Reviu Akuntansi, Manajemen, dan Bisnis (RAMBIS)
ISSN: 2797-958X, Vol 5, No 4, 2026, 295-306 https://doi.org/10.35912/rambis.v5i4.6683

Fiscal Decentralization and Welfare Spending in Indonesian Local Governments: Women's Participation as a Moderator

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Article History
Received on 25 May 2026
1st revision on 09 June 2026
2nd revision on 19 June 2026
3rd revision on 25 June 2026
Accepted on 26 June 2026

Abstract
Purpose: This study aims to examine the relationship between fiscal decentralization and welfare spending and to investigate the moderating role of women's participation in strengthening the relationship between fiscal decentralization and welfare spending in local governments.
Research Methodology: This study employs panel data from 466 district and city governments in Indonesia during 2022–2023. Fiscal decentralization is measured using the Budget Realization Report (LRA) and Operational Report (LO), while the proposed relationships are examined using moderated regression analysis.
Results: The findings reveal that fiscal decentralization, measured through LRA and LO indicators, has a positive and significant effect on welfare spending. However, women's participation does not significantly moderate this relationship, indicating that numerical representation alone does not necessarily improve the effectiveness of fiscal policies in supporting welfare allocation.
Conclusions: The study confirms that stronger fiscal decentralization contributes to increased welfare spending at the local government level. Nevertheless, women's participation has not demonstrated a significant role in enhancing the impact of fiscal decentralization on welfare outcomes.
Limitations: This study is limited by the short observation period, focus on Indonesian local governments, and quantitative measurement of women's participation, which may not fully capture its quality and influence.
Contributions: This study contributes to fiscal decentralization and public governance literature by demonstrating the importance of fiscal capacity in welfare spending and emphasizing the need to consider the quality of women's participation in public decision-making.

Keywords: *Fiscal Decentralization, Welfare Spending, Women's Participation*

How to Cite: Venni, R., & Abbas, Y. (2026). Fiscal Decentralization and Welfare Spending in Indonesian Local Governments: Women's Participation as A Moderator. *Reviu Akuntansi, Manajemen, dan Bisnis*, 5(4), 295-306

1. Introduction

Fiscal decentralization has become an important part of public sector reform in Indonesia since the implementation of regional autonomy policies. Through this system, local governments are given greater authority to manage fiscal resources and determine development priorities based on regional needs and socio-economic conditions. The main expectation of fiscal decentralization is to improve public service quality, strengthen government accountability, and enhance community welfare because local governments are considered to better understand local problems and public needs than the central government (Yuliana, 2021). However, the results of fiscal decentralization in Indonesia remain uneven across regions. Although local governments have greater authority to manage fiscal resources, differences in institutional capacity and budget management have led to varying levels of welfare spending and public service provision. While some local governments have succeeded in improving education programs, health services, and social assistance, others continue to face challenges such as inefficient budgeting, weak institutional capacity, and unequal distribution of welfare (Avellaneda, Bello-Gomez, & Gomes, 2022; Bouselsal et al., 2025; Rahmanely, 2023).

These conditions suggest that fiscal decentralization alone is not sufficient to ensure effective welfare spending. Welfare spending plays an important role in improving human development and reducing socio-economic inequality through expenditures on healthcare, education, social protection, and poverty alleviation programs. Previous studies show that welfare-oriented expenditures can significantly improve social inclusion and community welfare when supported by good governance and effective fiscal management (Bucci, Ferrara, & Resce, 2024; Cambrea, Paolone, & Cucari, 2023; Rizal, Nalle, Roen, & Pradana, 2026). However, several studies also report that the effectiveness of welfare spending is often constrained by weak accountability, political interests, and poor expenditure management (Bouselsal et al., 2025; Chatterjee & Nag, 2022). These findings indicate that the success of welfare spending depends not only on fiscal capacity, but also on governance quality and policy responsiveness. Recent governance literature increasingly highlights the importance of inclusive participation in strengthening public policy effectiveness. In particular, women's participation in political and administrative institutions is often associated with greater transparency, stronger social responsiveness, and higher prioritization of welfare-oriented policies (Chipunza & Nhamo, 2023; Kumar et al., 2025; Prihatnasari, Manik, & Situmorang, 2026; Syam, 2022).

