logarithm operation result on GRDP of a province i in year t



We tested the classical assumptions before running the regression analysis to check for normality, heteroscedasticity, multicollinearity, and autocorrelation. This test ensures that the developed regression model produces reliable estimates and is bias-free (Purnomo, 2016). According to Agus (2007), regression techniques (models) are often offered to estimate model parameters with panel data: The comm, fixed, and random effect models. The panel data model used in the study is the best model based on testing using the findings from Agustini & Sunenediari (2021). If the panel data has more cross-section data than time series data, then the model used is a random effect. Conversely, the best model is a fixed effect if the time series data exceeds the cross-section data.

The result of this linear regression is used to interpret the pillars each local government can prioritize. The pillars that proved to have a significant influence were prioritized for implementation. Descriptive statistics of each province's financial data were used to provide specific advice on Optimizing Provincial Tax Compliance. Descriptive statistics itself is defined by Walpole et al. (2012) as a method that is closely related to the collection and presentation of data that can ultimately provide useful information.

## RESULTS AND DISCUSSIONS

### Main Finding

The variables of tax compliance, financial statement opinion, GRDP, Gini Index, and fiscal independence have higher mean values than their standard deviations, as in Table 3. This indicates that the data distribution of the independent, dependent, and control variables is even. In contrast, the independent variable of budget management transparency has a higher standard deviation than its mean value. This indicates that the data distribution of the transparency variable is not very even. In addition, the data distribution analysis of all variables, as shown in Table 3, can also be seen from the range between the average value and the minimum value and the range between the average value and the maximum value. The independent variables, control variables, and some dependent variables have a fairly balanced range between the average value and the minimum and maximum values. These results indicate that this study's independent, dependent, and control variables have a fairly good data distribution.

Table 3. Descriptive Statistics Results

Variable	Obs	Mean	Std. dev.	Min	Max
TAX RATIO	170	0.01132	0.00388	0.00461	0.02232
IKF	170	0.35525	0.15620	0.04270	0.71060
GINI	170	0.35422	0.03649	0.25700	0.44000
OPINI	170	0.95882	0.19929	0.00000	1.00000
TRANSPARANSI	170	21.80153	23.89902	0.00000	95.83000
LNPDRB	170	32.64559	1.14405	30.70171	35.14650

The average local tax compliance is quite low, only 1.13 percent, while the ideal tax ratio based on the Director General of Fiscal Balance of the Ministry of Finance statement is 3 percent. The low local tax compliance indicates that regional autonomy has not been maximized and that GCG, as part of the management control system, has not been implemented properly by local governments. This can be seen from the value of independence, which, on average, is still at 0.35422. This value indicates that, on average, provincial governments in Indonesia are still in the stage of independence. The average Gini index value is still quite high at 0.35422, indicating that Indonesia's region's inequality is still quite high.

Regarding the opinion of local government financial statements, the majority are excellent. Only a few regions still have a WDP opinion, while more than 95 percent of provincial governments already have an opinion on financial reports with WTP results. The score for transparency in budget management varies widely. Some regions scored 0.00 for five



consecutive years, meaning transparency in these regions is completely absent. These provinces are East and North Kalimantan, North Sulawesi, North Maluku, and Papua.

For the normality test, the p-value is 0.0725, which is greater than the significance level ( $\alpha = 5\%$ ), indicating that the null hypothesis ( $H_0$ ) of normality is not rejected. Similarly, the heteroscedasticity test yields a p-value of 0.3614, also greater than 5%, meaning that the model does not suffer from heteroscedasticity, implying homogeneous data variance. The multicollinearity test reports a variance inflation factor (VIF) of 1.81, which is well below the threshold of 10, showing no significant multicollinearity among the variables. However, the autocorrelation test has a p-value of 0.0003, which is less than 5%, leading to the rejection of  $H_0$  and suggesting that autocorrelation is present in the model.

Based on these results, it was found that the model used passed the normality test, heteroscedasticity test, and multicollinearity test. However, the model does not pass the autocorrelation test. In other words, the data variance of the model used is homogeneous (the model is free from heteroscedasticity assumptions), the data is normally distributed (the model is free from normality assumptions), and there is no correlation between variables (the model is free from multicollinearity assumptions). However, the model has variable values at time  $t$  correlated with variables at time  $t-1$  (the model is not free from autocorrelation assumptions).

