The Influence of Tax Revenue, Government Expenditures, Fiscal Decentralization, Carbon Emission and Exports on Economic Growth of Developing Countries

Channew Maneerat¹, Snober Fazal²
¹ Faculty of law, Lampang Rajabhat University, Thailand.
² PhD Scholar, The Islamia University of Bahawalpur, Pakistan, Email: Snoberfazal44@yahoo.com

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ABSTRACT

Nowadays, high economic growth is a significant task for the betterment of society, every country worldwide, and the researchers' attention. Therefore, the present study aims to examine the role of tax revenue, government expenditures, fiscal decentralization, carbon emission, and exports on developing countries' economic growth. The data has been gathered from the World Development Indicator (WDI) for the year 2008-2019 from fifteen emerging developing countries worldwide. The present study executed the robust standard error and generalized method of moment (GMM) to check the association between tax revenue, government expenditures, fiscal decentralization, carbon emission, exports, and developing countries' economic growth. The results revealed that all the predictors such as tax revenue, government expenditures, fiscal decentralization, carbon emission, exports, and developing countries' economic growth. These outcomes help the developing countries' regulators focus on the foremost factors that could enhance the country's economic growth.

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Corresponding Author's Email: Snoberfazal44@yahoo.com

1. Introduction

The world has become a global village. The rapid changes in the world required rapid response from the countries to meet the changing demands. The literature on economic growth is increasing on rapid growth (Khan & Nawaz, 2010). The increasing competition badly crushes the country, which failed to goes parallel with the world. The survival of any country depends upon the economic conditions of the country. The direction of the economy matters a lot for the future of the country. The economy's right direction also strongly impacts the standard of living of the country's people.

On the other hand, there is a direct relationship between the economic direction and living standards. Numerous factors impact the country's economic condition, i.e., government
revenue, expenditures, imports, exports, carbon emission, inflation, etc. In this decade of open, accessible economy, countries are dedicated to enhancing their citizens' quality of life. And the standard of life derives mostly from macroeconomic stability. Thus, every country's primary goal is to raise the Gross Domestic Product-GDP (Shittu, Hassan, & Nawaz, 2018).

Taxes play a crucial role as a source for economic planning and development, even economic policies are focused on projected tax revenues, and tax policies are a fundamental component of any country's economic policy. To maintain its global competitiveness and growth, each government must produce tax revenues to finance significant ex-government spending. The planet has now become a global village to maintain the market competitively, and every government requires a competitive tax system such that money, skilled labor, and technologies are attracted, critical elements for optimizing economic development. Fiscal federalism researchers are particularly interested in the partnership between fiscal decentralization and economic development, and this topic has obtained various theoretical and methodological studies in recent years. According to the principle of fiscal federalism, fiscal competitiveness contributes to practical distributive effects, which can inevitably foster higher growth rates (Baskaran & Feld, 2013).

Furthermore, decentralization is claimed that localized experiments contribute to more legislative developments; and expertise drives policymakers, thus restricting their capacities to over-tax people to deliver productive public goods. Theoretical literature models still support the nexus between decentralization and development, but the impact's trajectory is less well established. The study proposed that decentralization on development depends on the varying need for public goods from both young and elderly, and decentralization creates motivation to invest in human resources when still young (Martinez-Vazquez & McNab, 2003; Rodríguez-Pose & Ezcurra, 2011). There are adequate decentralization level and necessary changes that improve growth if the predominant level varies from the optimized level. In addition to this, fiscal rivalry contributes to decreased democratic development and lower economic growth due to decentralization. The private capital stocks are constant, and that economic development is guided only by the public accumulation of capital. Increased mobility of tax bases results in increased frequency of policy innovation and economic development.

