

# Assessing Trends in Regional Transfers, Vertical Fiscal Imbalance, and Income Development

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**Abstract**—The complex fiscal links and reliance on central transfers highlight the economic dynamics of regional success in Indonesia, especially in resource-rich areas like Riau. This study primarily adopts the Coefficient of Vertical Imbalance (CVI) framework as an analytical tool to examine the complex patterns of fiscal reliance and vertical fiscal imbalances throughout the districts and cities within Riau Province. Utilizing a descriptive analysis approach, the research meticulously examines secondary data from sources such as the Central Statistics Agency (BPS) and the Online Monitoring of the State Treasury and Budget System (OM SPAN) Regional Office DJPB Riau. Significant changes have been discovered. Districts like Bengkalis and Rokan Hilir, where the ratios of central payments to total regional receipts approach 85%, exhibit a noteworthy level of fiscal reliance. Conversely, urban regions like Pekanbaru and Dumai, with their smaller but still considerable levels of reliance on central transfers, demonstrate the importance of provincial revenue-sharing systems. The analysis also uncovers a complex network of interconnected factors that influence fiscal dynamics, including variations in Total Regional Financial Transfers (TKD) and the efficiency of local government expenditure management. The study's conclusions are vital in forming policy interventions aimed at enhancing fiscal autonomy, optimizing resource distribution, and advancing strategies for sustainable economic growth that are tailored to the specific needs of the several regions in the province of Riau.

**Keywords:** Regional Fiscal Dynamics; Central Transfers; Vertical Fiscal Imbalance; Riau Province; Economic Development;

## 1. INTRODUCTION

Fiscal decentralisation, a complicated phenomena involving the movement of fiscal responsibilities from higher levels of government to lower levels of administration, has been the subject of much academic investigation. This study has mostly examined the impact of fiscal decentralisation on economic inequality and regional development in developing countries (Nakatani et al., 2022). Using theoretical frameworks and empirical evidence, this essay explores the complex dynamics of fiscal decentralisation, as well as its influence on regional economic development and inequality reduction.

Previous research has demonstrated the mixed results of fiscal decentralisation on regional economic outcomes and inequality. For instance, studies by Digidowiseiso et al. (2022) and Noviar et al. (2023) indicate that while fiscal autonomy can enhance accountability and resource allocation efficiency, leading to reduced vertical inequality, the effectiveness is contingent upon robust fiscal control and equitable intergovernmental transfer distributions. On the contrary, evidence presented by Tanjung et al. (2024). Suggests that regions with substantial resource endowments, like Bengkalis and Rokan Hilir, exhibit higher fiscal dependence due to significant central transfers, which might skew the benefits of decentralisation towards more affluent districts. This underscores the necessity of contextual considerations in assessing fiscal decentralisation's impact, as the regional disparities in Indonesia show varied dependency on central transfers, revealing gaps in the decentralisation framework that require targeted policy interventions.

Fiscal decentralisation has a substantial impact on vertical inequality (VI), which refers to income or wealth differences among individuals or families at different levels of the social hierarchy (Lustig, 2023). Studies have demonstrated that democracy, when combined with fiscal autonomy, may significantly reduce VI by improving accountability and resource allocation efficiency (Digidowiseiso et al., 2022). Furthermore, the effectiveness of fiscal decentralisation in decreasing VI is determined by aspects such as fiscal control and intergovernmental transfer fund distribution (Noviar et al., 2023).

Furthermore, the influence of fiscal decentralisation on horizontal inequality (HI), which refers to differences between different socioeconomic groups or locations, is a current topic (Lustig, 2023). According to research, the allocation and use of transfer money might influence interregional income disparities, hence affecting regional economic growth. Furthermore, several factors impact the effectiveness of fiscal transfers in decreasing regional inequality, including local financial management efficiency and regional budget structure (Tanjung et al., 2024).

In addition to its distributive consequences, fiscal decentralisation can influence regional economic growth trajectories (Nakatani et al., 2022). Evidence shows that industry diversification, aided by fiscal policies and local governance structures, can increase regional economic resilience and attenuate the negative effects of economic shocks (He et al., 2022). Furthermore, investments in infrastructure and human capital, which are frequently assisted by fiscal decentralisation, are critical in generating economic activity and promoting inclusive growth (Sasana, 2019).

However, the link between fiscal decentralisation and economic success is multifaceted and context-dependent (Nakatani et al., 2022). While some studies have discovered beneficial links between fiscal decentralisation and economic growth, others have identified possible downsides such as fiscal imbalances and inefficiencies (Nakatani et al., 2022). Furthermore, the efficacy of fiscal decentralisation policies in supporting equitable development is dependent on elements including openness, accountability, and the quality of public service delivery (Mahardini & Setiawan, 2022).

To give a thorough understanding of these difficulties, this study takes a multidisciplinary approach, drawing on insights from economics, political science, and development studies. This study uses empirical evidence from various contexts and theoretical frameworks to understand the mechanisms by which fiscal decentralisation impacts inequality dynamics and regional development outcomes. This research provides policymakers and practitioners with significant insights into the design and execution of fiscal decentralisation policies aimed at promoting equitable and sustainable development.