Although the model does not pass the autocorrelation test, based on the opinion of Iqbal (2024), the autocorrelation test on panel data (other than time series) is not required. Therefore, the panel data used in the study is not required to pass the autocorrelation test, so the data and model can be used for panel data regression tests.

The data used for analysis consists of 34 provinces, which are cross-section units with a period of 5 years, from 2016 to 2020, a time series. Because the combination of cross-section and time series data is balanced, this study uses panel data with 170 observed data (Sihombing, 2022). Based on the research of Agustini & Sunenediari (2021), it can be concluded that the best model used in panel data regression in this study is the random effect model because the amount of cross-section data is more dominant than the time series. The following results are obtained from the random effect regression model on the panel data used.

**Table 5. Random Effect Model Regression Results**

<b>Variable</b>	<b>Coefficient</b>	<b>P &gt;  z </b>	<b>z</b>
IKF	0.0222823	0.0000**	8.09
GINI	-0.0024056	0.3605	- 0.36
OPINI	0.0003226	0.2180	0.78
TRANSPARANSI	0.0000115	0.0300**	1.88
LNPDRB	-0.0016298	0.0000**	- 3.52
Constata	0.0568988	0.0000**	3.80
R-squared	0.4489		
Wald chi2(5)	70.17		
Prob>chi2	0.0000**		

\*\*significant at  $\alpha = 1\%$ ; \*significant at  $\alpha = 5\%$

From the regression model with the random effect model, an overall R-square of 0.4489 was obtained, which shows that the independent variables consisting of financial statement opinion, fiscal independence, Gini index, and budget management transparency influence local tax compliance of 44.89 percent. In other words, other independent variables not included in this research model affect the dependent variable by 55.11 percent.

The regression equation model obtained from the results of this study is as follows:



$TAXRATIO_{it} = 0.0568988 + 0.0222823 IKFit + 0.0000115 TRANSPARANSI_{it} + 0.0003226 OPINI_{it} - 0.0024056 GINI_{it} - 0.0016298 LNPDRB_{it} + \varepsilon$

The model implies that: (1) a 1 percent increase in the fiscal independence index leads to a 0.0222823 percent increase in tax ratio and vice versa; (2) a 1 percent increase in ITPAD leads to a 0.0000115 percent increase in tax ratio and vice versa; (3) a 1 percent increase in financial statement opinion leads to a 0.0003226 increase in tax ratio and vice versa; and (4) a 1 percent decrease in Gini index leads to a 0.0024056 increase in tax ratio and vice versa.

The  $P > |z|$  and  $Prob > \chi^2$  values in Table 8 have been adjusted by dividing the  $P > |z|$  and  $Prob > \chi^2$  values from the STATA application by two. This study uses a one-tailed statistical test. This approach describes whether or not the independent variable affects the dependent variable and estimates the direction of the positive or negative relationship. This concept follows the explanation by Kasim (2008), which states that a one-way statistical test occurs when the alternative hypothesis shows a difference and includes a statement regarding whether one thing is higher or lower than another. In a one-way statistical test, the p-value is twice the p-value in a two-way test.

On this basis, from the z-test results, the variables of budget management transparency and fiscal independence have a significant effect on tax compliance. However, financial statement opinion and Gini index variables do not affect tax compliance. Furthermore, from the  $\chi^2$  test results, all independent variables significantly affect the dependent variable of tax compliance.

From these results, it can be concluded that if government agency employees as management want to increase tax revenue through optimizing tax compliance, then the focus should be on increasing the transparency of budget management and regional fiscal independence. In other words, the transparency and independence pillars of GCG should be prioritized for implementation by the provincial government. If a provincial government can adopt all pillars of GCG together, tax compliance can be optimized.

