Accountability and fiscal transfer: The perfect duo for enhancing the regional economy

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ABSTRACT

Each region in Indonesia receives varying amounts of fiscal transfers from the central government, influenced by regional characteristics and accountability. This study examines the impact of fiscal transfers with accountability as a catalyst for the economic growth of Indonesia's regions proxied by gross regional domestic income. The independent variables are the General Allocation Fund (DAU), Special Allocation Fund (DAK), and Revenue Sharing Fund (DBH), while accountability as control variables proxied by BPK audit findings, bureaucratic reform (RB), SAKIP, and APIP scores. Data from 34 provinces over 2016-2020 (170 observations) were analyzed using a fixed effects model and Panel Corrected Standard Error regression. This research fills a gap by examining the simultaneous effects of fiscal transfers on economic growth. The findings indicate that fiscal transfers significantly impact regional economies. The DAK has the highest effect, followed by DBH and DAU. Accountability, measured by APIP, SAKIP, RB scores, and BPK audit findings, is essential for efficient use of transfer funds. BPK audit findings negatively impact the regional economy, underscoring the need for regional governments to improve accountability to optimize central government transfers and support economic growth. Thus, fiscal transfers and accountability are pivotal for enhancing regional financial management and economic performance.

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INTRODUCTION

The Makassar proverb "Pampappakna ciduka pamokkolinna taranga," meaning giving someone maximum freedom, aptly reflects the authority granted by Indonesia's central government to regions for self-regulation and management. As a unitary state committed to regional autonomy, Indonesia strictly adheres to the principle of regional autonomy (Isnaeni & Nugraeni, 2022). Regional autonomy is a form of autonomous regions' rights, authority, and obligations to regulate and manage their governments' affairs and the interests of local communities through statutory regulations, which have been stated in Law Number 23 of 2014 concerning local governments.

A region's ability to autonomously manage its affairs is significantly influenced by its financial management capabilities. How does a region use its finances to fund its government processes, and what is the level of dependence on assistance from the central government? Strong regional financial independence requires a commitment to maximizing local revenue sources, thus reducing dependence on central government aid (Shoba & Fidiana, 2022). The effectiveness of regional economies is bolstered by the decentralization process, which creates a regional autonomic multiplier effect. Fiscal decentralization, guided by Laws Number 32 and 33 of 2004, aims to enhance regional financial management's efficiency and effectiveness. Performance indicators are essential for monitoring and limiting the scope of regional autonomy, ensuring that it aligns with overarching government objectives (Paschoalotto et al., 2020).

Public financial management is vital for the government to carry out financial governance at the central, regional, and village levels. As the smallest administrative unit, the village serves as a vital link between the community and the government. The village formation system reached a significant milestone with the enactment of Law Number 6 of 2014 concerning villages. The Village Revenue and Expenditure Budget (APBDes) is a form of village financial management in the village policy, which is also part of the management, i.e., planning, implementation, administration, reporting, and accountability, of village finances in a budget year by the Minister of Home Affairs Regulation Number 113 of 2014 concerning Village Financial Management. A noble mission is to increase the number of developed villages by reducing the number of underdeveloped villages through the National Medium-Term Development Plan. It is important to know that underdeveloped areas that have been eradicated for three years will continue to be guided by ministries/institutions and provincial governments as they are designated as eradicated areas. This provision is enshrined in Article 17, paragraph (3) of The Regulation of Minister of Villages, Development of Disadvantaged Regions and Transmigration of the Republic of Indonesia Number 3 of 2018 concerning Monitoring and Evaluation of the Acceleration of Development of Disadvantaged Regions.

This mission is consistent with the Sustainable Development Goals 2030, which are implemented by giving village trust to strengthen their role in creating prosperity for village communities (Iftitah & Wibowo, 2022). Advancement and development of villages are done through the distribution of village funds provided by the central government to various regions. This policy is known as fiscal transfers (TKD), which undoubtedly impact each region's social and economic development. Through the TKD policy, the government hopes the economy will grow further to increase labor absorption (Trianto & Panggabean, 2023).

The details of the allocation for TKD in the State Budget (APBN) for the 2023 fiscal year reached 814.72 trillion IDR, while in the 2024 fiscal year, the funds disbursed was 857.59 trillion

IDR—an increase of 5.26% (DJPK, 2023). The increase in TKD distribution is a form of solid commitment from the government to continuously provide opportunities for each region, especially villages, to boost economic growth and improve community welfare through village programs funded by TKD funding channels.