Women's participation is considered to be more attuned to social issues such as health care, education, child welfare, and poverty alleviation. Therefore, greater participation by women is expected to enhance the effectiveness of fiscal decentralization by encouraging local governments to allocate fiscal resources more consistently toward welfare-oriented expenditures. Nevertheless, previous studies have generally focused only on the direct relationship between fiscal decentralization and welfare outcomes or have examined women's participation separately from fiscal policy. As a result, there has been limited attention paid to whether women's participation strengthens the relationship between fiscal decentralization and welfare spending within a single analytical framework, particularly in Indonesia's local governments, especially in the context of Indonesian local governments. Most previous studies still focus on the direct relationship between fiscal decentralization and welfare outcomes without considering the moderating role of women's participation.

Therefore, this study aims to analysis the relationship between fiscal decentralization and welfare spending while examining whether women's participation can strengthen the effectiveness of welfare-oriented public expenditures in Indonesian local governments. The uniqueness of this study lies not only in its integration of fiscal decentralization, welfare spending, and women's participation into a single analytical framework, but also in its effort to examine women's participation as a moderating mechanism that explains when fiscal decentralization is more effective in increasing welfare spending. This perspective expands the existing literature on fiscal decentralization by emphasizing the role of governance quality in determining policy outcomes. This study is expected to contribute to the development of inclusive and welfare-oriented fiscal governance policies, both theoretically and practically, particularly in the context of developing countries such as Indonesia.

2. Literature Review and Hypotheses Development

2.1 Literature Review

Fiscal Decentralization Theory, developed by Oates in 2014 explains that local governments are better positioned than central governments to understand local needs and allocate public resources efficiently. Greater fiscal autonomy enables local governments to manage fiscal resources according to regional priorities, thereby reducing information asymmetry and improving the effectiveness of welfare expenditure (Bucci et al., 2024). In addition, Women Empowerment Theory proposed argues that women's participation in decision-making is reflected through resources, agency, and achievement, enabling women to contribute to policies that better address public welfare needs. Therefore, these theories provide the theoretical foundation for explaining how fiscal decentralization influences welfare spending and how women's participation may strengthen this relationship.

Fiscal decentralization has become one of the most important public sector reforms in developing countries, including Indonesia. Through decentralization, local governments are given broader authority to manage financial resources and determine spending priorities based on regional needs. This policy is expected to improve public service quality, reduce inequality, and strengthen social welfare programs. fiscal decentralization in Indonesia has significantly changed the relationship between central and local governments by increasing regional autonomy in budget management and public expenditure allocation (Lewis, 2023; Tholo et al., 2025; Venkateshwaran, Deo, & Jaiman, 2026). Many previous studies have shown that fiscal decentralization can encourage welfare-oriented spending. Such as, explained that decentralized fiscal systems allow local governments to respond more effectively to local social and economic problems because regional authorities better understand community needs (Chatterjee & Nag, 2022), fiscal decentralization positively contributes to welfare expenditure, especially in sectors such as education, healthcare, and social protection (Murshed, Bergougui, Badiuzzaman, & Pulok, 2022).

Women's participation in government institutions is often associated with stronger attention to social welfare and inclusive development policies. It was explained that female policymakers generally show greater concern toward healthcare, education, child welfare, and poverty alleviation programs (Agrameri, Yosepha, & Cahaya, 2025; Park, 2022). Such as women in public leadership positions tend to support redistributive and welfare-oriented spending policies more strongly than men (Perez, Rodríguez-Chueca, & Rodríguez, 2023; Qian, 2023), gender-inclusive governance contributes to fairer and more equitable public expenditure allocation (Azeez et al., 2025; Yusof, Kalirajan, & Mohamad, 2022), female representation improves the efficiency and effectiveness of welfare expenditure in decentralized governments (Nguyen, Greene, & Wu, 2025), female leadership improves transparency and strategic decision-making in public institutions (Cambrea et al., 2023)

The inclusive governance structures improve sustainable public spending practices (Chipunza & Nhamo, 2023), The decentralization produces better welfare outcomes when supported by accountable financial management systems.(Bucci et al., 2024; Juliyanti, 2023), the women's participation in local governance remains relatively limited despite ongoing decentralization reforms (Prihatnasari et al., 2026).