The positive effect of fiscal independence, an indicator of the independence pillar on tax compliance, is in line with the results of research by Saraswati & Nurharjanti (2021) and Nursyamsiah (2021). The greater the tax revenue, the greater the local revenue (PAD). Tax revenue will certainly affect fiscal independence because PAD is the numerator in the regional fiscal independence formula. On the other hand, the tax ratio is used to find the value of a region's tax compliance. If GRDP is constant, the greater the tax revenue, the greater the tax ratio of a region. Therefore, based on the results of statistical tests and findings in previous studies, it can be concluded that independence is a priority pillar for a region to implement to optimize its tax compliance, especially for provinces with IKF scores below 0.25 (not yet independent). Regions with IKF scores between 0.25 and 0.50 should also improve their independence. Although the IKF score is in the average range, if independence is improved, local tax compliance can increase, as the regression testing results in this study show. Meanwhile, regions with a score above 0.50 can maintain and improve their independence so that community tax compliance in their area does not decrease.

A province's transparency level also positively and significantly affects its people's tax compliance. This aligns with research by Puron-Cid et al. (2019) and Zahra et al. (2023), which state that transparency affects public trust in government. This trust is among the most important factors influencing a person's tax compliance. The higher public trust in the government will increase people's willingness to pay taxes. People believe that the tax money paid will be used properly and the accountability for its use will be reported to the public openly. Therefore, the next pillar to be prioritized by a provincial government to improve its people's tax compliance is independence. Improving transparency in areas with an ITPAD score of 0 from 2016 to 2020 is crucial, as these areas have very low tax ratios below 1 percent.



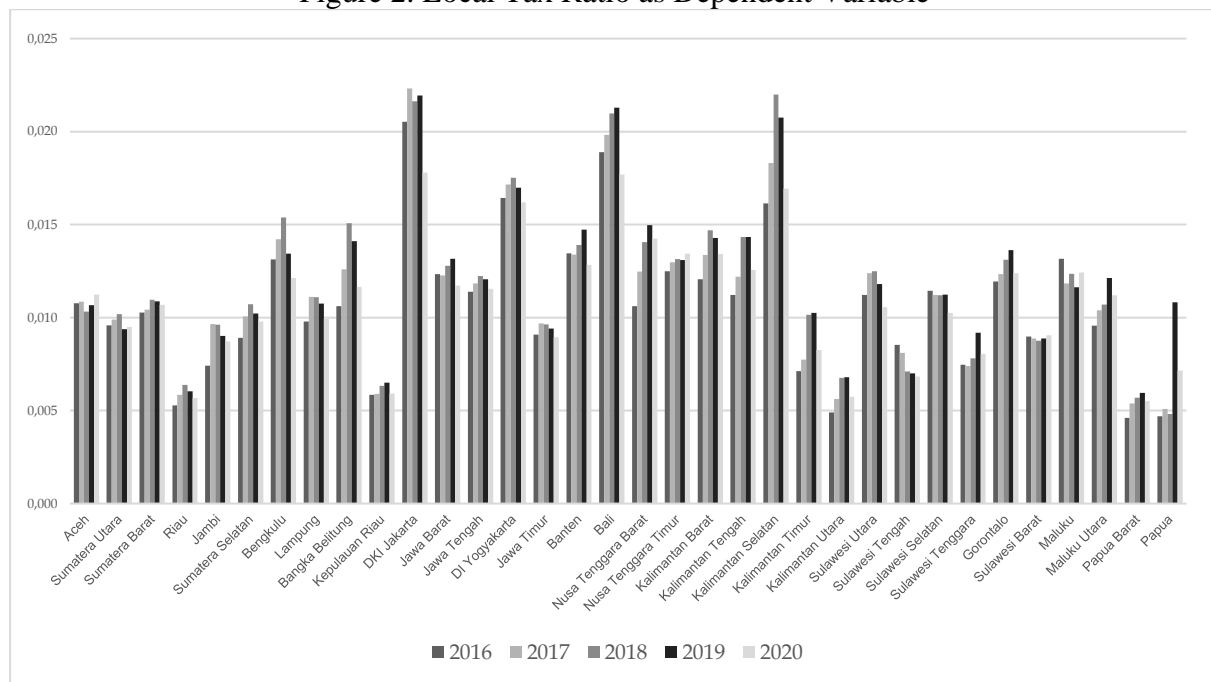
The accountability and responsibility pillars reflected in the opinion of the financial statements can be maintained by local government leaders. However, it turns out that the accountability and responsibility pillars do not significantly affect public tax compliance, and this result is not in line with the findings (Alwi et al., 2021). The difference in findings is that from 2016 to 2020, out of 170 audit opinions released by BPK RI, only 7 financial reports did not receive a WTP opinion. Even in 2019, all provinces received a WTP opinion; in 2020, only South Sulawesi province received an audit opinion other than WTP. Because almost all (95.88%) provinces have obtained an audit opinion with an unqualified result, the financial report opinion no longer affects the tax compliance of a province. This can be interpreted as all provincial governments maintaining their achievements in making good financial reports so that the opinions obtained remain WTP. The results of the audit opinion in 2020, when all provincial governments obtained WTP opinions, indicate that all provincial governments have implemented the accountability and responsibility pillars well.