The optimal management of village funds obtained from TKD is essential for advancing villages and communities, given the substantial and increasing amounts provided by the state through APBN. Regional governments, including villages, must prepare accountable financial reports and prevent fraud in implementing these funds, necessitating good standard management (Isnaeni & Nugraeni, 2022). Poor village management performance hinders the effective use of village funds (Sholihah, 2023). Additional obstacles include the suboptimal use of funds for poverty alleviation due to inadequate coordination on poverty-oriented projects. Furthermore, pervasive corrupt practices in Indonesia pose a significant problem that requires immediate action.

Transparency International (2023) stated that Indonesia's Corruption Perception Index (CPI) dropped from 2016 to 2020, and its CPI was only 37 in 2020, as illustrated in Figure 1. This figure falls below the global and Asia–Pacific averages of 45.29 and 43.34, respectively. In 2022, Indonesia was one of the three most corrupt countries in the world. This fact is supported by data revealing that Indonesia's CPI score is far below the average CPI score of Asia–Pacific countries, which is 45 (Wijaya, 2023). Corruption committed by local governments dominated corruption cases in Indonesia from 2016 to 2019. Poor community welfare, injustice, and inefficiency in the use of resources are domino effects of corruption, as presented by various studies (Afriyanti et al., 2015).

Figure 1. Indonesia's Corruption Perception Index
Source: Transparency International (2023)

Corruption is influenced by several factors, including ineffective law enforcement that fails to deter individual corruptors. Decentralization, particularly fiscal decentralization, also contributes to corruption in regional governments by creating more opportunities for misuse of power. The wider the authority to regulate, the more gaps there will be for corruption to occur (Maria et al., 2019). Monitoring the misuse of village funds is crucial. Practical measures to address this include implementing bureaucratic reform (RB) and enhancing accountability for agency performance to improve governance (Fuadi & Mabrur, 2021).

Various forms of accountability have been implemented, including using digital media to provide openness and transparency in regional financial management, such as using the Siskeudes Application (Rakhmawati et al., 2021). Accountability is needed in regional financial management

because managing village funds to implement allocations well is crucial. Corruption can be eradicated with accountability—an aspect of good governance practices. Good governance can be realized through accountability as a critical factor in its implementation. Therefore, strengthening accountability requires essential steps to increase the efficiency and effectiveness of TKD management to increase economic growth, which also impacts community welfare (Afriyanti et al., 2015).

Qualified human resources are needed to create accountability, and one of the influencing factors is the quality of education obtained. Competent human resources are created from quality education. Education is a critical variable in an economy (Rifa'i & Moddilani, 2021). Competent human resources can provide accountability for implementing regional financial management, especially TKD. These human resources can compete amidst market needs and rapid developments to encourage productivity so that economic potential can be managed and equal levels of welfare can be encouraged (Rifa'i & Moddilani, 2021).

Figure 2 depicts the large amount of TKD components assigned to local governments. Ideally, local governments can employ all TKD to strengthen the regional economy (Karim, 2020). Moreover, there is a link between fiscal decentralization and the welfare of society through economic growth in a region, according to the fiscal federalism theory (Prasetyo & Dinarjito, 2021). All TKDs used by regions through spending impact economic growth, which also impacts community welfare. To determine the effectiveness and efficiency of TKD allocation for economic growth, in this study, authors investigate the role of accountability in decentralization in managing regional finances, especially for TKD.
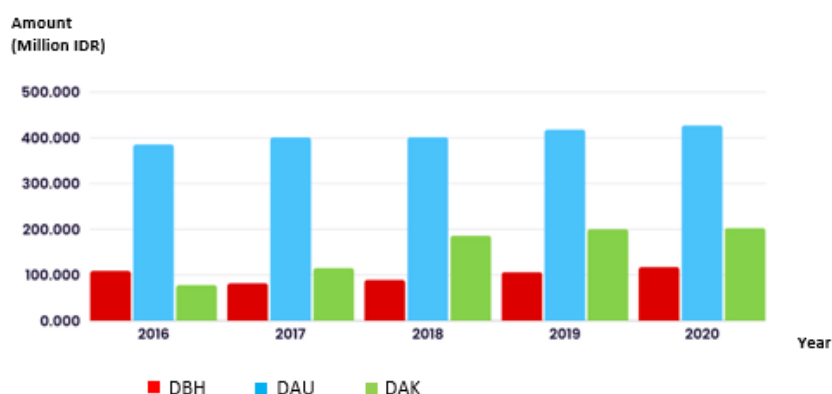

Figure 2. Allocation of TKD
Source: DJPK (2023)

Hasan (2015) indicates that DAU positively impacts economic growth, aligning with its goal to ensure fair financial resource distribution based on regional needs and capacities. Rahmah and Zein (2016) find that DAU and DBH contribute positively to Aceh's economic expansion. Similarly, Hiktaop et al. (2020) highlighted the favorable impact of fiscal decentralization on economic growth. Nany and Suryarini (2022) report that DAU and DAK boost economic growth, though DBH does not. Alvaro (2022) supports these findings, noting that DAU and DAK significantly enhance economic development in impoverished districts, whereas DBH has little impact on their economies.

