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Fiscal Decentralization and Economic Growth: A South African Perspective

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Abstract: The objective of this study is to investigate the relationship between fiscal decentralization and economic growth in South African. The study used an annual panel data for the period 2010-2019 across nine provinces. The study employed fixed effects model to investigate this relationship. To observe the order of integration of the variables, the study employed Levin, Lin, and Chu unit root test and Im, Pesaran, and Shin unit root test. The study found a positive relationship between economic growth and provincial government expenditure and provincial government revenue, fixed capital formation and capital stock in South Africa. Granger causality test further showed that there is a long run unidirectional causality running from provincial government expenditure to gross domestic product. The findings imply that South African government should fully adopt a fiscal decentralization policy to ensure an efficient provision of public goods and services to all the South African citizens.

Keywords: fiscal decentralization; economic growth; panel data analysis; fixed effects models; cross-section dependence test

JEL Classification: C1; H7; H21

1. Introduction

The fiscal decentralization is recognized as a pivotal approach to improve economic efficiency of the government and also to ensure the potential economic growth (Mladenovska & Tashevska, 2019). Fiscal decentralization is commonly measured by sub-national revenue or the spending share. The concept of "Fiscal decentralization" was established with the expectation that moving public revenues and expenditures from national to local governments would bring greater public sector efficiency, higher economic growth, and better overall macroeconomic performance. Developed nations were the first to give their local authorities greater fiscal power, autonomy, and functions. Emerging countries followed, however challenged by their institutional

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framework and capacity (Malik et al., 2006). Some studies obtained a positive relationship between fiscal decentralization and economic growth like Sasana (2019), Zhang and Gong (2005), Ganaie et al. (2018), Ewetan et al. (2016), Slavinskaitė (2017). However, there are studies that failed to find this relationship due to the use of different methodologies, different study periods explored and country specific (Khobai et al., 2018).

Many scholars agreed that fiscal decentralisation may eventually improve national wealth by improving public sector efficiency, resources, and transparency. Local governments are more efficient in allocating resources to the public sector than central governments because they can determine consumers' preferences for public goods and services and are prepared to give goods and services at a lower cost, which is productive efficiency (Tashevska, 2019). Others say that the positive effects of fiscal decentralization on economic growth are mostly felt in developing countries and not in developed countries. This is because developed countries tend to expect high efficiency gains from decentralization, which usually leads to high transactional and administrative costs associated with centralized political and administrative systems (Shah, 1994)". Brennan and Buchanan (1980) said that fiscal decentralization can make the different levels of government compete, which would lead to lower taxes and more efficient delivery of public goods and services within the limits of available revenue. Tanzi (1996) argued that fiscal decentralization can make it easier to create good macroeconomic policies and help with stabilization policies as well.

South Africa has three different levels of government: the national, the provincial, and the local. Putting decision-making in the hands of the people is expected to make people more involved, make the government more responsive to local needs, and improve the quality of service. In South Africa, the role and responsibilities of the subnational government in providing public goods and services are slowly growing. The growing vertical fiscal imbalance between the three levels of government is a big problem for the South African economy (Yemek, 2005).

In 2015/16, after the deduction debt servicing and contingency reserves, the remaining amount was R1 090,9 billion which is divided among the three spheres. The national government was allocated a share of 47.9% in 2015/16, and it was expected to remain fixed and more over the period of two years which are 2016 and 2017. The provincial governments received 42.9% of total revenue which consists of unconditional grants as well as conditional grants from national government. It was predicted that the provincial share would increase marginally between 2015 and 2017. The local government received a revenue share of 9.1% in 2015/16 (National-Treasury, 2015). Since the 2017 MTBPS, changes in priorities and cuts have had an effect on the spending plans for 2018–19. The amount given to the provinces was cut by R5.2 billion, and the amount given to the local government was cut by R3.2 billion (Ntional-Treasury, 2019).