In conclusion, this article seeks to add to the continuing discussion about fiscal decentralisation and its implications for inequality reduction and regional economic growth in developing countries. This study aims to provide insight on the complex interplay between fiscal policies, governance structures, and development results by combining empirical facts and theoretical views. Finally, it is intended that this study will influence evidence-based decisions and help to promote inclusive and equitable development in a variety of socioeconomic circumstances.

## 2. RESEARCH METHODS

### 2.1 Literature Review

Fiscal decentralisation, or the transfer of fiscal responsibilities from the central government to subnational authorities, has become a hot subject in discussions about governance, economic growth, and inequality reduction in developing nations (Nakatani et al., 2022). Scholars have used empirical research and theoretical frameworks to study the complex effects of fiscal decentralisation on vertical and horizontal inequality, regional economic growth, and governance dynamics. This literature review presents a thorough synthesis of current research, focusing on important issues and debates around fiscal decentralisation and its implications for fair development.

#### 2.1.1 Vertical Inequality and Fiscal Decentralization

Vertical inequality (VI), which refers to income or wealth disparities between individuals or families at different levels of the social hierarchy, has received substantial attention in the context of fiscal decentralisation (Lustig, 2023). Scholars have investigated the methods by which fiscal decentralisation impacts VI, emphasising the importance of democratic institutions, fiscal autonomy, and inter-governmental transfer monies.

According to research, fiscal decentralisation may help to reduce VI by improving accountability, resource allocation efficiency, and local public service delivery (Digdowiseiso et al., 2022). According to research, democratic governance structures paired with budgetary autonomy result in lower VI because they promote higher public participation, openness, and monitoring of resource allocation procedures (Digdowiseiso et al., 2022). Furthermore, the allocation and application of intergovernmental transfer payments has a substantial impact on VI dynamics, with implications for poverty reduction and social inclusion (Noviar et al., 2023).

However, the link between fiscal decentralisation and VI is nuanced and context-specific. While some studies have established strong links between fiscal decentralisation and lower VI, others have identified possible downsides such as fiscal imbalances and inefficiencies (Nakatani et al., 2022). Furthermore, the success of fiscal decentralisation strategies in tackling VI is determined by characteristics such as institutional capacity, governance quality, and the distributional incidence of public expenditure (Lustig, 2023).

#### 2.1.2 Horizontal Inequality and Regional Development

Horizontal inequality (HI), which refers to discrepancies across different socioeconomic groups or areas, is another important aspect of inequality that has garnered attention in the context of fiscal decentralisation (Lustig, 2023). Scholars have investigated how fiscal decentralisation affects HI dynamics, specifically interregional income disparities and regional economic development.

According to studies, fiscal decentralisation can affect IR by changing the distribution of intergovernmental transfer funds, infrastructure investment, and regional government systems (Carrera et al., 2024). According to studies, the allocation and usage of transfer money can either increase or decrease interregional revenue, depending on characteristics such as regional financial management effectiveness and budget structure (Tanjung et al., 2024). Furthermore, investments in infrastructure and human capital, which are typically aided by fiscal decentralisation, are crucial for stimulating economic activity and encouraging inclusive growth (Sasana, 2019).

However, a variety of factors impact the link between fiscal decentralisation and HI, including political dynamics, administrative capability, and historical inequalities (Lustig, 2023). While fiscal decentralisation has the potential to boost regional development and reduce HI, its success is dependent on the design and execution of policies that address structural restrictions and promote equitable growth (Ahmad et al., 2024).

#### 2.1.3 Regional Economic Growth and Resilience

In addition to its distributive effects, fiscal decentralization can shape regional economic growth trajectories and resilience to economic shocks (Nakatani et al., 2022). Scholars have examined how fiscal decentralization influences regional economic performance, industrial diversification, and the resilience of local economies.

According to studies, fiscal decentralisation may enhance regional economic growth by enhancing local governance, infrastructure investment, and the business climate (Jacques, 2023). Research has demonstrated that communities with diverse industrial structures are more resilient to economic shocks and can adjust their economic activity more rapidly, reducing the negative implications of downturns (He et al., 2022). Furthermore, investments in human capital, technological innovation, and financial development can boost regional economic resilience and foster long-term prosperity (He et al., 2022).

However, the link between fiscal decentralisation and regional economic growth depends on a number of factors, including institutional quality, policy coherence, and external shocks (Nakatani et al., 2022). While fiscal decentralisation has the potential to boost regional development and economic resilience, its efficacy is dependent on aligning fiscal policies with larger development goals and promoting equitable growth methods (Sasana, 2019).

#### **2.1.4 Governance Dynamics and Accountability**

Finally, fiscal decentralization can influence governance dynamics and accountability mechanisms at the local level, with implications for service delivery, public trust, and social cohesion (Mahardini & Setiawan, 2022). Scholars have examined how fiscal decentralization affects political accountability, transparency, and the quality of public service provision.

The studies showed that political accountability may be increased by fiscal decentralisation, implying more public participation, increased support for local communities, and better decision-making process visibility (Yuan, 2023). Research has shown that local fiscal decentralisation is correlated with better confidence in local government organisations and satisfaction with services, demonstrated in the case of (Mahardini & Setiawan, 2022). In addition, increased transparency and anti-corruption measures can play an important role in promoting good governance, as well as guarantee that the decentralisation of financial resources leads to the production of better public services (Mahardini & Setiawan, 2022).