The Copenhagen Conference on Climate change came to an end without any clear promise or a new agreement to curb greenhouse gases emissions from any industrialized and emerging economy. However, studies to create a statistically significant nexus between CO2 emission and economic activities in developed economies are worthwhile because of increased CO2 emission in developing countries, particularly in emerging economies such as China and India. Standard economic models do not offer a straightforward response about whether the cause or consequence of CO2 emission is economic development (Bakhtyar, Kacemi, & Nawaz, 2017). Studies that define the nexus between CO2 consumption and production take two fundamental approaches. The studies analyze the role of CO2 emission inside the standard output function system to economic activities (Bouznit & Pablo-Romero, 2016; Riti, Song, Shu, & Kamah, 2017). A demand-side methodology examines the interaction between the usage of resources in a three varied CO2 emission demand model between gross domestic product (GDP) and energy prices. Both previous research types in this area adopt one or the
other strategy and establish energy-saving strategies accordingly. Therefore, both models' adaptation to a nation or community of countries offers more robust forecasts and essential policy consequences. Carbon pollution is also one of the essential energy usage bi-products (Sarkar, Al-Amin, Mustapa, & Ahsan, 2019). Literature proposed that there is a strong association reported between government expenditure and the economic growth of the country. The government spends the revenue collected. The case if there is an imbalance between government revenue collection and spending, this will directly affect the country's economy.

2. Literature Review

There are numerous ways to fulfilling this goal, one of which is the expansion of exports. An important topic in this sense instantly disrupts economists and analysts' and researchers' minds, whether the promotion of exports contributes to enhanced economic growth or whether economic growth stimulates export expansion/growth. Therefore, economists have varying opinions at various periods, and literature has offered scholars and policymakers a discussion since the last few decades (Guntukula, 2018; Osabohien et al., 2019). One scholar's panel proposed the export-led hypothesis of development, whereas the other advocates an export-led hypothesis. Besides, current literature indicates that the promotion of exports contributes to economic growth and that economic growth stimulates exports, i.e., the bidirectional causality between exports and economic growth. The theory of export-led development typically illustrates the export / economic growth relationship. The researchers claim that supporting exports through policies such as export subsidies or depreciation of the exchange rate would increase economic development. The essence of the neoclassical theory underlying the export-led growth hypothesis is that foreign market competitiveness encourages economies of scale and improves productivity by investing capital in industries that have a competitive advantage in that region. These optimistic externalities stimulate development in the economy (Ali, Ali, & Dalmar, 2018; Bakari & Mabrouki, 2017). The claim that economic growth encourages export growth; on the opposite is focused on the premise that productivity increases generate competitive benefits in some industries that inevitably contribute to export growth. Also, countries with fast growth rates and relatively low absorption rates inevitably need to export surplus output. Several reports suggest a bidirectional interaction between these factors to make exports liable for industrial growth and exports for positive growth.

The opinion that exports play a decisive function in economic development is nothing new. It focuses on Adam Smith and David Ricardo's classic economic theories, which claim that foreign exchange plays a vital role in economic development and that specialization has economic benefits. Neoclassical economics claims that foreign market rivalry encourages economies of scale and improves productivity in the fields where the country has a competitive advantage by concentrating capital. These optimistic externalities stimulate development in the economy. These theoretical claims surrounding nexus export-economic development have been empirically tested at various periods by economists and scholars (Bakari & Mabrouki, 2017; Hameed, Iqbal, & Devi, 2012).
Using error correction modeling and multivariate Granger causality, the study explored the causal relationship between exports and production growth in the Greek economy's empirical sense. To verify the robustness of the effects, a sensitivity study dependent on impulses is carried out. The method for calculating outcomes is rigorous and demonstrates that the ELGH is not accurate for Greece. The empirical results also indicate a clear and stable trigger of growth in production to long-term export efficiency (Hameed et al., 2012; Panas & Vamvoukas, 2002).

One study examined Granger-causality in Portugal from 1865 to 1998 between exports, imports, and economic development. The imported variable's role in analyzing export-production causalities is illustrated, allowing direct causality, indirect causality, and false causality between export growth and output growth to be examined. The analytical findings do not support a unidirectional causality among the considered variables. There is a feedback link between growth in export production and a rise in import output. More surprisingly, between import/export growths, there is no significant causality. Both findings seem to confirm the hypothesis that the growth of production during this time for the Portuguese economy revealed a related form Mall dual economy and minimal intra-industry purchases (Hameed et al., 2012).