South Africa government has been doing well in the past few years with the provision of public goods and services to the subnational government, though annual growth rates fluctuate, and fiscal consolidation has taken place over the 2013 to 2020 period, per person and per household allocations are surprisingly stable for basic services. The provincial equitable share increased by an average of 6.3 percent annually over the period of the MTEF in 2020, while the equitable share of the local government rose on average by 9.2 percent annually. Transfers to national departments, by comparison, increase annually by 2.6 percent. Debt-service costs grew at a much faster rate, averaging 12.3 per cent a year (Treasury, 2020).

There is only one study that investigated the impact of fiscal decentralization on economic growth in South Africa by Hanif et al. (2020) who focused on the panel of federal countries. To best of our knowledge, no study has been done in South Africa to analyze the relationship between fiscal decentralization and economic growth focusing on different provinces. Estimating the impact of fiscal decentralization in a panel of countries including South Africa would provide misleading results, since it will be difficult to analyze the direct impact of each province on economic growth in South Africa. That is why it is very important focus in one country when modelling this relationship. However, the aim of this study is to analyze the impact of fiscal decentralization on economic growth. The study focuses on a panel of 9 South African provinces to investigate this relationship. The study makes use of Fixed Effects model estimation method. This study is different to the studies conducted in South Africa. This study has been done to close the and allow for continuous research. This paper is structured as follows: Section 2 focuses on the review of the literature review. Section 3 presents research method. Section 4 presents empirical results of the study. Section 5 presents a conclusion of the study.

2. Literature Review

2.1. Theoretical Literature

2.1.1. The Fiscal Federalism Theory

There is a wide literature on the relationship between fiscal decentralization and economic growth. Theoretical framework underpinning the study includes, fiscal federalism theory by Musgrave (1969). The fiscal federalism theory is concerned with the organization of public finance, specifically how taxing, spending, and regulating activities are distributed among the several levels of government, as well as the nature of transfers between national, provincial, and local governments. In economics, the word "Federalism" implies decentralisation, and fiscal federalism deals with the fiscal implications of a decentralized multilevel governance structure. The decentralized system may increase allocative efficiency or the public sector's capacity to deliver the

amount and mix of public services that people need and that correspond to their choices.

2.2. Empirical Literature

Several studies have been conducted by different researchers regarding the importance fiscal decentralisation on economic growth. However, this paper divides these studies into two sections, such as country specific studies, and the last section consists of the cross-country studies.

2.2.1. Country Specific Studies:

Using a panel data set, Zhang and Gong (2005) studied the impact of fiscal decentralization on provincial economic development in China. From 1994 to 2002, the sample analysis reveals a positive link between fiscal decentralization and economic growth in cities with higher per capita GDP but none in cities with lower per capita GDP. According to Faridi (2011), fiscal decentralization is the primary cause of economic growth. Fiscal decentralization increases the efficiency of the public sector and promotes economic growth. Ewetan et al. (2016) examined the long run and causal relationship between fiscal decentralization and economic growth in Nigeria for the period between 1970 to 2012. The results from multivariate vector autoregressive model provided evidence of long run positive relationship between fiscal decentralization and economic growth in Nigeria. Sun et al. (2017) investigated the impact of the 1994 tax sharing system on economic growth in China. using a panel data set 429 provinces in China over their period of 1995 to 2014 in a simultaneous equation system that controls for the simultaneity of fiscal decentralization, physical capital accumulation and economic growth, the influence of the decentralization on economic growth is estimated. The estimation result indicated that there is an inverted U-shaped relationship between fiscal decentralization and economic growth.

Ganaie et al. (2018) examined the link between fiscal decentralization and economic progress in India using panel data from 14 non-specific states from 1981 to 2014. The panel co-integration and dynamic (DOLS) framework results indicated that spending decentralization has a positive and significant effect on the gross national product. On the contrary, revenue decentralization has a negative and significant impact on the state's GDP. Sasana (2019) conducted this study to analyze the implementation of fiscal decentralization on economic growth in central Java in Indonesia. The Fixed Effect Model was employed in this study to analyze the relationship between fiscal decentralization and economic growth for the period of nine years which is between 2009 and 2017 in 35 districts in central Java province. The findings demonstrated that fiscal decentralization has a positive effect on economic growth in the districts in central Java.