2.2 Hypotheses Development

2.2.1 Fiscal Decentralization and Welfare Spending

Fiscal decentralization provides local governments with greater flexibility to allocate public resources according to regional priorities and community needs (Kyriacou & Roca-Sagalés, 2019). Decentralized fiscal systems allow local governments to improve the effectiveness of welfare expenditure because decision-making processes are closer to local communities. The fiscal decentralization positively affects welfare expenditure, especially in social sectors such as health and education. (Chatterjee & Nag, 2022; Jaimes, 2020; Murshed et al., 2022; Zarezadeh, Delavar, Morid, & Abbasi, 2023). It showed that local governments with stronger fiscal autonomy tend to increase spending on welfare-related programs. These findings indicate that fiscal decentralization encourages regional governments to become more responsive to social welfare issues. Based on the theoretical and empirical arguments above, the following hypothesis is proposed:

H_1: Fiscal decentralization positively affects welfare spending in Indonesian local governments.

2.2.1 Women's Participation as a Moderating Variable

Women's participation in governance institutions plays an important role in promoting inclusive and welfare-oriented policies. In a decentralized fiscal system, local governments have greater discretion in setting budget priorities and allocating public resources. However, the effectiveness of fiscal decentralization depends not only on fiscal authority but also on the quality of governance and the characteristics of the policymakers involved in budget decision-making. Greater participation by women is expected to promote more inclusive and welfare-oriented budgeting, thereby increasing the likelihood that decentralized fiscal resources will be allocated to programs that directly improve the well-being of the community. Previous studies indicate that female policymakers are more supportive of social protection programs, healthcare services, education, and poverty reduction initiatives (Huang, Bashiri, & Disse, 2026; Park, 2022; Qian, 2023). Furthermore, women's participation can strengthen accountability and improve the effectiveness of governance within a decentralized system. Therefore, women's representation can encourage local governments to allocate resources more efficiently to welfare programs and vulnerable communities. Thus, women's participation is expected to strengthen the positive relationship between fiscal decentralization and welfare spending. In local governments with higher levels of women's participation, the positive impact of fiscal decentralization on welfare spending is expected to be stronger than in local governments with lower levels of women's participation.

H_2: Women's participation strengthens the positive effect of fiscal decentralization on welfare spending in Indonesian local governments.

3. Methodology

This study employs a quantitative approach to analysis the relationship between fiscal decentralization and welfare spending, as well as the moderating role of women's participation in that relationship. The study uses secondary data obtained from regency and city governments in Indonesia during the 2022-2023 period. The study population consists of all regency and city governments in Indonesia. Purposive sampling was used to ensure that only local governments with complete and consistent financial and governance data throughout the observation period were included in the analysis. Local governments with incomplete financial reports or missing data for the study variables were excluded from the sample. Based on these criteria, the final sample consisted of 466 regency and city governments.

Data was collected from local government financial reports, specifically the Budget Implementation Report (LRA) and the Operational Report (LO), as well as official data on women's participation in local government institutions. Fiscal decentralization is measured using indicators drawn from the Budget Implementation Report (LRA) and the Operational Report (LO), while welfare spending is measured based on government expenditures allocated to sectors related to welfare. Women's participation is measured based on the proportion of women participating in local government institutions, as presented in the operational definition of the variable.

In this study, fiscal decentralization is used as the independent variable, welfare spending as the dependent variable, and women's participation as the moderating variable. The data were analysis using panel data regression to examine the effect of fiscal decentralization on welfare spending and to test whether women's participation strengthens the relationship. Before testing the hypotheses, classical assumption tests were conducted to ensure that the regression model met the required analytical assumptions. Hypothesis testing was carried out using a 5% significance level. Panel data regression was selected because the dataset combines cross-sectional observations across district and city governments with time-series observations over the 2022-2023 period. This approach allows the analysis to capture variations across local governments while controlling for unobserved heterogeneity.

4. Results and Discussions

4.1 The Descriptive Analysis

The descriptive statistics table provides an overview of the characteristics of the research variables based on 932 observations from district and city governments in Indonesia during the study period. Fiscal decentralization measured using the Budget Realization Report (DF1) has an average value of 0.1333, with a minimum value of 0.010 and a maximum value of 0.874. The standard deviation of 0.1058 indicates that there is considerable variation in the level of fiscal decentralization across regions. Meanwhile, fiscal decentralization measured using the Operational Report (DF2) has an average value of 0.1402, with values ranging from 0.006 to 0.871. The standard deviation of 0.1085 shows a similar level of variation to DF1.