The theoretical structure lets us catalog the various forms that taxes could contribute to growth in production. Firstly, higher taxes will reduce the investment rate or net capital stock growth by high corporate- and individual income tax rates, high efficient tax rates on capital gains, and inadequate depreciation provisions. Secondly, tax policy may also inhibit productivity growth by reducing development; if subsidies (negative tax) occur, they may improve research practices whose spillover effects can theoretically strengthen existing labor and capital efficiency. Third, taxes can decrease the opportunity to work, decrease workforce participation and working hours, or even establish the prejudicial option of jobs or the acquisition of schooling, skills, and training. Fourth, substantial labor taxes can distort the productive usage of human resources by deterring employees from work in the sectors with high social efficiency, yet heavy taxation and fifthly, by distorting investment from the high-tax sector into low-tax sectors (Egbunike, Emudainohwo, & Gunardi, 2018; Siddiqui, 2010).

The tax system differs worldwide, with the primary motivation for optimum revenue at minimal inflation. Various nations have different taxation philosophies and different collection methods; in the same way, countries use different resources that impact development differently. The overall tax scheme's diverse uses vary worldwide, which is the crucial explanation for maximum taxes with limited inflation (Babatunde, Ibukun, & Oyeyemi, 2017). Different countries have different taxation ideologies and methods of collection; similarly, countries use different tools that have different effects on growth (Castles & Dowrick, 1990; Ofurum, Amaefule, Okonya, & Amaefule, 2018).

Tax policy also influences the high personal income tax conduct of investors promoting entrepreneurial investment. The low corporate rate of personal taxes facilitates risk-taking (Amri, Masbar, & Aimon, 2019). The studies offer proof of risk-taking prohibited by a progressive personal tax system (Ogbonna & Appah, 2016) and discuss the various possible
influences on the tax structure's economic operation and seek good empirical evidence for these tax consequences U.S. income tax returns results from 1964 to 1993. The study also performed in a cross-sectional data collection from 1970 to 1998 nation analysis, which regulates several other determinants/covariates of economic growth; notice that corporate tax rate is substantially inadvertent concerning economic growth (Lee & Gordon, 2005).

The study used annual data from 1965 to 2001, explored the relationship between the rate of expansion, gross savings ratio to GDP, to the marginal, direct tax rate and tax revenue, which found a one-way causal relationship between the marginal direct tax rate and the rate of economic development, with the path from the marginal direct tax rate to the rate of economic growth. There is also a one-way causal link between the gross savings ratio and GDP and marginal direct tax as well as tax returns, varying from gross savings to the factors mentioned above. In contrast, the causal correlation between the pace of economic growth and the ratio of gross savings to GDP does not exist. Conversely, the marginal direct tax rate is bilaterally causal to the tax revenues (Anastassiou & Dritsaki, 2005; Aydin & Esen, 2019).

Perhaps the most significant challenge in the analytical study of the effects of fiscal decentralization is to find a reliable indicator of the degree of decentralization that prevails in a given nation. Many reports take a fiscal view and take steps focused on a sub-federal income or expense ratio of overall government income and expenditure. These measures are typically established based on the IMF's Government Finance Statistics (GFS) dataset, particularly in cross-country studies. The GFS steps include a misleading representation of the "real" degree of decentralization is a well-known downside. There is a related issue on the revenue side. While the data may suggest a high degree of decentralized taxes since a significant proportion of the public sectors pooled tax revenues flow to sub-federal governments, their ability to assess tax rates or bases might be insignificant autonomously. In other terms, the great importance of GFS decentralization steps does not mean a great deal of sovereignty. One of the literature studies also presented evidence on decentralization and is based on the OECD (1999) approach (Stegarescu, 2005). An analysis of the effect of fiscal decentralization on economic growth by tackling these problems while at the same time utilizing a collection of decentralization steps capturing the "real" level of fiscal decentralization with the addition of logically expands the steps as they (a) are constructed following the same classification method, (b) is applicable in 23 countries and, most notably, (c) are available as a broad annual panel over the duration from 1975 to 2001 (Thornton, 2007). This data collection enables the usage of panel data approaches and allows us to run various robustness checks.