Nonetheless, the Fire of fiscal decentralisation on governance dynamic is not linear but rather conditioned by the context. As with any reform, there is an argument that fiscal decentralisation has an impact on accountability and transparency and the performance of this method is heavily influenced by the institutional capacity, political willingness and civil society engagement (Mahardini & Setiawan, 2022). Additionally, fiscal decentralisation strategies need to be accompanied by transparency measures to strengthen the framework of accountability and to encourage the public's engagement in policy-making (Kim, 2023).

In conclusion, this literature review gives a thorough overview of current research on fiscal decentralisation and its implications for inequality reduction, regional development, and governance dynamics in developing countries. This study illuminates the intricate relationship between fiscal policies, governance structures, and development results by combining insights from empirical research and theoretical perspectives. This research provides policymakers and practitioners with significant insights into the design and implementation of fiscal decentralisation policies that promote equitable and sustainable development in a variety of socioeconomic circumstances.

## **2.2 Data Analysis Methods**

The research methodology employs a descriptive analysis approach to elucidate trends in transfers to regions, vertical fiscal inequality, and income diversification efforts in Riau Province. Secondary data, sourced from the Central Statistics Agency (BPS) and OMSPAN Regional Office DJPB Riau, serve as the primary data source for this analysis (Tanjung et al., 2024); Sasana, 2019). This allows for a more elaborate assessment of the fiscal policy impact for the formation of regional economic relations indicating the typical patterns of central fiscal transfers, income division, diversification of regional income sources (Sasana, 2019).

In order to accrue the research goals, the descriptive analysis involves assessment of various relational variables as encompassing fiscal decentralization, income inequality, and economic diversification. Despite its simplicity, the fiscal decentralization indices in the paper include intergovernmental transfer funds, local government expenditure, and fiscal independence, following previous studies that have provided the theoretical framework (Nakatani et al., 2022; (Aritenang & Chandramidi, 2023)). Income distribution patterns are evaluated based on the results of examining spatial distribution of income, income disparity within regions, and effectiveness of fiscal transfers in income equalisation (Ahmad et al., 2024; Noviar et al., 2023).

Moreover, the findings elicit queries on the distribution of income diversification, adding components such as, investments, employment, and infrastructure (He et al., 2022; Sasana, 2019). As can be seen from the above descriptive analysis methodology, the paper is able to look into trends and patterns on the transfers to regions, the fiscus vertical imbalance, as well as income diversification strategies.

Using secondary data sources, along with standardized indicators, this methodology also allows for a better understanding of the fluctuations in fiscal policies, and their impact on Riau Province's economic growth. The applicability of descriptive analysis helps to ensure the analysis of the complex interaction between central transfers, fiscal decentralization, income distribution, and regional economic diversification strategies.

Considering the nature of the analysis that has been conducted in this study, the descriptive analysis methodology is highly effective for assessing the interconnection of fiscal policy, income distribution and economic diversification in

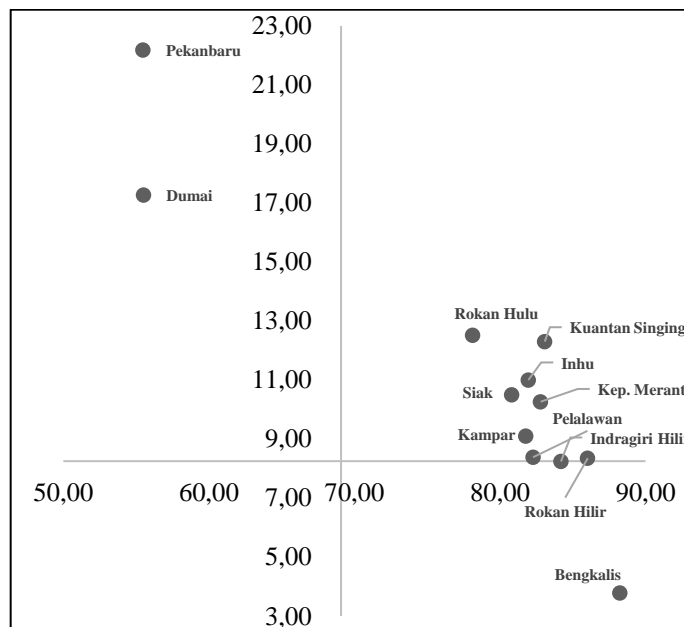
the context of Riau Province. Drawing upon a spectrum of indicators of development and employing secondary data, the study provides novel implications and recommendations on regional development and contributes to the synthesis of sound policies. Morally, this analysis also underscores the fact that more light needs to be shed on the regional economy and on how policies might be designed to facilitate ‘positive’ regional economic change and mitigate negative consequences, for sustainable development and more balanced growth across the region. In addition, it highlights the importance of regular feedback mechanisms within the evaluation and revisiting of policies due to ever changing environment, in order to portray a long-term success and endurance.

In addition, by adopting cross-sectional descriptive analytical design, the study will be able to capture the complex nature of regional economic process and situation for assessing the feasibility of the existing fiscal policies and strategies in the Riau Province. Thus, the analysis of trends and patterns makes it possible for policymakers and stakeholders to understand the difficulties and prospects of regional economic development that require special attention and offers effective steps to address these issues. This paper makes a considerate theoretical and empirical contribution to the literature of fiscal decentralization, income distribution and economic development and therefore has policy implications for any country that is interested in decentralizing its fiscal policy and income distribution agenda.