Welfare Spending (BK) has an average value of 0.4417, with a minimum value of 0.085 and a maximum value of 0.657. This suggests that, on average, local governments allocate a relatively high proportion of spending to welfare programs, although differences across regions still exist, as reflected in the standard deviation of 0.0819. Women’s participation (PP) has an average value of 0.1601, or approximately 16%, with a minimum value of 0 and a maximum value of 0.550. These results indicate that women’s participation in local government is still relatively low and uneven across regions. The standard deviation of 0.0963 also shows variation in women’s participation among local governments.

The poverty rate (PM) has an average value of 0.1032, or around 10.3%, with values ranging from 0.023 to 0.322. The standard deviation of 0.0524 indicates moderate variation in poverty levels across regions. Population size (PDK) has an average value of 12.7514, with a minimum value of 9.753 and a maximum value of 15.134. The standard deviation of 0.9469 suggests significant differences in population size among the regions included in the study.

Regional Gross Domestic Product per capita (PDRB) has an average value of 9.2643, with values ranging from 6.668 to 13.037. The standard deviation of 1.1312 indicates disparities in regional income levels across districts and cities. Special Allocation Funds (DAK) have an average value of 0.1694, with a minimum value of 0.022 and a maximum value of 0.348. The standard deviation of 0.0525 suggests that the allocation of special funds also varies across regions, although the variation is not as high as in several other variables. Overall, the descriptive statistics indicate that there are substantial differences in fiscal, social, and economic conditions among local governments in Indonesia, which may influence the level of welfare spending in each region.

Table 1. The descriptive result

Variables	Obs	Average	Minimal	Maximal	Std Deviasi
DF1	932	0.1332715	0.010	0.874	0.1058327
DF2	932	0.1401803	0.006	0.871	0.1085115
BK	932	0.4417006	0.085	0.657	0.0819296
PP	932	0.1601234	0	0.550	0.0963384
PM	932	0.1031599	0.023	0.322	0.0524411
PDK	932	12.75137	9.753	15.134	0.946890
PDRB	932	9.264345	6.668	13.037	1.131231
DAK	932	0.1693627	0.022	0.348	0.0525334
	DF1 = Fiscal Decentralization based on the Budget Realization Report (LRA), DF2 = Fiscal Decentralization based on the Operational Report (LO), BK = Welfare Spending, PP = Women’s Participation, PM = Percentage of Poor Population, PDK = Population Size, PDRB = Gross Regional Domestic Product per Capita, and DAK = Special Allocation Fund				

4.2 Classical Assumption Test

4.2.1 Multicollinearity Test

a. First Model

The multicollinearity test results presented in the table show that all variables have Variance Inflation Factor (VIF) values below the common threshold of 10, indicating that there is no serious multicollinearity problem in the regression model. The interaction variable between fiscal decentralization and women’s participation (df1pp) has the highest VIF value of 7.698, followed by fiscal decentralization (df1) with a VIF value of 6.472. Although these values are relatively higher compared to the other variables, they are still within the acceptable range, suggesting that the variables do not create severe multicollinearity issues. The relatively high VIF values are reasonable because the interaction term is mathematically related to its main variables. The variables PDRB and population size (PDK) have VIF values of 4.622 and 3.873, respectively, indicating moderate correlation with other independent variables but still below the critical threshold. Women's participation (PP) has a VIF value of 2.757, while DAK and poverty rate (PM) have lower VIF values of 1.718 and 1.509, respectively. These results indicate that the independent variables are sufficiently distinct from one another.

In addition, the tolerance values (1/VIF) for all variables are above 0.10, which further confirms the absence of multicollinearity problems in the model. The mean VIF value of 4.093 also indicates that the regression model is acceptable and suitable for further analysis. Overall, the results suggest that the independent variables used in this study do not exhibit serious multicollinearity, meaning that the regression estimates can be considered reliable for hypothesis testing.