The investigators discover unidirectional causalities from power generation to energy use (Kareem, Olusegun, & Samuel, 2017). Additional analysis has centered on both developed and emerging countries. However, these findings do not unambiguously infer the causality path between CO2 emission and economic development. This may be because of three different reasons. Second, the analyses vary in the econometric approaches used. Second, various details from different countries and periods are taken into account. Third, the non-stationary of data may cause issues. Any experiments have unidirectional causality between production and energy use. Another study also reviews Australia's data on the oil, GDP, and the job sector also finds unidirectional causality from production to CO2. Studies often found a unidirectional causal association between energy use and production.
The correlation between government spending and economic growth has been a continuous topic in economic development debates. The prominent Wagner Act of 1958 notes that government expenditure is elastic in revenue and that the ratio of government spending to income continues to increase with economic growth. In addition, the government's non-military public goods and facilities, such as schooling, housing, and regulation, are also deemed critical influences in economic development (Dai, Zhang, & Huang, 2016; Mladenović, Sokolov-Mladenović, Milovančević, Marković, & Simeunović, 2016).

On the other side, many experiments have evaluated the effect of government intervention on economic development, assuming that the government scale has an inverted U association with economic growth. Government unproductive investment would reduce the growth rate GDP. In contrast, the effect of efficient government spending on GDP development is ambiguous, based on the government's conduct and the expense ratio. So little, so many. Too little. Some later study even supports the negative impact of the public Economic development area (Iheanacho, 2016; Joshua, 2019).

The latest research usually indicates that the law of Wagner can be established, the developed nations are less likely to do so (Akitoby, Clements, Gupta, & Inchauste, 2006). On the opposite, studies from the literature show that government investment may benefit economic prosperity if public sector spending is involved, although it may have a detrimental impact. If only government usage is concerned. However, prior findings were not decided on the relation, due to their disparities, between government expenditure and economic growth. Measurement of government spending in the specification of econometric models Sample collection (Dudzevičiūtė, Šimelytė, & Liučvaitienė, 2018; Sáez, Álvarez-García, & Rodríguez, 2017).

3. Data and Methodology

The ongoing research aims to explore the impact of tax revenue, government expenditures, fiscal decentralization, carbon emission, and exports on developing countries' economic growth. The data has been gathered from the WDI for the year 2008-2019 from fifteen emerging developing countries named Brazil, Mexico, Russia, Indonesia, India, China, Nigeria, Turkey, Bangladesh, Egypt, Iran, Pakistan, Philippines, Colombia, and South Africa. The variables that this research has selected include the economic growth (E.G.) that is used as a predictive variable and measured as the GDP growth (annual percentage) (Cai & Lu, 2013). In addition, predictors of the research include the government expenditure (G.E.) that is measured as the government expenditure on growth (percentage of GDP per capita) (Wu, Tang, & Lin, 2010), tax revenue (T.R.) that is measured as the tax revenue (percentage of GDP) (Mahmood & Chaudhary, 2013), fiscal decentralization (F.D.) is measured as the ratio of Subnational spending (t) - transfers from subnational to central government (t) and consolidated general government spending (t) (Gemmell, Kneller, & Sanz, 2013), carbon emission (CO₂) is measured as the CO₂ emissions from substantial fuel consumption (percentage of total) (Feng, Chen, & Zhang, 2013) and export (EX) is measured as the exports of goods and services (annual percentage growth) (Zhu & Kotz, 2011).
Table 1
Measurement of Variables

| Variable          | Measurement                                    | Sources                        |
|-------------------|-----------------------------------------------|--------------------------------|
| Economic Growth   | GDP growth (annual percentage)                | (Cai & Lu, 2013)               |
| Government        | Government expenditure on growth              | (Wu et al., 2010)              |
| Expenditure       | (percentage of GDP per capita)                |                                |
| Tax Revenue       | Tax revenue (percentage of GDP)               | (Mahmood & Chaudhary, 2013)    |
| Fiscal Decentralization | Subnational spending (t) - Transfers from subnational to central government (t) / Consolidated general government spending (t) | (Gemmell et al., 2013) |
| Carbon Emission   | CO2 emissions from solid fuel consumption (percentage of total) | (Feng et al., 2013) |
| Exports           | Exports of goods and services (annual percentage growth) | (Zhu & Kotz, 2011) |