All regions should work together for the Gini index to improve equality in rural and urban communities. Because although it does not affect tax compliance, the average Gini index in each province still shows a medium score (0.35). This moderate score means that inequality still occurs (Handayani, 2023). Indonesia belongs to the moderate-income inequality category, meaning the local government has not adequately implemented the fairness pillar. This Gini index figure can be a common concern of all local governments as agents of the community tasked with improving welfare equality in society. With a small gini index, people will have high life satisfaction (Suriyanrattakorn & Chang, 2022). If people's expectations of government performance are met with high life satisfaction, in the end, people will be more willing to make tax payments.

**Support Finding**

From Figure 2, it can be seen that there are three provinces with high levels of tax compliance, namely DKI Jakarta, with an average tax ratio score of 2.08 percent, then Bali (1.97%), and thirdly South Kalimantan (1.88%). The three provinces with the lowest tax compliance rankings are North Kalimantan, with an average tax ratio of 0.60 percent, Riau (0.58%), and West Papua province (0.54%), the lowest from 2016 to 2020.

Figure 2. Local Tax Ratio as Dependent Variable





As shown in Figure 3, DKI Jakarta has the highest fiscal independence, with IKF scores exceeding 60 percent for five consecutive years. The next positions are in the Banten and Bali provinces, with IKF scores ranging from 50 to 60 percent. Papua and West Papua provinces have the lowest IKF scores or level of implementation of the transparency pillar. It aligns with the test results, with DKI Jakarta and Bali topping the list of provinces with the highest tax ratio and West Papua with the lowest.

Regions with high fiscal independence, such as Jakarta, Banten, and Bali, have a tremendous opportunity to increase their fiscal independence further. These regions may already have large capital to be managed optimally following their regional potential. On the other hand, especially in eastern Indonesia, regions with independence that still depend on transfers from the central government do not yet have the capital and ability to stand on their own. In this case, the role of the central government is still very much needed to provide basic needs such as infrastructure, education, and health. At the same time, local governments can explore potentials that can be developed into local revenue sources.