Conversely, other studies present a different view. Awaworyi and Yew (2014) claim that

government transfers negatively affect economic growth, a trend observed in industrialized nations. Miao and Li (2023) also find that government transfer payments negatively impact the total income of impoverished rural households, with the policy being effective only in the short term and having minimal long-term effects.

To contribute to research on the impact of TKD on the economy, this study re-examines the relationship between fiscal decentralization and economic growth in the regions of Indonesia. Fiscal decentralization may improve the economy. Budgeting, implementation, accountability, and regulation only occur in collaboration sometimes. Accountability is important as economic progress stalls if transfer money is not distributed to the regions as intended. Agyemang-Duah et al. (2018) argue that appropriate legislation and accountability reduce corruption likelihood. Rustan and Kusumaningrum (2016) find that growth in Local Own-source Revenue (PAD) positively indicates regional economic progress and that bureaucratic reform (RB) generally benefits it. Increased PAD enhances regions' capacity to implement development initiatives, positively affecting Gross Regional Domestic Product (PDRB) growth.

Based on previous research and data availability, this study examines the role of accountability as a catalyst for optimizing TKD to enhance regional economies. Diverging from previous research, it analyzes data from all provincial governments in Indonesia over five years (2016 to 2020, including the early phase of the COVID-19 pandemic) to mitigate potential bias. Unlike prior research, this study focuses on the impact of TKD on economic growth, emphasizing accountability as a crucial factor in optimizing regional economies. It introduces innovative accountability measures using data from audit findings of The Audit Board of the Republic of Indonesia (BPK), RB scores, Government Agency Performance Accountability System (SAKIP) scores, and internal audit (APIP) scores, which have not been continuously examined in past research. According to Presidential Regulation Number 29 of 2014, SAKIP systematically measures and reports government performance for accountability and improvement, overseen by APIP. The Regulation of the Minister of State Apparatus Empowerment and Bureaucratic Reform Number 9 of 2023 includes performance and financial accountability as indicators of RB success. The findings of this study will inform decision-making and serve as valuable learning material for policymakers and researchers, contributing to the broader understanding of fiscal decentralization's role in regional economic development.

RESEARCH METHOD

This study employs a quantitative research approach using secondary data from all provincial governments in Indonesia from 2016 to 2020, including the COVID-19 pandemic period, to mitigate potential bias. To achieve the research objectives, three categories of variables were used: independent, dependent, and control. The independent variables are the DAU, DAK, and DBH. Control variables include BPK audit findings, RB score, SAKIP score, and APIP score, which can influence the effectiveness of TKD from central to regional governments. The dependent variable is PDRB.

The research methodology involves selecting a panel data regression model, which includes evaluating the suitability of standard, fixed, or random effect models for dynamic, time-variant data. Prior to the analysis, the data were tested to ensure adherence to classical assumptions,

mitigating potential biases. Hypothesis testing begins with the F-test to assess the collective impact of the independent variables. The regression coefficient test (R2) and the t-test are used to analyze the individual influence of each independent variable on the dependent variable. Thus, the authors employed this study's ordinary least squares regression model:

$$LogGDP_{it} = \beta_0 + \beta_1 LogDAK_{it} + \beta_2 LogDAU_{it} + \beta_3 LogDBH_{it} + \beta_4 LogTEM_{it} + \beta_5 RB_{it} + \beta_6 SAK_{it} + \beta_7 APIP_{it} + \varepsilon_{it} \quad \text{.. (1)}$$

where LogGDP is the logarithm of PDRB; LogDAU is the logarithm of DAU; LogDAK is the logarithm of DAK; LogDBH is the logarithm of DBH; LogTEM is the logarithm of BPK audit findings; RB is the bureaucratic reform score; SAK is the score of the system accountability for the performance of government agencies; and APIP is the score for the government internal monitoring. Logarithmic functions are employed in specific variables due to the extensive range of these variables. A comprehensive overview of the factors utilized in this study is presented in Appendix 1.