2.2.2. Cross-Country Studies:

Furthermore, the cross-countries studies have been largely developed to analyze the effect of fiscal decentralization on economic growth. Oates (1995) performed research in 40 countries between 1974 and 1989 to investigate the relationship between fiscal decentralisation and economic growth. They discovered a significant and robust positive relationship between Fiscal Decentralisation and per capita economic growth. Davoodi and Zou (1998) developed a simple endogenous growth model to demonstrate how the degree of fiscal decentralization impacts the economy's growth rate. They examined whether fiscal decentralization had any effect on growth using a cross-country panel data set of 46 industrialized and developing nations from 1970 to 1989. In poor nations, they discovered a negative relationship between fiscal decentralization and growth, but none in developed nations.

Rodríguez-Pose and Krøijer (2009) investigated the link between the amount of fiscal decentralization and economic growth rates in 16 Central and Eastern European nations from 1990 to 2004 using a panel data technique with dynamic effects. Their findings indicate that, despite popular belief, there is a significant negative connection between two of the three fiscal decentralization measures examined and economic growth. Buser (2011) investigated the effect of decentralization in the public sector on per capita income. Panel data regressions on a sample of observations from 20 high-income OECD nations from 1972 to 2005, controlling for variations in institutional structures, revealed that decentralization is positively associated to income. Buser further stated that empirical research demonstrates that institutions that promote economic freedom boost the favourable income benefits of decentralization. As a result, the impact of public sector decentralization is determined by a country's institutional framework.

From 1975 to 2008, Baskaran and Feld (2013) investigated the impact of fiscal decentralization on economic development in twenty-three Organization for Economic Cooperation and Development nations. The regressions using GFS–style measures show that fiscal decentralization has a negative but statistically insignificant influence on growth. Gemmell et al. (2013) used pooled-mean group techniques to examine whether the efficiency gains associated with fiscal decentralization generate higher growth in more decentralized economies, using a panel dataset of 23 Organization for Economic Cooperation and Development (OECD) countries from 1972 to 2005. They discovered that spending decentralization is related with poorer economic growth, but revenue decentralization is associated with stronger growth.

Slavinskaitė (2017) examined the effects of fiscal decentralization on economic development in unitary European Union nations from 2005 to 2014. The empirical analysis was based on the multiple regression approach. The fixed effect panel model served as the analysis's framework. This further study discovered a positive correlation between fiscal decentralization and economic growth in low-income developing

nations but no relationship in high-income developed countries. These findings showed that fiscal decentralization is not always an instrument for promoting economic growth, implying that the degree of economic development in a nation is an essential element to consider when implementing fiscal decentralization reform.

Faridi et al. (2019) conducted a study in South Asian region to examine the positive impact of fiscal decentralization. To proof that, the study used non-stationary panel data analysis for the period from 1990 to 2016. The empirical findings backed at panel pooled mean group of Auto Regressive Distributed Lag model came along with their findings that expenditure and revenue decentralization had significant positive and negative effect on economic growth. Similarity, gross fixed capital formation and foreign direct investment were found to have significant positive effect on the economy growth of selected South Asian economies. The existing empirical literature examined the relationship between fiscal decentralization and economic growth in developed and underdeveloped countries. The empirical literature showed that there is a positive relationship between fiscal decentralization and economic growth.

Although the existing literature confirms that the fiscal decentralization has a positive impact on economic growth for many countries, but the empirical studies in South Africa are few. However, there is only one study about fiscal decentralization and economic growth in South Africa. It was a panel study of developing countries by Hanif et al. (2020) who examined the impact of fiscal federalism on economic performance and South Africa was one of the selected countries. The study focused on the countries that are considered to be federal. The study used a panel data of 15 developing federations from 2000 to 2015 using two-step system Generalized Method of Moments (GMM) estimation method. The results showed that government revenue and government spending in developing federations have a positive and significant impact on economic growth. The results further revealed that the influence of fiscal decentralization on economic growth is dependent on the extent of perceived corruption and the quality of the country's institutions.