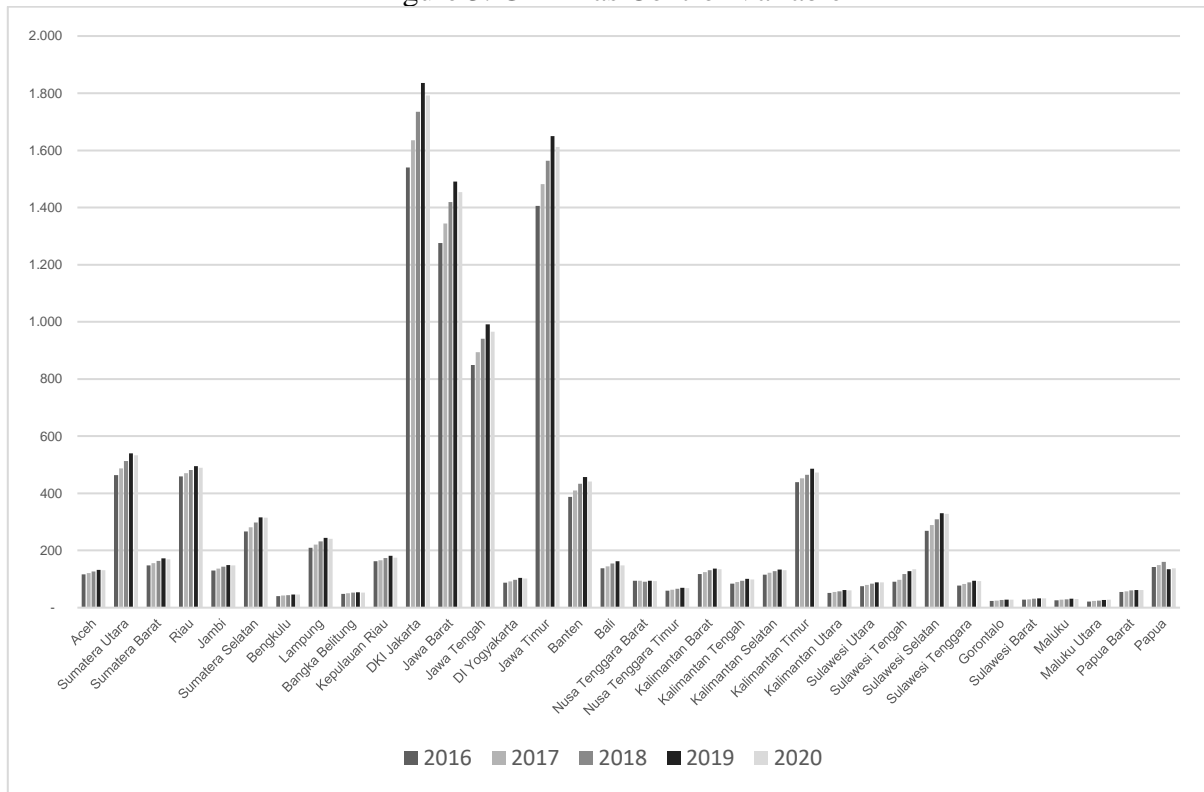
The next question arises, namely, whether local tax revenue is one of the core components in calculating the fiscal independence of a region. This could be true or false because the determining component of a region's fiscal independence is PAD. If we conduct a correlation analysis between the research variables, it appears that the fiscal independence of a region correlates 48.73 percent with tax compliance. 51.27 percent of other factors still determine the correlation between fiscal independence and local tax compliance outside local tax revenue. The PAD component includes local tax, local levies, the results of managing separated local assets, and other legitimate local revenues (BPS RI, 2019). Therefore, to adopt the independency pillar, the provincial government can also optimize regional retribution revenue by maximizing the object of retribution unique to each region and improving the management of regional-owned enterprises (BUMD) or regional assets.

As shown in Figure 4, each provincial government has a very diverse ITPAD. Riau Province is the most transparent province in managing local finances (80%). West Sumatra, D.I. Yogyakarta, and East Nusa Tenggara are next in succession. However, some provinces have an index of 0 percent, meaning there is no transparency in regional financial management. These provinces are East Kalimantan, North Kalimantan, North Sulawesi, North Maluku, and Papua. The management and accountability of provincial regional finances are fairly good, as evidenced by most local governments having obtained WTP opinions. What remains a challenge is increasing the understanding and awareness of local governments to pay more attention to transparency issues. The problem of employee ability inhibiting transparency is not an excuse, considering that even more complicated things, such as preparing financial reports, can be done well. As stipulated in the Presidential Instruction of the Republic of Indonesia (Inpres) Number 7/2015 on Action and Prevention and Eradication of Corruption and Circular Letter of the Minister of Home Affairs Number 900/1843/KEUDA/IX/2015 on TPAD, transparency in regional financial management is not a complicated matter, because it can be done as simply as utilizing the web pages already owned by each provincial government.

The potential and natural resources highly influence the amount of local tax collection realization in the region, so the comparability of tax realization between provinces is inappropriate. To homogenize the data and achieve comparability, GRDP is used as a divisor to the tax revenue figure so that the tax ratio of each province is obtained. According to research (Nicola & Saleh, 2023) and (Susila & Pradhani, 2022), GRDP is a factor that greatly affects the amount of local tax. As presented in Figure 5, DKI Jakarta, East Java, West Java, and Central Java are the provinces with the largest GRDP from 2016 to 2020. It indicates that the Indonesian economy is still concentrated in Java.



Figure 3. GRDP as Control Variable



**Related Finding**

From the detailed data of each research variable and the position of each province compared to the average of all provinces, recommendations for action were developed for each province. These recommendations can be used as evaluation material for each province adopting the GCG pillars. For the provinces of Bali, Banten, West Java, and Central Java that are not in Table 5, the recommendation is to maintain the achievement. The position of all research variables for these provinces is above average. Table 5 shows the recommended actions for each province.