Therefore, the chosen descriptive analysis methodology aptly suits the objective of the study to identify the patterns of fiscal policy, income distribution, and economic diversification in Riau Province in terms of their interrelations. This is due to the fact that, by using qualitative and secondary data sources and focusing on identified indicators, the study is informative towards policy formulation geared towards improving the state of regional economic development. The findings of this study call for employing a comprehensive analytical framework towards examining regional economic trends and stress that more specific and focused policies should be recommended in order to make progressive progress in building the regional economy and avoid widening the gap between rich and poor in the area.

### 3. RESULTS AND DISCUSSION

The trend depicted in figure 1 is self-explanatory in highlighting the experience of Indonesian districts in terms of dependence on central transfers a story, especially those districts blessed with oil and gas revenue. However, districts such as Bengkalis and Rokan Hilir stand out significantly, they show central transfer revenues is more than eighty-five percent of total regional income. This can indeed be seen pointing to a strong reliance on such income avenues. These insights underscore the complex fiscal relationships and highlight that the comprehension of economic specifics and available resources in the regions is crucial in terms of the policy-making and implementation of sustainable developmental activities.



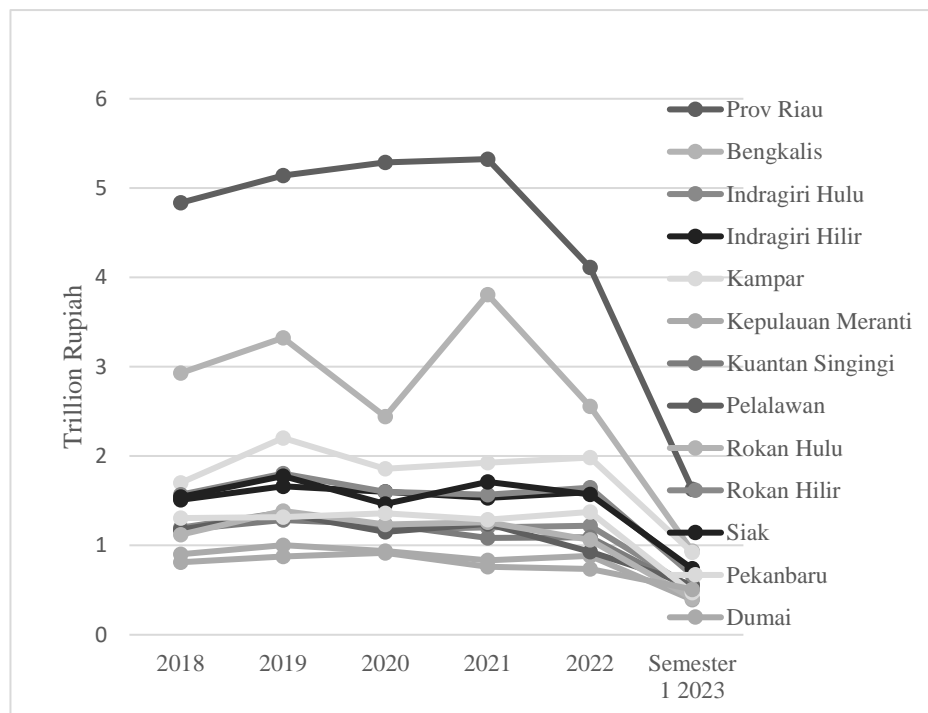
**Figure 1.** Inequality in Regional Transfer Income Ratios

On the other hand, regencies in urban settings, namely Pekanbaru and Dumai, demonstrate different features: They consolidate more than 50 percent of their income from central transfer even though these are relatively less than those of their urban counterparts. For that reason, the focus on sharing of the provincial revenues, especially as regards motorized vehicles has come across as one of the key drivers of increased revenues accruing to these areas. The mentioned above experience explains how diverse economic conditions and income structures exist in various areas, thus requiring detailed examination to understand the related polices as well as trends that may emerge in the future. Such insights support call

for policymakers to understand the features of regional economy and revenue systems to enhance the formulation of wise policies of development that would foster equitable and sustainable patterns of development in regions.

**Table 1.** Realization of Transfers to Regency/City Areas in Riau Province

City/Regency	2018	2019	2020	2021	2022	Semester 1 2023
Bengkalis	2.928,01	3.323,53	2.442,53	3.808,31	2.555,61	938,24
Indragiri Hulu	1.198,36	1.369,24	1.176,48	1.201,91	1.220,46	523,51
Indragiri Hilir	1.510,24	1.662,05	1.599,05	1.531,84	1.596,05	714,80
Kampar	1.700,59	2.203,01	1.858,03	1.927,28	1.985,22	921,65
Kep. Meranti	900,90	1.003,05	938,43	834,40	885,03	392,44
Kuantan	1.173,52	1.284,84	1.234,91	1.084,50	1.091,23	501,02
Singingi						
Pelalawan	1.178,62	1.358,41	1.153,20	1.240,45	930,73	559,21
Rokan Hulu	1.119,94	1.385,80	1.233,84	1.259,06	1.061,33	406,00
Rokan Hilir	1.568,83	1.803,37	1.600,36	1.569,50	1.646,87	668,88
Siak	1.541,75	1.776,76	1.465,11	1.712,91	1.571,74	739,50
Pekanbaru	1.304,49	1.316,97	1.360,96	1.287,03	1.375,15	471,52
Dumai	810,19	877,60	917,18	763,03	738,21	508,86