To ensure the appropriate method was used, the author conducted a Chow test to determine whether a common or fixed effect model was more suitable for the study. The test indicated that the chi-square cross-section probability was 0.00 (<0.05), implying that the fixed effect model was more appropriate. Following this, a Hausman test was performed to compare the suitability of fixed and random effect models. A random effect model would be employed if the cross-section probability was greater than 0.05. However, the probability value for the random cross-section was 0.00 (<0.05), confirming that the fixed effect model (FEM) was more suitable for this study.

In addition, this study employed a FEM due to the presumed correlation between the independent variables and other unobserved variables, such as geographical conditions (Mahanani & Adelia, 2023). Mahanani and Adelia advocate for using fixed effects when analyzing policies with aggregated data. Once the best model was identified, a conventional assumption test was conducted to ensure no violations that could compromise the estimator's validity as the best linear unbiased estimator. As robustness, the panel-corrected standard errors (PCSE) method was added to the FEM regression model. This is because the data are prone to heteroscedasticity, and there is a cross-sectional correlation. It would be highly probable for social variables to exhibit heteroscedasticity due to the unpredictability of data volatility (Zidi & Hamdi, 2024). Furthermore, cross-sectional correlation may arise due to the direct and indirect relationships between variables in the real world.

RESULT AND DISCUSSION

The first stage in assessing the data is to examine the data distribution and characteristics using descriptive statistics, as presented in Table 1. The maximum PDRB value was 183.62 million IDR for DKI Jakarta Province in 2019, while the lowest was 2.35 million IDR for Gorontalo Province in 2016. DKI Jakarta's high PDRB results in the highest DAU among all provinces. East Java Province received the most significant DAU, totaling 3.99 trillion IDR. DKI Jakarta attained the highest DBH at 16.87 trillion IDR, whereas West Sulawesi received the lowest at 13.15 million IDR. West Java Province had the highest DAK at 10.86 trillion IDR, while Gorontalo had the lowest at 318.10 million IDR.

The control variables in this study comprise APIP, RB, and SAKIP data obtained from each province in Indonesia. The highest attainable APIP score is 3 out of 5. This finding implies that the efficacy of APIPs conducted by local governments in Indonesia remains modest. Indeed, several provinces, such as Papua Province, continue to receive an APIP score of 1. Yogyakarta Province achieved the highest score of 90.31 from SAKIP. This indicates that the province has successfully attained effective governance. North Maluku Province had the lowest score of 42.64. Yogyakarta Province achieved the highest RB score of 81.08, while North Maluku Province had the lowest score of 33.08. The province with the most BPK findings, totaling 258,926 in 2020, is DKI Jakarta Province. Conversely, the province with the lowest number of BPK findings, totaling 49 in 2017, is West Kalimantan Province.

Table 1. Descriptive Statistics

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Correlation
API	2.218	2.500	3.000	1.000	0.593355	-0.500	170
DAK	1,860,035	1,106,598	10,855,904	318,099	2,024,005	2.487	170
DAU	1,552,639	1,398,640	3,998,431	0.00	742,671	1.201	170
DBH	1,041,051	331,647	16,868,180	13,152	2,442,299	4.830	170
PDRB	306,489,050	131,219,160	1,836,240,550	23,507,210	431,925,680	2.225	170
SAK	67.71	65.57	90.31	42.64	87.48	0.246	170
TEM	13741.58	4293735	258926.0	49.00	32830.46	5.154	170
RB	62.22	61.30	81.08	33.08	74.16	-0.213	170

* DAK, DAU, DBH, and PDRB are expressed in million IDR

Table 2 presents the relationship between each variable and PDRB, along with descriptive statistics. DAK has the highest correlation coefficient at 81.2%, while APIP has the lowest at 6.7%. BPK audit findings have a negative relationship with PDRB, indicated by a correlation coefficient of −3.4%. The data suggest a negative correlation between BPK audit findings and PDRB. The results from the FEM regression analysis are also shown in Table 2. The statistical probability value of F for all regional transfer variables is less than 0.05, indicating a significant impact on the PDRB of Indonesian provinces.