Other empirical related studies are Smoke (2000), Otto (2001), Momoniat (2002), Schoeman (2006), Van Ryneveld (2007), Moche et al. (2014), Amusa and Mabugu (2016), Udeagha and Ngepah (2022) but their focus was not on the relationship between fiscal decentralization and economic growth. This study contributes in the following way. This study used a panel data analysis in one country; therefore, the study is better than other panel studies focusing on different countries when investigating this relationship. The disadvantage of using a panel of countries when investigating this relationship is that it could be difficult to see the direct impact of each jurisdiction/state/province/ subnational government on economic growth in a specific country.

3. Research Methodology

This research is the study that examines the relationship between fiscal decentralization and economic growth across the South African provinces. The study adopts a Fixed Effects model which permits for some heterogeneity and individuality amongst the cross-sectional units that leads to a different coefficient for each cross-sectional unit which however time invariant. Random Effects model which assume that the intercepts for cross sectional units are randomly drawn from the population, to estimate the effect of fiscal decentralization on economic growth across the South African provinces and their differences. The Hausman (1978) is also recruited by the study to choose an appropriate model between Fixed Effects model and Random Effects model. The series of the variables employed in this study will be exposed to unit root test using Levin et al. (2002) and Im et al. (1997) (IPS) unit root test. The diagnostic checks will be conducted to test the presence of normality through Jarque-Bera statistic, and cross-sectional dependence will also be conducted to determine if is there cross-sectional dependence between the disturbances. The panel granger causality is also employed in this study to scrutinize the causality effect between the potential determinants of fiscal decentralization and economic growth in the South African provinces.

3.1. Model Specification

The model specification to investigate the relationship between fiscal decentralization and economic growth through their potential determinants is based on the multivariate framework where the relationship is presented as follows:

$$LGDP_t = B_{0i} + B_1 LPGE_{it} + B_1 LGR_{it} + B_2 LINV_{it} + e_{it} \quad (1)$$

Where:

LGDP stands for logged Gross Domestic Product at market price, LPGE represents logged Provincial Government Total Expenditure, LGR stands for logged Provincial Government Revenue, and LINV represents logged Investment (Fixed Capital Formation and Capital Stock). In the fixed effects method the constant is treated as group-specific. This means that the model allows for different constants for each group. Fixed effects model effectively captures all impacts that are unique to a single individual and do not change over time. So, if we had a panel of nations, the fixed effects would take into account geographical factors, natural endowments, and any other of the many fundamental elements that change among countries but not over time (Asteriou & Hall, 2021). The description of the variables is given below in table 1. All the variables in the model are transformed into logarithmic form in order to reduce variation in data set, to ensure that outlier are removed in the data points, and to treat heteroscedasticity problems. The model for the present is built by using the study of Davoodi and Zou (1998), Baskaran and Feld (2013).

3.2. Data Issues

The current paper used an annual panel data to examine the relationship between fiscal decentralisation and economic growth in South Africa from 2010 to 2019. The data for the variables is collected from two different sources such that GDP, provincial government total expenditure, and provincial government are collected from Statistics South Africa and fixed capital formation and capital stock is collected from Quantec.

Table 1. Description of the Variables

Variables	Description	Unit of measurement	Frequency	Source
$LGDP_t$	GDP at market price	R Million	Annual	Statistics South Africa
$LPGE_t$	Provincial Government Total Expenditure	R Million	Annual	Statistics South Africa
$LINV_t$	Investment	R Million	Annual	Quantec
LGR_t	Provincial Government Revenue	R million	Annual	Statistics South Africa