**Figure 2.** Trends in the Realization of Transfers to Regions (TKD) in Regencies/Cities in Riau Province

Table 1 and Figure 2 illustrate the perceived trend in the realization of Regional Financial Transfers (TKD) for the Regencies/Cities in Riau Province which appears to have declined from 2018 up to Semester 1 of 2023 in the proposed budget. The decline observed in 2022 originated from decreases in the Ceiling combined with an inefficient use of Special Allocation Funds (DAK) for the construction of physical infrastructure. It trul ens that budgeting and the facilitation of development related activities at the regional level involves complex interactions hence the need to accurately understand the many factors that may influence the process. This type of assessment is crucial in the attempts to identify the dynamics and implications, thereby providing essential information regarding the formation of particular policy measures that may help lay the foundations for effective and sustainable regional development pathways.

### 3.1 Coefficient of Vertical Imbalance

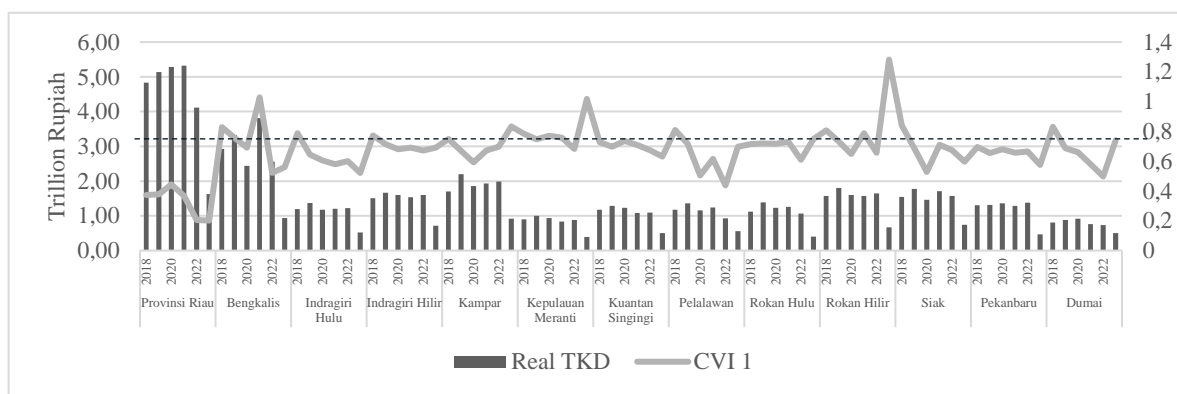
Two such fiscally relevant coefficients including the Coefficient of Vertical Imbalance (CVI) 1 and CVI 2, aid in fiscal analysis, in order to understand regional fiscal dependence and communication of vertical fiscal inequality. CVI 1 obtained from a formula allows to express the degree to which regions depend from central transfers on a numerical scale. This metric aids policymakers in assessing the degree of fiscal reliance on central transfers, guiding effective decision-making processes for sustainable fiscal policies, calculated using the formula: This metric aids policymakers in assessing the degree of fiscal reliance on central transfers, guiding effective decision-making processes for sustainable fiscal policies, calculated using the formula:

$$CVI\ 1 = \frac{\text{Regional Financial Transfers (TKD)}}{\text{Total Regional Income}} \tag{1}$$

The Coefficients of Vertical Imbalance (CVI) 1 and CVI 2 are useful in fiscal development and illumination of the levels of regional fiscal dependence and the presence of Vertical Fiscal Dependency Imbalance. CVI 1 based formula reveals central transfer dependence ratios which give policy makers an idea of the degree of dependence in various regions. A CVI of 1 denotes a substantial involvement in central transfers, with values close to 1 representing a higher level of dependence. On the other hand, CVI 2 expands the picture by determining the amount of regional government expenditure funded outside of PAD or Original Regional Income, offering additional insights on fiscal structures and reliance. CVI 2 is calculated as follows:

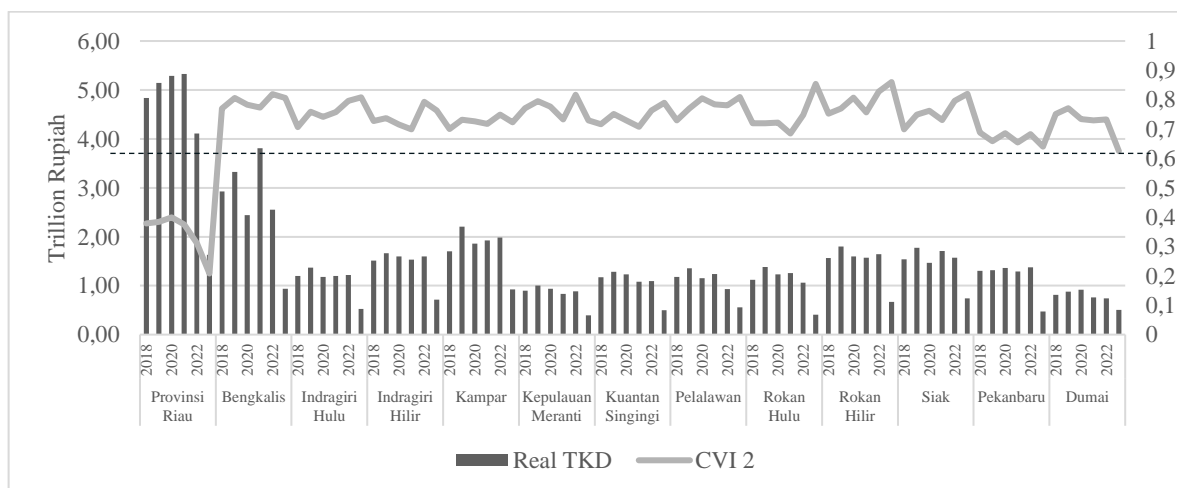
$$CVI\ 2 = \frac{\text{Total Regional Government Expenditures} - \text{Locally-generated revenue (PAD)}}{\text{Total Regional Government Expenditures}} \tag{2}$$