Table 2. The Relationship Between Variable & FEM Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.1715	0.0385	4.4530	0.0000
LOGDAK	0.0262	0.0177	20.013	0.0000
LOGDAU	0.0156	0.0155	−4.3718	0.0000
LOGDBH	0.0039	0.0032	13.142	0.0000
LOGTEM	−0.0017	0.0017	−1.0348	0.3028
RB	0.0053	0.0016	3.3300	0.0011
SAK	0.0366	0.0114	3.2171	0.0017
APIP	0.1716	0.0385	4.4530	0.0000
R-squared	0.9144	Mean dependent var.	16.5036	
Adjusted R-squared	0.9105	S.D. dependent var.	1.0687	
S.E. of regression	0.3197	Akaike info criterion	0.6047	
Sum squared resid	15.8373	Schwarz criterion	0.7565	
Log-likelihood	−41.2793	Hannan–Quinn criterion	0.6663	

The DAK variable has the highest coefficient ($\beta_1 = 0.0262$), suggesting that a 1% change in

DAK results in a 2.62% change in PDRB. DAU has a coefficient ($\beta2$) of 0.0156, implying a 1% change in DAU leads to a 1.56% change in PDRB. DBH has the lowest coefficient ($\beta3 = 0.003$), indicating that a 1% change in DBH results in a 0.3% change in PDRB. Thus, DBH has the least significant impact on PDRB compared to other regional transfers.

Moreover, the findings indicate that all the control variables significantly impact the provinces' PDRB. The F statistical probability values for RB, SAK, and APIP are less than 0.05. Compared with that of the other two control variables, the coefficient of APIP ($\beta7$) is 0.1715, indicating its highest magnitude. This finding demonstrates the substantial impact of APIP on the augmentation of provincial PDRB in Indonesia. SAK has a coefficient of 0.036 ($\beta6$), placing it second, implying that a one-point alteration in the SAKIP value corresponds to a 3.65% change in PDRB. RB has a coefficient of 0.0052 ($\beta5$), implying a one-point change in the RB value will result in a 0.52% impact on PDRB, which is relatively minor compared with that of the other two control variables.

Last, the probability of the statistical F-value of TEM is 0.3028. BPK audit findings have a negligible impact on the PDRB of provinces in Indonesia, as the value exceeds 5%. The findings about BPK could be more substantial about the overall budget of a regional government, resulting in a negligible impact on PDRB. To assess the equations' robustness, authors retested using the PCSE regression method. This methodology proves advantageous in addressing heteroscedasticity issues in the dataset. This phenomenon can be attributed to the significant variation in BPK audit findings across different provinces. The magnitude of the audit results is contingent on the regional government's budget allocation and the degree of accountability exhibited by the regional government. The results of the PCSE regression analysis are presented in Table 3. According to Table 3, the PCSE regression analysis yielded an R² value of 0.9988, indicating a strong correlation between all the independent and control variables in the model, with a 99.88% correlation coefficient for the PDRB of Indonesian provinces. This suggests that all variables, including audit findings—which previously showed minimal impact—now exert significant influence. The BPK audit findings variable has a significance value of 0.03, below the 5% confidence level.

Table 3. The Result of PCSE Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.3601	1.5858	2.1188	0.0357
LOGDAK	0.3846	0.0550	6.9833	0.0000
LOGDAU	0.0031	0.0281	−1.1124	0.0015
LOGDBH	0.0794	0.0262	3.0264	0.0029
LOGTEM	−0.0103	0.0048	−2.1501	0.0331
RB	0.0030	0.0024	1.2400	0.0216
SAK	0.0055	0.0022	2.4984	0.0135
APIP	0.0026	0.0174	0.1474	0.0330
R-squared	0.9988	Mean dependent var		16.5036
Adjusted R-squared	0.9984	S.D. dependent var		1.0686
S.E. of regression	0.0422	Akaike info criterion		−3.2789
Sum squared resid	0.2174	Schwarz criterion		−2.5007
Log-likelihood	308.2322	Hannan-Quinn criterion		−2.9630
F-statistic	259.2780	Durbin–Watson stat		1.4705
Prob (F-statistic)	0.0000			

The PCSE regression effectively addresses heteroscedasticity issues, which cannot be eliminated in the cross-section model. Significant discrepancies exist among provinces in Indonesia across various variables. Applying logarithmic values to these variables reduces inequality, but the PCSE regression technique yields the highest conversion outcomes. The DAK variable has the highest coefficient (0.3845), indicating that changes in DAK might impact PDRB by 38.45%, demonstrating DAK's significant contribution to regional economic development. The DBH variable, representing fund transfers, has the second-highest influence, with a coefficient of 0.0793, meaning a 1% change in DBH leads to a 7.93% change in GDP. Conversely, the DAU variable has the least significant impact on PDRB, at only 0.31%, despite constituting the most substantial part of central government transfers to various regions.