The constructs have been highlighted in the form of the equation given below:

\[ EGI_t = \alpha + \beta_1 GEI_t + \beta_2 TR_t + \beta_3 FD_t + \beta_4 CO2_t + \beta_5 EX_t + e_{it} \]  

(1)

Where;

\( i = \) Country
\( t = \) Time Period
E.G. = Economic Growth
G.E. = Government Expenditure
TR = Tax Revenue
FD = Financial Decentralization
CO2 = Carbon Emission
EX = Exports

The present study executed the robust standard error because cross-sectional dependence and study have an auto-correlation issue (Hoechle, 2007). In addition, GMM has also been executed to check the association between tax revenue, government expenditures, fiscal decentralization, carbon emission, exports, and developing countries' economic growth.

4. Results and Discussion

The findings firstly exposed the variance inflation factor (VIF) that show the multicollinearity assumption of regression, and the figures highlighted no multicollinearity issue exists in the data because the VIF values are less than 5 in all the variables. These values have highlighted in Table 2 shown below:

Table 2
Variance Inflation Factor

| Variable | VIF | 1/VIF |
|----------|-----|-------|
| FD       | 3.591 | .278  |
| CO2      | 3.344 | .299  |
| EX       | 1.763 | .567  |
| TR       | 1.201 | .832  |
| GE       | 1.104 | .906  |
| Mean VIF | 2.201 |       |
The findings also exposed the relationships among the constructs shown in Table 3 correlation matrix, and the results show that no high correlation exists among the constructs because the values are less than 0.90. Besides, all the predictors have a positive association with, E.G., growth. These values have highlighted in Table 3 shown below:

Table 3
**Correlation matrix**

| Variables | EG   | TR   | GE   | FD   | EX   | CO2  |
|-----------|------|------|------|------|------|------|
| EG        | 1.000|      |      |      |      |      |
| TR        | 0.291| 1.000|      |      |      |      |
| GE        | 0.516| -0.130| 1.000|      |      |      |
| FD        | 0.483| -0.041| -0.125| 1.000|      |      |
| EX        | 0.106| -0.358| 0.159| 0.529| 1.000|      |
| CO2       | 0.553| 0.000| -0.143| 0.834| 0.470| 1.000|

The robust standard error results revealed that all the predictors such as tax revenue, government expenditures, fiscal decentralization, carbon emission, and exports have positive nexus with developing countries' economic growth because the beta values have a positive sign 1.64 t-values and less than 0.05 p-values. These links have been highlighted in Table 4.

Table 4
**Robust Standard Error**

| EG  | Beta | S.D. | t-values | p-values | L.L. | U.L. |
|-----|------|------|----------|----------|------|------|
| TR  | 0.821| 0.162| 5.060    | 0.000    | 0.473| 1.169|
| GE  | 0.429| 0.065| 6.600    | 0.000    | 0.568| 0.889|
| FD  | 0.127| 0.022| 5.773    | 0.000    | 0.021| 0.075|
| EX  | 0.128| 0.060| 2.133    | 0.002    | 0.230| 0.286|
| CO2 | 0.012| 0.003| 4.790    | 0.000    | 0.007| 0.018|
| _cons | 4.122| 1.264| 3.260    | 0.006    | 1.411| 6.833|

The results of GMM has revealed that all the predictors such as tax revenue, government expenditures, fiscal decentralization, carbon emission, and exports have significant and positive nexus with the economic growth of developing countries because probability values are less than 0.05 while t-statistics are more considerable than 1.64. These relationships have been exposed in Table 5.