CVI 1 and CVI 2 induce Total Regional Government Expenditure that includes all the local government uses and Revised Regional Income or Passenger and Accommodation Duty (PAD). Among those, CVI 2 can provide important information regarding the nature of regional expenditure funding, merely, the closer to 1 suggests intense dependence on the central subsidies. The analysis of CVI 1 and second wave of CVI 2 draw greatly to shedding light on the complex processes of regional finances. It not only differentiates the degree to which central transfers are relied upon but also provides data imperative for more effective policy-making to policymakers. Hence, CVI analysis of revenue sources and expenditure patterns avails clear insights about the fiscal relations guiding revenue mobilization and expenditure and would be a more reliable framework on which informed decisions could be made in fiscal governance.



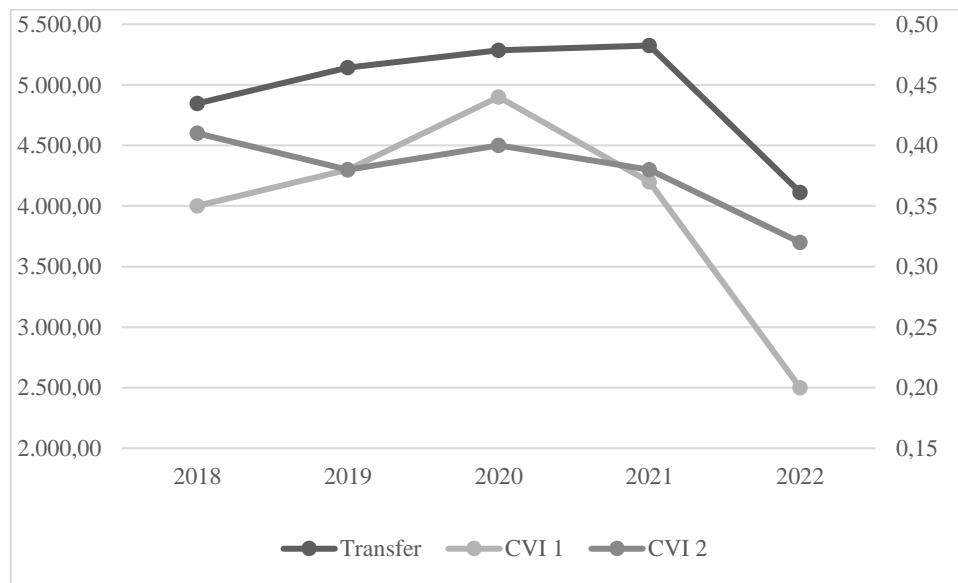
**Figure 3.** Realization of Transfers to Regions (TKD) and Vertical Fiscal Inequality – CVI 1

Figure 3 presents CVI 1 and vertical fiscal inequality at the regional level, This indicates that the more the level of CVI 1, the higher level of vertical fiscal inequality. The result that CVI is close to 1 means, indeed, that the CAL value significantly depends on the Regional Financial Transfers (TKD). For example, the CVI 1 of Bengkalis Regency in the year 2021 was analyzed to be 1.03 suggesting the teaching and practice of TKD as significantly, relying on it for governance in the region. With the Meranti Islands and Rokan Hilir Regencies exceeding the CVI 1 of 1 in ... Although the presented set implies the 2023 data, it is critical to admit that the latter remains incomplete up to Semester 1 and can be adjusted at the end of the year. This goes to show the need for vigilance and appraisal of the regional fiscal conditions in order to inform the development of sound and sustainable fiscal policies. It is with such awareness that policymakers are able to notice the existing shifts of fiscal environments to advance durable and flexible policies in governance.