Table 2. Multicollinearity test of first model

	VIF	**1/VIF**
DF1PP	7.698	.13
DF1	6.472	.155
PDRB	4.622	.216
PDK	3.873	.258
PP	2.757	.363
DAK	1.718	.582
PM	1.509	.663
MeanVIF	4.093	

b. Second Model

The multicollinearity test results show that all independent variables have Variance Inflation Factor (VIF) values below the commonly accepted threshold of 10, indicating that there is no serious multicollinearity problem in the regression model. The interaction variable between fiscal decentralization based on the Operational Report and women's participation (df2pp) has the highest VIF value of 7.337, followed by fiscal decentralization (df2) with a VIF value of 5.804. Although these values are relatively higher compared to other variables, they are still within the acceptable range. This is expected, as interaction terms are typically highly correlated with their constituent variables.

Other variables such as PDRB and population size (PDK) show VIF values of 4.570 and 3.880, respectively, indicating a moderate level of correlation with other predictors but still not problematic. Women's participation (PP) has a VIF value of 2.784, while DAK and poverty rate (PM) show relatively low VIF values of 1.691 and 1.496. These results suggest that these variables are relatively independent from one another. Furthermore, all tolerance values (1/VIF) are above 0.10, confirming that there is no indication of harmful multicollinearity in the model. The average VIF value of 3.938 also supports the conclusion that the overall regression model is stable and appropriate for further analysis. Overall, the results indicate that multicollinearity is not a serious concern in this study, and the regression estimates can be considered reliable for hypothesis testing.

Table 3. Multicollinearity test of second model

	VIF	**1/VIF**
DF2PP	7.337	.136
DF2	5.804	.172
PDRB	4.57	.219
PDK	3.88	.258
PP	2.784	.359
DAK	1.691	.591
PM	1.496	.668
MeanVIF	3.938	

4.2.2 The Heteroskedasticity Test

The heteroskedasticity test results show that both Model 1 and Model 2 experience heteroskedasticity problems. In Model 1, the Chi-square value is 67.05 with a probability value of 0.0001, which is smaller than the significance level of 0.05. This indicates that the null hypothesis of homoskedasticity is rejected, meaning that the variance of the error terms is not constant across observations. Therefore, heteroskedasticity is present in Model 1.

Similarly, Model 2 also shows a Chi-square value of 65.06 with a probability value of 0.0002, which is also below 0.05. This result confirms that the null hypothesis is rejected, indicating that heteroskedasticity is also present in Model 2. Overall, both models suffer from heteroskedasticity, meaning that the error variance is not consistent. This condition can affect the efficiency of the regression estimates and may lead to biased standard errors. Therefore, it is recommended to use robust standard errors or appropriate estimation techniques to address this issue in further analysis.

Table 4. The heteroskedasticity result

Model	**Results**		
	Chi2	**Prob > Chi2**	**Heteroskedastisitas**
Model 1	67.05	0.0001	Ya
Model 2	65.06	0.0002	Ya

4.3 Hypotheses Testing

4.3.1 First Model Hypotheses

The regression results show the relationship between fiscal decentralization and welfare spending (BK), along with several control variables and the moderating effect of women's participation. Fiscal decentralization (df1) has a positive and statistically significant effect on welfare spending, with a coefficient of 0.273 ($p < 0.01$). This indicates that higher fiscal decentralization is associated with an increase in welfare spending at the district and city level. This finding suggests that greater fiscal authority enables local governments to allocate more resources toward social welfare programs and to respond more effectively to local needs. The result is consistent with previous studies showing that greater fiscal autonomy encourages higher welfare expenditure because local governments possess better information regarding regional priorities and public service demands (Chatterjee & Nag, 2022; Jaimes, 2020; Murshed et al., 2022; Zarezadeh et al., 2023). These findings suggest that strengthening local fiscal capacity can contribute to improving welfare-oriented public expenditure. Women's participation (pp) also has a positive and significant effect on welfare spending, with a coefficient of 0.088 ($p < 0.05$). This implies that higher involvement of women in government is associated with slightly higher welfare spending, although the effect size is relatively small.