Source: author's own computation

3.3. Unit root test

Since the macroeconomic variables are more likely carry a random walk, the variables are tested for unit root to ensure that the white-niose assumption is not violated. To estimate the order of integration of the variables, the study used Levin, Lin, and Chu developed by Levin et al. (2002) unit root test. The test assumes that every panel individual unit has the same AR(1) coefficient, but allows for individual effects, time effects, and perhaps a time trend. The null hypothesis of $\emptyset = 0$ (unit root present in each time series) is tested against the one-sided alternative hypothesis of $\emptyset < 0$ (each series is stationary). Furthermore, the study uses Im et al. (1997) (IPS) unit root test which allows for individual impacts, time trends, and time effects that are common. Based on the mean of the individual Dickey-Fuller t-statistics for each unit in the panel, the IPS test assumes, under the null hypothesis, that all series are non-stationary.

Table 2. Unit Root Test Results

Order of integration	Variable	Levin, Lin, and Chu		Im, Pesaran, and Shin	
		Intercept	Trend& Intercept	Intercept	Trend& Intercept
Level	LGDP	0.0000***	0.5434	0.0000***	0.9816
Level	LINV	0.0000***	0.1170	0.0054***	0.9566
Level	LPGE	0.0000***	0.0000***	0.0016***	0.4398
Level	LGR	0.0000***	0.0000***	0.4438	0.2035

Source: Author's own computation: The variables are statistically significant at (*), (**),(***) represent 10%, 5%, 1% respectively

Table 2 shows the results from Levin, Lin, and Chu and Im, Pesaran, and Shin panel unit root tests performed. The null hypothesis is of unit root is not accepted at 1% level of significance for all variables under Levin, Lin, and Chu unit root test when the intercept is only included in the equation. However, when both trend and intercept are included in the model, LPGE and LGR are the only stationary variables at 1% level of significance.

Nonetheless, the null hypothesis of unit root is not accepted under Im, Pesaran, and Shin (IPS) unit root test for LGDP, LINV, LPGE, and except for LGR at 1% level of significance when the intercept is only included in the regression. However, the variables are not stationary when the trend and intercept are both included in the equation. Since the variables are found to be stationary at I(0), then, there won't be a need for cointegration testing.

4. Empirical Results

4.1. Hausman Test

The scholars use this test to determine whether the random effects are affecting the findings. The results from Hausman test in presented in table 3 below.

H_0: $random\ effects\ model\ is\ appropriate$

H_1: $fixed\ effects\ model\ is\ appropriate$

Table 3. Hausman Test Results

Test Summary	Chi-Squared Statistic	Chi-Squared degrees of freedom	Prob-value
Cross-section random	58.413	2	0.0000***

Source: Author's own computation: The variables are statistically significant at (**), (***) represent 5%, 1% respectively

The Chi-squared statistic of 58.413 is extremely statistically significant with the probability of zero. These results indicate that the null hypothesis is rejectsed and conclude that the individual effects are uncorrelated with the explanatory variables in the model, and that the random effects are not influencing the results. This indicate that fixed effects are determining the effects fiscal decentralisation and economic growth across the South African provinces.

4.2. Cross Sectional Fixed Effects Event

The study uses redundant fixed effects tests within a fixed cross-sectional situation to investigate if cross-sectional fixed effects influence our study findings.

H_0: $There\ are\ no\ cross\ sectional\ fixed\ effect$ ($Cross\ sectional\ effects\ are\ redundants$)

$$H_1: There\ are\ cross\ sectiona\ fixed\ effects$$

Table 4. Redundant Fixed Effects Tests Results

Test cross section fixed effects			
Effects Test	Statistic	d.f.	P-value
Cross-section F	44.658	(8,78)	0.0000***
Cross-section Chi-squared	154.732	8	0.0000***

Source: Author's own computation: The variables are statistically significant at (**), (***) represent 5%, 1% respectively

The paper reject null hypothesis that there are no cross-sectional fixed effects and conclude that cross-section fixed effects are convincing the findings from the study since the probability value obtained is less than 5%. Therefore, the study have strong evidence to further conclude that the individual specific characteristics of South African provinces do influence the study results.