The change in the government system in Indonesia to decentralization in 2001 brought significant changes to the government system. According to Eid (2020), decentralization is the transfer of authority from a higher level of government to a lower level. Hastuti (2018) explained that fiscal decentralization, as one of the main components of decentralization implementation, was demonstrated by granting authority to regions to manage regional finances and handing over funding sources to regions through transfer mechanisms.

Based on Law Number 1 of 2022 regarding Financial Relations between the Central Government and Regional Governments, TKD is sourced from the APBN, a portion of state expenditures distributed to regions to be managed by them to fund local government affairs. TKD aims to reduce the fiscal gap between central and regional governments and between regional governments. The TKD component comprises DBH, DAU, DAK, Special Autonomy Fund, Yogyakarta Special Region Special Fund, and Village Fund.

The fiscal decentralization policy regarding revenue affects economic performance and regional financial potential. If a policy of increasing expenditure also follows this, it can positively influence the total financial revenue of local governments and the economy (Hasna, 2015). There have been many studies on the impact of fiscal decentralization on regional economic performance (e.g., Pasichnyi et al., 2019). Pasichnyi et al. (2019) find that fiscal decentralization has a positive influence on economic performance. They also found that the components of PDRB, such as household consumption, investment, and government consumption expenditure, experienced a significant increase during the implementation of fiscal decentralization.

Economic growth is a continuous process that reflects changes in economic activities over time, as shown by the production of goods and services (Prasetyo & Dinarjito, 2021). It is closely linked to the gross domestic product (GDP), which represents the total national income and expenditure on goods and services produced within a specific period (Chen, 2020). According to Keynes's theory, four main factors affect GDP: consumption, investment, government spending, and net exports. While GDP measures national economic performance, PDRB serves as the regional equivalent, providing an indicator of economic performance at a local level (Waryanto, 2020). PDRB is the total final value of goods and services produced by all regional production units during a specified period, irrespective of ownership (BPS, 2017).

Government expenditure, including TKD, plays a crucial role in economic growth. Prasetyo and Dinarjito (2021) find that Village Funds positively influence economic growth within and outside Java, aligning with Keynes's theory that government spending positively correlates with economic growth. Puspitasari et al. (2023) emphasize that DAU and DBH help equalize fiscal capacity and regional development, contributing to a more equitable PDRB. Their research

concluded that increases in DBH enhance economic growth by boosting regional infrastructure development. In addition, based on BPS (2017), one of the government expenditures is allocated for wage expenditures and employee salaries. With employee spending issued by the government, it can be a resource owned by households to consume as household consumption and government expenditure are components of PDRB.

Transfers to regions are allocated based on specific criteria aimed at reducing regional disparities and bolstering the autonomy of local governments in fulfilling their responsibilities. Effective management of these transfers is intended to stimulate development, leading to increased employment opportunities and higher per capita income. These factors, in turn, contribute to enhanced economic performance and growth, which are reflected in measures such as GDP.

DAK is an allocation of funds devoted to financing certain activities. Based on the results of this study, the DAK variable has the highest coefficient, so it has the highest impact on PDRB. One of the reasons for this is that the DAK funding component is quite large in the education sector compared with other sectors. Other than health and standard of living, education is one dimension used in measuring the Human Development Index (HDI). HDI is an index of the country's social and economic progress. Education is expected to improve the standard of living of the citizens of a country for economic performance can reflect positive results. The government must continue to increase educational equality and maintain the quality of education to achieve a better HDI.

DAU has the smallest impact on PDRB because the majority of DAU funding is used for wage expenditures and employee salaries. Moreover, DBH is moderate in that the funding is allocated to regions because of decentralization. DAU and DBH are allocations from state budget revenues to close fiscal gaps between regions. With the evenly distributed fiscal capacity between regions, the economy between regions in Indonesia is expected to be evenly distributed. The impact of TKD in the form of DAU, DAK, and DBH affects GDP, as evidenced by this study. In addition, this is supported by several previous studies. Research related to the effect of TKD on the region's PDRB reflecting economic growth in the regions indicates mixed results. Sulaeman and Silvia (2019) find that DBH and DAU positively affect GDP partially, but DAK does not have a significant effect. A recent study by Trianto and Panggabean (2023) find that there is a partial and simultaneous positive influence of DAU, DAK, and DBH on economic growth in West Kalimantan, implying that the increasing value of DAU, DAK, and DBH affects increasing economic growth. Meanwhile, different results were found by Sulung et al. (2022) that TKD had a negative insignificant effect on economic growth in North Sulawesi.