The poverty rate (pm) shows a negative and significant relationship with welfare spending, with a coefficient of -0.220 ($p < 0.01$). This result suggests that regions with higher poverty rates tend to allocate relatively lower welfare spending, which may indicate inefficiencies or fiscal constraints in poorer regions. Population size (pdk) has a positive and significant effect (coefficient = 0.038, $p < 0.01$), indicating that more populous regions tend to allocate more spending for welfare programs. Regional GDP per capita (pdrb) is also positively and significantly related to welfare spending, while Special Allocation Funds (dak) show a positive and significant relationship as well. These results suggest that better economic conditions and higher fiscal transfers are associated with increased welfare spending. The interaction term between fiscal decentralization and women's participation (df1pp) is negative (-0.436) and not statistically significant at the 5% level ($p = 0.087$). This indicates that women's participation does not significantly strengthen the relationship between fiscal decentralization and welfare spending. In fact, the negative sign suggests a weak and inconclusive moderating effect. One possible explanation is that women's representation may remain limited in influencing budget decisions because fiscal allocation is still determined collectively through institutional and political processes. As a result, greater female participation does not necessarily translate into stronger welfare-oriented fiscal policies.

This finding differs from previous studies suggesting that women tend to support social welfare and redistributive policies (Agrameri et al., 2025; Park, 2022), indicating that the influence of women's participation may depend on institutional conditions and decision-making authority within local governments. Overall, the model explains about 24.7% of the variation in welfare spending (R-squared = 0.247), and the model is statistically significant as a whole (Prob > Chi2 = 0.0000). This indicates that the included variables jointly have a meaningful influence on welfare spending, although other unobserved factors may also play an important role. The positive and significant effect of fiscal decentralization on welfare spending indicates that greater fiscal authority enables local governments to allocate more resources to social welfare programs. This finding supports the argument that decentralization improves the responsiveness of local governments in determining expenditure priorities according to local needs. The result is consistent with previous studies showing that fiscal decentralization encourages higher welfare expenditure because local governments possess better information regarding regional priorities and public service demands (Chatterjee & Nag, 2022; Jaimes, 2020; Murshed et al., 2022; Zarezadeh et al., 2023). These findings suggest that strengthening local fiscal capacity can contribute to improving welfare-oriented public expenditure.

Table 5. Hypothesis testing of first model

BK	Coef.	p-value	Sig
DF1	0.273	0.000	***
PP	0.088	0.044	**
PM	-0.220	0.000	***
PDK	0.038	0.000	***
PDRB DAK	-0.021 0.401	0.001 0.000	*** ***
DF1PP	-0.436	0.087	
Observations	932		
R-squared Prob > Chi2	0.2470 0.0000		
*** *p<.01*, ** *p<.05*			

4.3.2 Second Model Hypothesis

The regression results for Model 2 show the relationship between fiscal decentralization (measured using LO/df2) and welfare spending (BK), along with control variables and the moderating effect of women's participation. Fiscal decentralization (df2) has a positive and statistically significant effect on welfare spending, with a coefficient of 0.187 (p = 0.007). This indicates that higher levels of fiscal decentralization based on operational reports are associated with increased welfare spending. This finding supports the argument that greater fiscal authority at the local level enables governments to allocate more resources to welfare programs. The second model produces results consistent with the first model. Fiscal decentralization measured using the operational report also has a positive and significant effect on welfare spending, indicating that the positive relationship between fiscal decentralization and welfare expenditure remains robust across different measurement approaches. This consistency strengthens the evidence that fiscal decentralization contributes to greater welfare spending in Indonesian local governments. Women's participation (pp) has a positive coefficient of 0.071, but it is not statistically significant at the 5% level (p = 0.095).

This suggests that while there is a positive tendency, women's participation does not have a strong direct influence on welfare spending in this model. The poverty rate (pm) shows a negative and highly significant relationship with welfare spending (coefficient = -0.240, p < 0.01). This indicates that regions with higher poverty levels tend to allocate lower welfare spending, which may reflect fiscal limitations or structural inefficiencies. Population size (pdk) is positively and significantly related to welfare spending (coefficient = 0.039, p < 0.01), suggesting that more populous regions tend to spend more on welfare programs. Regional GDP per capita (pdrb) also shows a positive and significant relationship with welfare spending, while Special Allocation Funds (dak) have a negative but significant effect. This implies that economic capacity and intergovernmental transfers play an important role in shaping welfare expenditure.