Table 5
**Generalized Method Moment (GMM)**

| E.G.  | Beta | S.D. | t-value | p-value | L.L. | U.L. | Sig  |
|-------|------|------|---------|---------|------|------|------|
| TR    | 1.17 | .201 | 5.81    | .000    | .773 | 1.568| ***  |
| GE    | .839 | .1   | 8.40    | .000    | .037 | .642 | ***  |
| FD    | .076 | .025 | 3.10    | .002    | .028 | .125 | ***  |
| EX    | .439 | .12  | 3.67    | .000    | .203 | .675 | ***  |
| CO2   | .009 | .003 | 3.19    | .002    | .003 | .014 | ***  |
| Mean dependent var | 1.606 | SD dependent var | 0.553 | 0.553 | 0.553 | 0.553 | 0.553 |
| Number of obs | 163.000 | F-test | 54.867 | 54.867 | 54.867 | 54.867 | 54.867 |

***p<.01, **p<.05, *p<.1
4.1. Discussion and Implications

These results agree with the previous studies of Ojong, Anthony, and Arikpo (2016), which show that the high rate of generation of revenues from taxes brings improvement in economic growth. The results have revealed that government expenditure is positively linked with economic growth. These results are in line with the previous studies Kurt (2015), where it has been focused that the government of expenditures contributes a lot to economic growth. The results have indicated that fiscal decentralization has a positive association with economic growth. These results are in line with Filippetti and Sacchi (2016) past studies, which reveal the importance of fiscal decentralization to higher economic growth. This study's results have represented that CO$_2$ emission has positive impacts on the rate of economic growth. These results follow the previous studies of Zhang, Wang, and Wang (2018), which stresses the role of CO$_2$ emission in attaining higher economic growth. Last, the exports are positively linked with economic growth. These results match with the studies of Yüksel (2017).

There are both theoretical and empirical implications are carried by this paper. I talk about theoretical implications the study adds to the literature on the economy because the study checks the influences of tax revenue, government expenditures, fiscal decentralization, CO$_2$, and exports on the rate of economic growth. On the other hand, the study makes empirical implications. It gives a guideline to the economic regulators of making improvements in the country's economic growth with favorable tax policies, increased government expenditures, fiscal decentralization, CO$_2$ emission, and exports.

5. Conclusion and Limitation

In conclusion, it can be said that government revenues from taxes positively contribute to economic growth. The results have revealed that the expenditures committed by the government have a positive relationship with economic growth. Moreover, the paper examines that fiscal decentralization creates motivation in the employees to work in organizations' interest, which results in business performance and thus to economic growth. Besides, this study has proved that the emission of CO$_2$ also has positive influences on economic growth. Last, exports make a positive contribution to economic growth. The higher the rate of exports, the higher is the rate of economic growth.

Though our study has thrown light on the five elements such as tax revenue, government expenditures, fiscal decentralization, and CO$_2$ which contribute a lot to the economic growth of the country, yet it has some limitation too as there many other factors which also play a considerable role in the economic growth but not explored by the study. Thus, the future scholars are recommended to include some contributors to economic growth in their studies. Moreover, this paper had adopted a single source of data, while future scholars must utilize multiple data collection sources to collect data.
Akitoby, B., Clements, B., Gupta, S., & Inchauste, G. (2006). Public spending, voracity, and Wagner’s law in developing countries. *European Journal of Political Economy, 22*(4), 908-924.

Ali, A., Ali, A., & Dalmar, M. (2018). The impact of imports and exports performance on the economic growth of Somalia. *International Journal of Economics and Finance, 10*(1), 110-119.

Amri, K., Masbar, R., & Aimon, H. (2019). Is there a causality relationship between local tax revenue and regional economic growth? A panel data evidence from Indonesia. *Regional Science Inquiry, 11*(1), 73-84.

Anastassiou, T., & Dritsaki, C. (2005). Tax revenues and economic growth: An empirical investigation for Greece using causality analysis. *Journal of Social Sciences, 1*(2), 99-104.

Aydin, C., & Esen, Ö. (2019). Optimal tax revenues and economic growth in transition economies: a threshold regression approach. *Global Business and Economics Review, 21*(2), 246-265.