Table 5. Random Effect Model Regression Results

PROVINCE	RECOMMENDATION
Aceh	Increase fiscal independence and reduce inequality
Bangka Belitung	Increase fiscal independence, reduce inequality, improve financial reporting, and improve transparency.
Bengkulu	Increase fiscal independence, decrease inequality, improve financial reporting, and improve transparency.
DKI Jakarta	Improving the presentation of financial statements
Gorontalo	Increase fiscal independence
Jambi	Reduce inequality
East Java	Improve transparency
West Kalimantan	Reduce inequality and improve financial statement presentation.
South Kalimantan	Reduce inequality and improve transparency.
Central Kalimantan	Increase fiscal independence and reduce inequality.
East Kalimantan	Reduce inequality and improve transparency.
North Kalimantan	Increase fiscal independence, reduce inequality, and improve transparency.
Riau Islands	Increase fiscal independence, decrease inequality, and improve transparency.
Lampung	Reducing inequality and improving transparency
Maluku	Increase fiscal independence, decrease inequality, improve financial reporting, and improve transparency.
North Maluku	Increasing fiscal independence, reducing inequality, improving financial reporting, and improving transparency
NTT	Increase fiscal independence
NTB	Increase fiscal independence
Papua	Increasing fiscal independence and improving transparency



West Papua	Increasing fiscal independence and improving transparency
Riau	Reduce inequality
West Sulawesi	Increase fiscal independence
South Sulawesi	Improve financial statement presentation and improve transparency.
Central Sulawesi	Increase fiscal independence, reduce inequality, and improve transparency.
Southeast Sulawesi	Increase fiscal independence and improve transparency.
North Sulawesi	Increase fiscal independence and improve transparency.
West Sumatra	Reduce inequality
South Sumatra	Reduce inequality and improve transparency.
North Sumatra	Reduce inequality and improve transparency.

\*) W. (West); E. (East); N. (North); S. (South)

Implementing these recommendations benefits each local government in optimizing its tax compliance. All the variables of this study, which are the pillars of GCG, can improve tax compliance in the province.

**CONCLUSIONS**

This study aims to optimize tax compliance in the province by examining the relationship of each GCG pillar to tax compliance under normal conditions before COVID-19. From the results of the regression analysis, it is known that fiscal independence has a positive effect on public tax compliance, and transparency of regional financial management also has a positive effect on tax compliance. Opinions on financial statements and the Gini index do not significantly affect the tax compliance of a provincial region. However, simultaneously, all independent variables that are indicators of the five pillars of GCG can dramatically affect local tax compliance. The financial statement opinion variable that has no effect may be because 95.88 percent of local government financial statements have obtained an unqualified opinion (WTP). The Gini index that has no effect may be because overall inequality still occurs in all Indonesian provinces. The Ministry of Home Affairs can also encourage regions to enhance transparency and independence by improving ITPAD and IKF so that regional tax revenues can increase and regional independence can be achieved.

It can be concluded that local governments that want to optimize public tax compliance in their provinces through GCG implementation can make the pillars of fairness and transparency a priority for improvement. These two pillars have a significant effect on tax compliance. The accountability and responsibility pillars should be maintained to remain in the good category because, in 2020, all local governments obtained WTP audit opinion results. However, the Gini index that describes fairness in the community of a region still needs to be improved together by all local governments because the average provincial Gini index in Indonesia is still in the medium range, and inequality still occurs in society. Local governments that plan to adopt all GCG pillars simultaneously to improve tax compliance have made the right decision because, simultaneously, all GCG pillars, when implemented, can optimize a region's tax compliance. Each government can also implement specific recommendations for improvement, as shown in Table 6.

However, this study is limited to exploring one-way relationships between variables, whereas in reality, there are often two-way relationships between one variable and multiple others. Additionally, the transparency variable in budget management used in this study was based on secondary data from previous research, which has inherent limitations. The selected provinces' scope was also limited to 34, while Indonesia has now expanded to 38. In future research, it is recommended to use primary data obtained through in-depth interviews or questionnaires, involve more variables, and conduct a more in-depth analysis of other GCG pillars, such as accountability and fairness.

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