4.3. Residual Diagnostic Test

4.3.1. Normality Test

According to Jarque and Bera (1980), normality refers to the property of the time series residual data being normally distributed. The Jarque-Bera is the test statistic that evaluates the normality at the null hypothesis. The p-value is greater than 5% as shown in Table 4.8 below, therefore we fail to reject null hypothesis and conclude that the residuals are normally distributed.

Table 5. Jarque-Bera test

Test	**T-Statistics**	**P-value**	**Conclusion**
Normality Test	1.087	0.581	Fail to reject Null Hypothesis

Source: Author's own computation: The variables are statistically significant at (*), (**), (***) represent 10%, 5%, 1% respectively

4.3.2. Panel Cross-Section Dependence Test

It is commonly assumed that disturbances in panel data models are cross-sectionally independent, especially when the cross-section dimension (N) is large. There is, however, considerable evidence that cross-sectional dependence is often present in panel regression analysis, as it was also emphasised by (Sarafidis et al., 2009). According to Sarafidis et al. (2009) cross-section dependence may arise for several reasons, often due to spatial correlations, economic distance, and common unobserved

shocks. The Table 6 below presents the results from the cross-section dependence test. For the purpose of this study, the results from Breusch-Pagan (LM) and Pesaran CD are presented, because the period (T) of the study is greater than the cross-sectional dimension (N). In Table 6, the results from Breusch-Pagan (LM) fail to accept the null hypothesis of no cross-section dependence at 1% level of significant. Furthermore, the results from Pesaran CD also fail to accept null hypothesis of no cross-section dependence between residuals. From the results obtained, we can conclude that there is a presence of cross-sectionally dependence between the residuals.

Table 6. Cross-Section Dependence Test

Test	Statistic	d. f	Prob. Value
Breusch-Pagan LM	59.909	36	0.0074***
Pesaran scaled LM	2.818		0.0048***
Bias-corrected scaled LM	2.318		0.0205**
Pesaran CD	3.992		0.0000***

Source: Author's own computation: The variables are statistically significant at (*), (**), (***) represent 10%, 5%, 1% respectively

The presence of cross-section dependence was expected in this study since the provinces might need each other in the long run for survival. For example, Free State in Bloemfontein houses the Supreme Court of Appeal for the whole South Africa and is also the biggest employer in mining particularly Gold, so people from difference provinces are working in those mines. Gauteng province houses the Johannesburg Stock exchange in South Africa and Eastern Cape is considered as a major producer of pineapples, citrus and deciduous fruit, tomatoes, chicory, and tea, so other province would depend on Eastern Cape with supplying these products. Therefore, the presence of cross-section dependence did not shock this study since it was anticipated.

4.4. Panel Granger Causality Test

As previously stated, the Granger causality test goes further to show the direction of long-run causality rather than just a correlation between the variables. Table 7 summarises the estimation findings for granger causality.

Table 7. Granger causality test results – LGDP as a dependent variable

Null Hypothesis	F-Statistics	P-value	Conclusion
LGR does not granger cause LGDP	0.402	0.671	No causality
LGDP does not granger cause LGR	0.782	0.461	No causality
LINV does not granger cause LGDP	0.657	0.522	No causality
LGDP does not granger cause LINV	1.240	0.296	No causality

LPGE does not granger cause LGDP	2.752*	0.071	Causality
LGDP does not granger cause PGE	2.061	0.135	No causality
LPGE does not granger cause LINV	3.483**	0.036	Causality
LINV does not granger cause LPGE	1.538	0.222	No causality
LINV does not granger cause LGR	2.185	0.121	No causality
LGR does not granger cause LINV	0.211	0.810	No causality
LPGE does not granger cause LGR	1.166	0.318	No causality
LGR does not granger cause LPGE	1.968	0.148	No causality

Source: Author's own computation: The variables are statistically significant at (*), (**), (***) represent 10%, 5%, 1% respectively

The study found it important to conduct granger causality test proposed by Granger (1969) to determine the direction of causality among variables. Based on the preceding table 7, the following conclusions may be drawn about the direction of the long-run causality amongst the variables in the model. The results confirms a independent causality between all the variables, except for LPGE and LGDP, and LPGE and LINV. The study abtained unidirectional causality running from LPGE to LINV at 5% level of significance, meaning that any change in LPGE will have a causal effect on LINV in the long run. Finally, the study abtained unidirectional causality running from LPGE to LGDP at 10% level of significance, meaning that any change in LPGE will have a causal effect on LGDP in the long run, however, these results are inline with the results obtained by (Ewetan et al., 2016).