Babatunde, O. A., Ibukun, A. O., & Oyeyemi, O. G. (2017). Taxation revenue and economic growth in Africa. *Journal of accounting and taxation, 9*(2), 11-22.

Bakari, S., & Mabrouki, M. (2017). Impact of exports and imports on economic growth: new evidence from Panama. *Journal of Smart Economic Growth, 2*(1), 67-79.

Bakhtyar, B., Kacemi, T., & Nawaz, M. A. (2017). A review on carbon emissions in Malaysian cement industry. *International Journal of Energy Economics and Policy, 7*(3), 282-286.

Baskaran, T., & Feld, L. P. (2013). Fiscal decentralization and economic growth in OECD countries: is there a relationship? *Public Finance Review, 41*(4), 421-445.

Bouznit, M., & Pablo-Romero, M. d. P. (2016). CO2 emission and economic growth in Algeria. *Energy Policy, 96*(23), 93-104.

Cai, F., & Lu, Y. (2013). Population change and resulting slowdown in potential GDP growth in China. *China & World Economy, 21*(2), 1-14.

Castles, F. G., & Dowrick, S. (1990). The impact of government spending levels on medium-term economic growth in the OECD, 1960-85. *Journal of Theoretical Politics, 2*(2), 173-204.

Dai, S., Zhang, M., & Huang, W. (2016). Decomposing the decoupling of CO2 emission from economic growth in BRICS countries. *Natural Hazards, 84*(2), 1055-1073.

Dudzevičiūtė, G., Šimelytė, A., & Liucvaitienė, A. (2018). Government expenditure and economic growth in the European Union countries. *International Journal of Social Economics, 9*(4), 12-32.

Egbunike, F. C., Emudainohwo, O. B., & Gunardi, A. (2018). Tax revenue and economic growth: A study of Nigeria and Ghana. *Signifikan: Jurnal Ilmu Ekonomi, 7*(2), 213-220.

Feng, Y., Chen, S., & Zhang, L. (2013). System dynamics modeling for urban energy consumption and CO2 emissions: A case study of Beijing, China. *Ecological Modelling, 252*, 44-52.

Filippetti, A., & Sacchi, A. (2016). Decentralization and economic growth reconsidered: The role of regional authority. *Environment and Planning C: Government and Policy, 34*(8), 1793-1824.

Gemmell, N., Kneller, R., & Sanz, I. (2013). Fiscal decentralization and economic growth: spending versus revenue decentralization. *Economic Inquiry, 51*(4), 1915-1931.

Guntukula, R. (2018). Exports, imports and economic growth in India: Evidence from cointegration and causality analysis. *Theoretical & Applied Economics, 25*(2), 9-29.
Hameed, D., Iqbal, A., & Devi, K. (2012). Relationship between exports and economic growth of Pakistan. European Journal of Social Sciences, 32(3), 453-460.

Hoechle, D. (2007). Robust standard errors for panel regressions with cross-sectional dependence. The Stata Journal, 7(3), 281-312.

Iheanacho, E. (2016). The contribution of government expenditure on economic growth of Nigeria disaggregated approach. International Journal of Economics and Management Sciences, 5(5), 1-8.

Joshua, U. (2019). An ARDL approach to the government expenditure and economic growth nexus in Nigeria. Journal of Economics, 1(2), 99-104.

Kareem, S. D., Olusegun, A. K., & Samuel, O. O. (2017). The effect of CO2 Emission and economic growth on energy consumption in Sub Saharan Africa. International Journal of Sustainable Energy and Environmental Research, 6(1), 27-35.

Khan, R. E. A., & Nawaz, M. A. (2010). Economic determinants of Foreign direct investment in Pakistan. Journal of Economics, 1(2), 99-104.

Kurt, S. (2015). Government health expenditures and economic growth: a Fed-Ram approach for the case of Turkey. International Journal of Economics and Financial Issues, 5(2), 441-447.

Lee, Y., & Gordon, R. H. (2005). Tax structure and economic growth. Journal of Public Economics, 2005(S5-6), 1027-1043.