Quality regional financial management is inseparable from the principle of accountability. Fuadi and Mabrur (2021) state that TKD from the central government is vulnerable to becoming objects of corruption in the regions, so they must be balanced with increased performance accountability, that is, accounting for an organization's performance to parties who have the right to know.

Performance accountability is realized through the SAKIP in the government sector. Based on Presidential Regulation Number 29 of 2014 regarding SAKIP, performance accountability is the implementation of the obligations of government agencies in accounting for the achievements of programs and activities that have been implemented through performance reports that are prepared periodically to realize an organization's mission and performance targets. Qomariyah and Purwati (2023) reveal that better implementation of SAKIP encourages the achievement of

good governance. Similarly, in this study, it is found that SAKIP has a positive relationship with the achievement of PDRB, which reflects regional economic growth. A higher SAKIP score indicates that regional economic growth is getting better.

An internal supervision function by the Government Internal Supervision Apparatus (APIP) is needed to support the principle of accountability in achieving good governance (Dilapanga et al., 2023). APIP's role in Government Regulation Number 60 of 2008 is to provide adequate assurance of the suitability of achieving government duties and functions, provide early warning, increase the effectiveness of risk management, and maintain and improve the quality of governance. Thus, a well-running APIP function is very important to increasing public confidence in government performance. A study on the effect of internal supervision on local government financial performance by Boufounou et al. (2024) reveal that the role of internal auditors significantly affects local government financial performance by increasing internal control over regional financial management. This study finds that APIP has a positive but insignificant effect on GDP. This is because the APIP score is relatively low, which reflects the ineffectiveness of the government's APIP oversight function.

In addition to SAKIP, APIP is needed for supervising and preventing corruption. The better accountability the government has, the better the management and responsibility of state finances allocated in the form of transfers to the regions. Supervision is intended to ensure that assistance from the central government can boost the economy and people's purchasing power. Oktaviani et al. (2022) revealed the importance of APIP's role in supervising professional and competent state administration activities toward government national policy priority programs. Supervision of state administration activities can be done through state financial management.

Table 4 presents the average TKD, accountability indicator scores, and PDRB for 2016–2020 for all provinces in Indonesia. Generally, the values of all variables have increased. The average values of APIP, SAKIP, and RB have increased, as well as those of DBH, DAU, and DAK, have increased, and the increase is accompanied by economic improvements, reflected through GDP. This is consistent with the results of this study, which states that accountability impacts the economy through the optimization of transfers to the regions.

Table 4. Details of TKD, APIP, SAKIP, RB, and PDRB

Year	Average DBH (in millions)	Average DAU (in millions)	Average DAK (in millions)	Average APIP	Average SAKIP	Average RB	Average GDP
2016	938,899	1,141,636	1,504,454	1.5	63.75	57.06	28,035,258
2017	1,063,133	1,639,276	1,809,746	2.2	66.06	62.43	29,496,830
2018	1,042,090	1,665,001	1,837,773	2.2	68.29	62.67	31,097,553
2019	1,074,787	1,750,671	2,026,048	2.5	70.09	64.42	32,639,846
2020	1,086,346	1,566,609	2,122,153	2.7	70.40	64.54	31,975,039

BPK conducts external supervision of government accountability. According to Law Number 15 of 2006 regarding the audit agency, audits by BPK include financial audits, performance audits, and audits with specific objectives. According to the 2017 State Financial Audit Standard, one of the benefits of state financial audits is strengthening efforts to eradicate corruption by submitting findings of criminal acts and/or losses in state financial management. Audit findings constitute an entity's noncompliance with applicable regulations (Angela et al., 2023). Audit findings by BPK come from the performance, efficiency, and effectiveness of the agencies examined. The results of this study prove that the audit findings by BPK have a negative influence on GDP. Thus, the fewer

the audit findings by BPK, the better the region's economic growth.

The audit findings indicate deviations from regulations and illustrate weak internal controls that can target the planning and budget management sides of government agencies. According to Evangelia et al. (2023), audit findings affect the level of corruption. Corruption hampers economic development because resources that should be used for equity and justice cannot be distributed thoroughly to the community (Lamijan & Tohari, 2022). One of the efforts by the government to ensure equity and justice is through transfers to the regions.