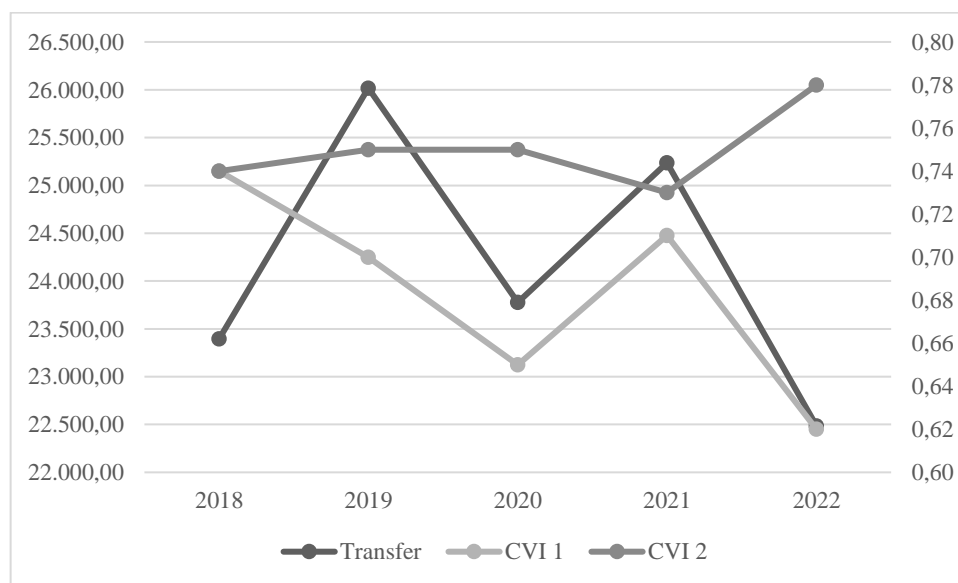
**Figure 4.** Realization of Transfers to Regions (TKD) and Vertical Fiscal Inequality – CVI 2

The second measure, the Coefficient of Vertical Imbalance (CVI) 2, measures the share of regional government expenditure funded through sources other than Original Regional Income (PAD), with a CVI of 1, where all regional government income is funded through Regional Financial Transfers (TKD). Taking each district and city into consideration, CVI 2 varies between 0. 6 to 0. 8. Of particular interest, we can see that the Riau Province had a rather good level of budgetary control, with the CVI 2 being 0. two in 2018 and 0. 2 in 2023 at the highest utilization of its capability. These numbers present the appearance that the Riau Province is more fiscally independent which in return means that this region relies less on TKD than any other regional entities. This affirms the provincial ability to get revenue from localized sources and reduce the sensitivity to fluctuations in external economic indicators. That is why, the presence of diversified revenues sources as well as strengthening local economic potential in its efforts to improve the fiscal stability and regional development aspects.



**Figure 5.** Riau Province Vertical Fiscal Inequality

Figure 5 show that Transfers to Regions at the provincial level in the Riau Province have gradually declining with decreasing of the vertical fiscal inequality measured by the Coefficient of Vertical Imbalance (CVI) 1 and CVI 2. In detail, CVI 1 declined to 0. 35 to zero in the year 2018 to 0. CVI 2 from 0 to 20 in 2022. 41 to 0. 32 over the same period. This led to the argument that Riau Province has adapt to central fiscal policies and revealed an enhanced performance on the number and types of regional income sources. Therefore, it has reduced its dependence on the central transfers, which is a satisfactory trend towards improvement of fiscal autonomy and stability in the province.



**Figure 6.** Vertical Fiscal Inequality in Regencies and Cities in Riau Province

Peculiarly at district and city levels in Riau Province it is noticeable the tendency of the reduction of Transfers to Regions whereas no comparable decrease in the Vertical Fiscal at the same time based on Coefficient of Vertical Imbalance (CVI 1) and Coefficient of Vertical Imbalance by Plotting on the Mid-line of the Accompanying Diagram

(CVI 2). The spread of CVI 1 was slightly lower from 0. Similarly, the overall spread of CVI 2 was also slightly lower from 1. Seventy-four in 2018 to 0 percent in 2019 encompasses a significant shift in engagement levels that cannot be ignored. 92 percent in 2022 and a CVI of 2 even if there is a slight improvement from 0. Seventy-four in 2018 rose to 0 in 2019. 78 by 2022. This observation leads the author to believe that district and city level factors or policy differences exist, thus making the level of dependence on central transfers to vary as identified below. This demonstrates why it is crucial to search for the differences that would compel such policy interventions to be fashioned in a way that address the particularities of the districts and cities in Riau Province, in a bid to attain fiscal sustainability and for autonomy at the sub-national governance level.

### 3.2 Discussion

These trends show the importance of central government finance to the governance of the Indonesian districts (Tanjung et al., 2024). Their extreme dependence on central transfers, which is clearly seen in other districts including Bengkalis and Rokan Hilir due to their sources of oil and natural gas, helps elucidate the complexities of fiscal decentralization (Mitra & Chymis, 2022). On the other hand another group of districts located in urban areas includes Pekanbaru and Dumai district shows different pattern with low central transfer receipt but greatly dependent on it (Ayala et al., 2024).

The observed trends suggesting the need for the central transfer by the Indonesian districts reveal that the central government funding plays a crucial role in the districts' management (Tanjung et al., 2024). Because of the district's oil and natural gas resources, Bengkalis and Rokan Hilir, for instance, showed a dependency on central transfers – illustrating the complexity of fiscal decentralisation (Tanjung et al., 2024). On the other hand, districts that are located in cities like Pekanbaru and Dumai have a different case of central transfer receipts that are lower but still significantly depend on this revenue stream (Ayala et al., 2024).