Mahmood, H., & Chaudhary, A. (2013). Impact of FDI on tax revenue in Pakistan. Pakistan Journal of Commerce and Social Sciences (PJCSS), 7(1), 59-69.

Martinez-Vazquez, J., & McNab, R. M. (2003). Fiscal decentralization and economic growth. World Development, 31(9), 1597-1616.

Mladenović, I., Sokolov-Mladenović, S., Milovančević, M., Marković, D., & Simeunović, N. (2016). Management and estimation of thermal comfort, carbon dioxide emission and economic growth by support vector machine. Renewable and Sustainable Energy Reviews, 64(3), 466-476.

Ofurum, C. N., Amaefule, L. I., Okonya, B. E., & Amaefule, H. C. (2018). Impact of E-Taxation on Nigeria’s Revenue and Economic Growth: A Pre-Post Analysis. International Journal of Finance and Accounting, 7(2), 19-26.

Ogbonna, G., & Appah, E. (2016). Effect of tax administration and revenue on economic growth in Nigeria. Research Journal of Finance and Accounting, 7(13), 49-58.

Ojong, C. M., Anthony, O., & Arikpo, O. F. (2016). The impact of tax revenue on economic growth: Evidence from Nigeria. IOSR Journal of Economics and Finance, 7(1), 32-38.

Osabohien, R., Akinpelumi, D., Matthew, O., Okafor, V., Iku, E., Olawande, T., & Okorie, U. (2019). Agricultural exports and economic growth in Nigeria: An econometric analysis. Paper presented at the IOP Conference Series: Earth and Environmental Science.

Panás, E., & Vamvoukas, G. (2002). Further evidence on the export-led growth hypothesis. Applied Economics Letters, 9(11), 731-735.

Riti, J. S., Song, D., Shu, Y., & Kamah, M. (2017). Decoupling CO2 emission and economic growth in China: is there consistency in estimation results in analyzing environmental Kuznets curve? Journal of Cleaner Production, 166(17), 1448-1461.

Rodríguez-Pose, A., & Ezcurra, R. (2011). Is fiscal decentralization harmful for economic growth? Evidence from the OECD countries. Journal of Economic Geography, 11(4), 619-643.

Sáez, M. P., Álvarez-García, S., & Rodríguez, D. C. (2017). Government expenditure and economic growth in the European Union countries: New evidence. Bulletin of Geography. Socio-economic Series, 36(36), 127-133.

Sarkar, M. S. K., Al-Amin, A. Q., Mustapa, S. I., & Ahsan, M. R. (2019). Energy consumption, CO2 emission and economic growth: empirical evidence for Malaysia. International Journal of Environment and Sustainable Development, 18(3), 318-334.
Shittu, W. O., Hassan, S., & Nawaz, M. A. (2018). The nexus between external debt, corruption and economic growth: evidence from five SSA countries. *African Journal of Economic and Management Studies, 9*(3), 319-334.

Siddiqui, D. (2010). Tax revenue and economic growth: An empirical analysis for Pakistan. *World Applied Sciences Journal, 10*(11), 1283-1289.

Stegarescu, D. (2005). Public sector decentralisation: Measurement concepts and recent international trends. *Fiscal Studies, 26*(3), 301-333.

Thornton, J. (2007). Fiscal decentralization and economic growth reconsidered. *Journal of urban economics, 61*(1), 64-70.

Wu, S.-Y., Tang, J.-H., & Lin, E. S. (2010). The impact of government expenditure on economic growth: How sensitive to the level of development? *Journal of Policy Modeling, 32*(6), 804-817.

Yüksel, S. (2017). The impacts of research and development expenses on export and economic growth. *International Business and Accounting Research Journal, 1*(1), 1-8.

Zhang, B., Wang, Z., & Wang, B. (2018). Energy production, economic growth and CO2 emission: evidence from Pakistan. *Natural Hazards, 90*(1), 27-50.

Zhu, A., & Kotz, D. M. (2011). The dependence of China's economic growth on exports and investment. *Review of Radical Political Economics, 43*(1), 9-32.