Strengthening accountability is crucial so that it becomes an area of change in the 2020–2024 RB roadmap. RB is an effort to reform and make fundamental changes to the system of governance. Social dynamics that ensure organizational growth require periodic reviews to ensure the services provided by good governance, especially the institutional aspects (organization), governance (business process), and human resources apparatus. RB plays an essential role in realizing a bureaucratic accountability system. Strong support from state administrators is needed so that RB can be carried out and its implementation can improve bureaucratic performance at the central and regional levels (Fuadi & Mabrur, 2021). Good RB can support economic growth, as outlined through the results of this study, in the form of a positive correlation between RB and GDP.

Complicated bureaucratization practices can lead to rampant corruption in bureaucratic institutions. If corruption occurs in infrastructure projects or pro-business programs, it can directly slow down the pace of the economy. If it occurs in financial institutions or fiscal collection and distribution institutions, it can reduce state revenue drastically, thus negatively affecting macroeconomic conditions. This means that if regional finances are not maximally absorbed due to corrupt practices, economic progress will be hampered. This finding is consistent with the results of the study by Rustan and Kusumaningrum (2016), revealing that RBs affect the economic progress of a region positively.

Fiscal decentralization is realized through transfer mechanisms to regions, which can be sourced from DBH, DAU, and DAK. All these variables have a positive impact on economic growth. This supports the theory that fiscal decentralization has a positive influence on economic performance and regional finances. The three independent variables align with PDRB as an indicator of the success of economic performance. The significant influence of DAK, DBH, and DAU on PDRB also supports Keynes's expenditure theory that government expenditure is related to economic growth, reflected in the variable DAK, which has the most significant influence on PDRB because one of its largest components is the education element. If education is managed well, it will form an excellent HDI so that economic growth will move in a positive direction.

Improving the regional economy through TKD accountability in terms of performance can be realized through SAKIP. This is highlighted by it having the most significant positive influence on creating accountability for TKD management in improving the economy and other control variables in terms of governance accountability in the form of APIP, bureaucratic accountability in the form of RB, and accountability for eradicating corruption through audit findings by BPK, which both influence realizing accountability in TKD management to lead to positive economic growth.

This study has some limitations. For example, it focuses only on balanced funds from 2016 to 2020. Future research should consider longer periods and additional TKD components, such as village funds and detailed DAK (physical and non-physical). Further studies can also use other

regional economic indicators, such as PAD, and include additional accountability measures, such as corruption levels, to provide more comprehensive insights.

CONCLUSION

The results highlight how TKD impacts the regional economy and underscore accountability as a catalyst for improving regional financial management. The effects of DAU, DAK, and DBH on Indonesia's regional economy vary, largely due to regional accountability levels. High accountability positively influences a region's economy. To maximize TKD efficiency, regional governments should enhance responsibility through RB and internal oversight. Effective accountability prevents inefficiency in managing funds from the central to regional levels.

The study's findings have significant implications for regional economic sustainability. Successful policies require adequate supervision. The central government should regularly monitor TKD to ensure proper use, leveraging the role of APIP in each region. Additionally, the central government should reward local governments that demonstrate high accountability—assessed via SAKIP scores, RB levels, APIP capability, and BPK findings—to encourage enhanced fiscal responsibility and economic improvement.

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APPENDIX

Appendix 1. Variable Details

Variable	Symbol	Definition	Source
General Allocation Fund	DAU	Funds derived from APBN revenues are allocated to equalize regions' financial capacity in the context of decentralization (DJPK, 2020).	Ministry of Finance
Special Allocation Fund	DAK	Funding from APBN revenues is distributed to regions to support regional concerns and national priorities (DJPK, 2020).	Ministry of Finance
Revenue Sharing Fund	DBH	Decentralization-related regional needs are funded by APBN earnings allocated by percentage (DJPK, 2020).	Ministry of Finance
Regional Gross Domestic Product	PDRB	The final value of income or expenditure of a region is measured over a specific period (Semuel & Nurina, 2015).	The Statistics Indonesia (BPS)
BPK's Audit Finding	TEM	Monetary value of findings from BPK audits (BPK, 2020).	The Audit Board of Indonesia (BPK)
Bureaucratic Reform Score	RB	The value is attributed to the government's endeavors to overhaul the current bureaucracy (Fuadi & Mabrur, 2021). The RB score has a rating of 1–4.	Ministry of State Apparatus Utilization and Bureaucratic Reform
Government agency performance accountability system	SAK	The score assigned to the government is contingent on the integration of planning systems into performance accountability (Fuadi & Mabrur, 2021). The SAKIP score has a rating of 1–4.	Ministry of State Apparatus Utilization and Bureaucratic Reform
Internal Audit Score	APIP	The APIP score represents an institution's APIP effectiveness. It ranges from 1 to 5 (BPKP, 2022).	BPKP