The interaction term between fiscal decentralization and women's participation (df2pp) is negative (-0.250) and not statistically significant (p = 0.319). This indicates that women's participation does not significantly moderate the relationship between fiscal decentralization and welfare spending in this model. Just like in the first model, the interaction between fiscal decentralization and women's participation is not statistically significant. These results indicate that women's participation does not strengthen the relationship between fiscal decentralization and welfare spending. One possible explanation is that the level of women's representation in local governments in Indonesia remains relatively low, as reflected in the descriptive statistics, where the average participation rate is only about 16%. Consequently, it appears that women may not yet have sufficient influence to shape fiscal policy decisions and the allocation of welfare spending. Therefore, although women's participation is important for promoting inclusive governance, its moderating role is not clearly evident in the context of this study. Overall, the model explains about 24.2% of the variation in welfare spending (R-squared = 0.242), and the model is statistically significant (Prob > Chi2 = 0.0000). This suggests that the included variables jointly influence welfare spending, although other external factors may also be important.

Table 6. Hypothesis testing of second model

BK	Coef.	p-value	Sig
DF2	0.187	0.007	***
PP	0.071	0.095	
PM	-0.240	0.000	***
PDK	0.039	0.000	***
PDRB	-0.019	0.001	***
DAK	0.378	0.000	***
DF2PP	-0.250	0.319	
Observations	932		
R-squared	0.2420		
Prob > Chi2	0.0000		
*** *p<.01*, ** *p<.05*			

5. Conclusions

5.1 Conclusion

This study concludes that fiscal decentralization has a positive and significant impact on welfare spending by regency and city governments in Indonesia. This indicates that greater fiscal autonomy as measured by the Budget Implementation Report (LRA) and the Operational Report (LO) enables local governments to allocate more resources to welfare programs. However, women's participation does not moderate the relationship between fiscal decentralization and welfare spending, suggesting that women's representation in local governments has not yet strengthened the impact of fiscal decentralization on welfare-oriented budget allocation. These findings contribute to the literature on fiscal decentralization by demonstrating that fiscal decentralization remains a key factor in increasing welfare spending, while women's participation alone is insufficient to enhance its effectiveness. From a practical perspective, local governments need not only to strengthen fiscal decentralization but also to improve the quality of women's involvement in budget planning and policy decision-making to support more inclusive welfare policies.

5.2 Research Limitations

This study has several limitations that should be considered when interpreting the results. First, the observation period is relatively short, covering only 2022–2023, which may not fully capture the long-term impact of fiscal decentralization on welfare spending. Second, the study focuses only on district and city governments in Indonesia. As a result, the findings may not be fully generalizable to provincial governments or to other countries with different fiscal and administrative systems. Third, the measurement of women's participation is based on quantitative indicators, which may not fully reflect the actual quality, influence, or effectiveness of women's involvement in decision-making processes within government institutions.

Finally, the study does not include all possible determinants of welfare spending, such as political factors, governance quality, or institutional capacity, which may also play an important role in explaining variations in regional welfare expenditure.

5.3 Suggestions and Directions for Future Research

Future research is recommended to extend the observation period beyond 2022–2023 in order to capture the long-term effects of fiscal decentralization on welfare spending more comprehensively. A longer time span would provide a better understanding of whether the observed relationships remain consistent over time or change under different economic and political conditions. In addition, future studies could expand the scope of analysis by including provincial governments or comparing Indonesia with other countries that implement different fiscal decentralization systems. This would improve the generalizability of the findings and provide broader policy insights.

Acknowledgement

The author would like to express sincere gratitude to all parties who contributed to the completion of this study. Appreciation is extended to the local governments of district and city levels in Indonesia for providing access to the financial and governance data used in this research. The author also acknowledges the support and guidance from academic supervisors and colleagues who provided valuable feedback and suggestions throughout the research process. No specific financial support was received for this study. However, non-financial support in the form of academic assistance, discussions, and institutional resources is gratefully acknowledged.

Author Contribution

The researcher made substantial contributions throughout the entire research process, from identifying the research problem and conducting a comprehensive literature review to designing the research methodology, collecting and analyzing data, and interpreting the findings. The researcher ensured the quality and integrity of the study by applying appropriate analytical methods, critically evaluating the results, and adhering to ethical research standards. In addition, the researcher actively collaborated with relevant stakeholders, incorporated feedback to strengthen the study, and contributed to the preparation and refinement of the final manuscript. Through strong analytical skills, critical thinking, and a commitment to advancing knowledge in the field, the researcher played a key role in producing meaningful and reliable findings that contribute to both academic understanding and practical applications.

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