Table 8. Fixed Effects Model on Economic Growth and Fiscal Decentralisation

Variables and intercept	Fixed Effects Model			
	Coefficients	Std. Error	T. Statistic	Prob
LGR	0.357	0.044	8.107	0.0099***
LINV	0.308	0.051	6.006	0.0000***
LGPE	0.149	0.056	2.643	0.0000***
Constant	1.197	0.209	5.723	0.0000***

Source: Author's own computation: The variables are statistically significant at (*), (**), (***) represent 10%, 5%, 1% respectively

Fixed Effects model assumes that there could be an unobserved factor within the individual provinces that need to be controlled, which may have an impact on the independent variables. The Fixed Effects Model is presented in Table 8 with LGDP as a dependent variable and LINV, LGR and LPGE as explanatory variables. Table 8 is divided into two columns, the first column shows explanatory variables and intercepts followed by the second column which is divided by four as follow coefficient, Standard error, t-Statistic, and probability values respectively.

The fixed effects model results demonstrate that fixed capital formation and capital stock (LINV) has a positive statistically significant effect at 1% level of significance on Gross Domestic Product in South African Provinces. Thus, keeping other variables constant, a 1-percent increase in Fixed Capital Formation and Capital Stock (LINV) will lead to 0.308% increase in Gross Domestic Product of which LGDP is regarded as a major barometer for Economic Growth. These results are consistent with the results obtained by Faridi et al. (2019) and (Baskaran & Feld, 2013).

Furthermore, the fixed effects model continues to show that Provincial Government total expenditure as regarded as a measure of fiscal decentralisation in the model has a positive statistically significant relationship at 1% level of significance on Gross Domestic Product in South African provinces. Therefore, 1% increase in Provincial Government Total Expenditure would lead to 0.149% increase in Gross Domestic Product. These results are as expected according to the study by Peacock et al. (1967) and consistent with the study of Ganaie et al. (2018) and contradict the results obtained by (Gemmell et al., 2013).

Finally, the fixed effects model results show that the provincial givernment revenue as considered as a measure of fiscal decentralisation has a positive statistically significant relationship with GDP at 1% level of significance. Therefore, a 1% increase in provincial givernment revenue leads to 0.357% increase in GDP. These results are consistent with the results obtained by Gemmell et al. (2013) and contradict with the results obtained by (Ganaie et al., 2018)

5. Conclusion

Existing literature provides significant evidence that fiscal decentralization would contribute to economic growth, as it is considered that it can create competition among various levels of government, leading to reduced taxes and efficient provision of public goods and services within revenue restrictions. Decentralization may help establish macroeconomic and stabilizing strategies. To add to the knowledge, this research examined the influence of fiscal decentralization on South Africa's economic growth from 2010 to 2019. The study included variables such as gross domestic product as a dependent variable, provincial government expenditure, provincial government revenue, and fixed capital formation and capital stock as explanatory variables.

The study found a positive relationship between economic growth and provincial government expenditure and provincial government revenue, fixed capital formation and capital stock. However, this gives strong evidence of that fiscal decentralisation contributes positive in the South African economy. Therefore, fiscal decentralisation policy should be fully adopted by South African government due to the following reasons: the level of competition among different subnational jurisdictions could boost

innovation. The cost of decision-making may be reduced because of the devolution of authority over expenditure and taxation due to the involvement of smaller bodies. The public might be encouraged to participate in decision-making through fiscal decentralization. This is because local and provincial governments may be closer to the individuals they serve and may develop fiscal accountability.

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