Moreover, breakdown results of Coefficient Vertical Imbalance CVI offer additional understanding of fiscal changes at regional level (see Nakatani et al., 2022; (Aritenang & Chandramidi, 2023)). For example, in Bengkalis District, the CVI 1 has achieved 1.03 in 2021, It means that local governance largely relies on the Financial Transfer Realization (TKD) to a very considerable extent (Nakatani et al., 2022). On the other hand, CVI 2 conveys the proportion of regional expenditure funded by local own source revenues with higher value closer to 1 depending more on centrally assigned transfers (Nakatani et al., 2022; (Aritenang & Chandramidi, 2023)).

Based on these studies, there is a need to rethink about the link between fiscal decentralisation, economic growth and income disparity (Nakatani, Hamced and Bashar, 2022). Even as decentralization has the potential benefits of integrating communities in the creation of local economic development and enhancing service delivery, its performance might depend on factors regarding governance capability, institutional framework, and available resources (Nakatani et al., 2022; (Aritenang & Chandramidi, 2023)). Measures to strengthen the processes of fund allocation and use, which have been highlighted by Yaroshevych et al. (2024), concerning budget absorption and implementation can be aimed at the increase of its efficiency and transparency.

However, the disparities that were observed with regard to the level of fiscal dependency in the district level further call for the necessity of context relevance intervention strategies taking into account the geopolitical factor of each district (Ahmad et al., 2024). Policy measures to reduce dependence on central transfers, such as state and local reformed revenue systems, including incentives for local development, local fiscal reforms, and improvements in the capacity of local units to manage their revenues, could lessen centralization and build regional autonomy (Yeoh, 2022; (Ahmad et al., 2024); (Chaudry et al., 2021)).

In conclusion, the analysis offers various findings and implications related to the associations between fiscal decentralization, VFI, and regional economic growth in Indonesia (Fatmala & Utomo, 2022). Thus, analyzing trends in central transfers, fiscal dependency and regional economical conditions this study contributes to clarifying the experience in fiscally decentralizing the country. Prospective studies may elaborate on how particular policy measures influence the character and results of regional development, as well as which approaches may help better mobilise development for regions that are peripheral.

## 4. CONCLUSION

Therefore, the findings of the current study contribute to the understanding of the relationship between fiscal decentralization, vertical fiscal imbalance, and regional economic development focusing on Riau Province in Indonesia. Applying a descriptive analysis method and collecting secondary data from the official sources like the Central Statistics Agency (BPS) and OMSPAN Regional Office DJPB Riau, this paper develops critical insights about the trends of the central transfer, fiscal dependence, and the impact on regional economic changes. The study highlights variability in the degree of decentralisation in Indonesia, as certain districts, such as Bengkalis and Rokan Hilir, have high dependence on central transfers because of their oil and gas revenues (Tanjung et al., 2024). On the other hand, districts in urban regions like Pekanbaru and Dumai are characterised by low central transfer receipts yet highly dependent on this kind of income (Tanjung et al., 2024); (Ahmad et al., 2024)). Such differences require specific policy measures that would take into account the qualities of the particular districts (Ahmad et al., 2024). Furthermore, the evaluation of the Coefficient of Vertical Imbalance (CVI) contributes to the understanding of fiscal relations at the regional level. With regards to the CVI 2 figures illustrating the Riau Province's comparatively diminished reliance on central transfers, some districts are

heavily reliant on the TKD to manage governance (Nakatani et al. , 2022; (Aritenang & Chandramidi, 2023). This calls for evaluation of efficiency of central transfer systems and encouraging fiscal decentralization at the regional level (Nakatani et al. , 2022). Based on the findings of this study there are some significant policy and practice implications. Proposed solutions to strengthen the efficiency and accountability of the processes related to fund allocation and utilization may be useful in mitigating issues of budget absorption and implementation (Tanjung et al., 2024); Sasana, 2019). Further, policy actions towards developing new sources of revenue, increasing decentralised economic activities and augmenting the fiscal governance capabilities at subnational level can lower dependence on central grants and improve regional vulnerability (Chaudry et al., 2021; Kuypers et al., 2024). Thus, this research offers a clearer picture of difficulties and prospects of the fiscal decentralization process in Indonesia. Through analyzing changes of central transfers, fiscal dependency and regional economy, the research certainly offers useful lessons for those policy makers, practitioners and academics who wish to achieve more balanced and sustainable development of various regions. This study is not without limitations, which should be responded to by a further insight into this research. One important limitation is that we are using secondary data sources, which may not reflect all the idiosyncrasies of local fiscal conditions and governance practices. The descriptive method of analysis though informative, does not imply causality or explore the potential mechanistic pathways through which trends are unfolding. Specifically, future research should enlist primary data collection (interviews or surveys of local government officials) and more robust statistical methods to investigate causation. Secondly, future studies could analyze the short and long-term effects of fiscal decentralization policies on regional economic growth and disparity. Cross-provincial (district-wise) cohort design-based comparative studies could provide a broader insight into the effectiveness of different decentralization strategies. Furthermore, a research that looks at what political dynamics and governance quality make fiscal outcomes more probable could help identify salient room for policy and also inform further practice. Focusing on these directions could help further illuminate how fiscal decentralization can be used to enhance the sustainable and balanced development of regions. Thus, this research offers a clearer picture of the difficulties and prospects of the fiscal decentralization process in Indonesia. Through analyzing changes in central transfers, fiscal dependency, and the regional economy, the research certainly offers useful lessons for policymakers, practitioners, and academics who wish to achieve more balanced and sustainable development of various regions.

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