A Robust Analysis of Fiscal Policy and Economic Development: An Assessment of the Impact of Human Development Index in Middle Income Countries

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Abstract

This study examines the impact of fiscal policy on economic development in disaggregated regional analysis of middle-income countries by using human development index (HDI) as a more comprehensive representation of growth and development, rather than the traditional use of gross domestic product (GDP). The study adopts the ex-post facto research design to enable us use data of 51 middle-income countries in a panel least squares regression. The hypotheses were linearly modeled, and the panel data estimation was adopted under the fixed-effect assumptions. Findings reveal that Government expenditures have a negative and significant effect on the economic development of middle-income countries, while government borrowing, government account balance have a positive and insignificant effect on the economic development of middle-income countries. The study, therefore recommends that governments of middle-income countries should engage in more productive rather than unproductive expenditures, and also try to improve on the mechanisms for the collection of revenue and expenditure to most importantly ensure prudent implementation of the expenditure policy to enhance economic development in their countries.

Keywords: Fiscal policy, human development index, government expenditure, policy implementation, middle-income countries.

1. Introduction

The desire of all countries is to achieve sustainable economic growth, while industrialising to achieve a higher living standard for its citizens, as well as economic development. To this end, governments have taken into account the importance of the role of fiscal policies, especially public expenditure as a tool for achieving economic development through proper implementation of projects and programs that spur government objectives to achieve their goals Yahaya (2020). Fiscal policy is also known to deals with the taxation, expenditure and deficit decisions of the government, which includes, tax policy, expenditure policy, deficit policy, investment or disinvestment strategies and debt or surplus management.

In developing countries, fiscal policy remains an important tool used by the government to stabilize the macroeconomic conditions of the country. As such, investigating the impact of fiscal policy components of fiscal policy such as government expenditure, government revenue, and government debt, on economic development is deeply entrenched in nations' building. Although there have been many studies on fiscal policy and variables such as economic growth represented by gross domestic product and various others, the closest studies to this research are fiscal policy and economic growth in specific countries, and are mainly focused on the impact of government expenditure on economic growth represented by GDP. As such, the outcomes of this study will enable us to understand the causes of poor or low development. In the future, fiscal policy will play an important role in controlling and directing spending toward programs that will improve incomes which including spending on education and social safety nets by reprioritizing spending.

Development in middle-income countries has long been a major challenge, and many have started to question the use of fiscal policies as a tool to spur development. The inconsistency between economic indicators or macroeconomic variables, and reality is a source of concern; this can be observed in most middle-income countries. It is obvious that people in middle income countries are struggling to live a better, access basic needs such asgood education, public healthcare, and even standard meals.

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While on the other hand, some privilege few are flamboyantly displaying wealth and prosperity. This is a paradox that needs to be investigated. Specifically, this raises the concerns on whether which of the fiscal policy compositions have a positive impact on the economic development and how does it relate to both growth and development in middle-income countries. Thus, also raises the issue of effectiveness in the implementation of government fiscal policies (revenue and expenditure) as a tool for achieving growth and economic development.

Research Objective and Questions

The objective of this study is to explore policy scenarios of how fiscal policies affects the achievement of economic development in middle-income countries, by examining the relationship between the fiscal policy variables on GDP and HDI in middle-income countries, then determine the impact of some of these fiscal policy variables on the economic development. As such, the following questions have been articulated to guide this study:

1. What is the effect of fiscal policy components on economic development in middle-income countries (MIC)?
2. How can middle income countries improve the nature of the fiscal policy implementation, to improve their economic standard?

Theories have revealed that the relationship and impact of fiscal policy on economic development mainly depend on the level and also the structure of public expenditure. This study attempts to systematically test this by the use panel data set of 51 middle-income countries over the period 1990–2017. Few studies have previously done this, although none have used such a comprehensive data set. It is very crucial not to ignore or taking account of the other social factors that pose a constraint to avoid a bias upon the regression coefficients as most prior research have since a bias has proven to be highly substantial. Hypotheses are tested to ascertain the effect of fiscal policy and its compositions on the ability to achieve substantial economic development in middle-income countries using human development index, which will make it one of the first studies to use HDI in recent times. Also to compare the outcome with that of the traditional indicator GDP and covering a scope of 51 middle-income countries:

Understanding Economic Growth and Economic Development

According to (Todaro, 1977), Economic Growth is also known as the rise inthe value of an economy's produce. It infers the annual percentage increase in the country's GNI or GDP and indicates the considerable rise in the per-capita national product over time. According to Khorravi & Karimi (2010), classical studies show that the growth of an economy is mostly linked to the factors of production. Amartya Sen (2001), explains that the term economic development by broadening its concept beyond what economic growth encompasses, as development alone reflects social and economic progress, which both also necessitate economic growth. Therefore economic growth becomes a critical and necessary condition for development, but remains an insufficient condition alone, as it cannot guarantee development.

The concept of economic development is commonly substituted by economic growth, which two concepts are distinct and different in their nature. Economic Development is, habitually, defined as the process of the increasing volume of production along with the simultaneous improvement in technology, a rise in the level of living, institutional changes, etc. In short, it is the progress in the socio-economic structure of the economy. Economic Development in this study will focus mainly on the Human Development part. Economic development is therefore the process by which nations improve their political conditions, economic, social well-being of their country citizens. It is very often also confused with industrial development, so far even in some academic sources. While economic development is a policy intervention endeavor, aiming at enhancing the social well-being of people and the economic condition, economic growth is a phenomenon of market productivity and rise in gross domestic product. Consequently, as pointed out by AmartyaSen, "economic growth is only one aspect of the process of economic development".[2]

Understanding Human Development Index (HDI)

Development can be difficult to measure due to its enormous range of indicators. To measure the extent to which a country has developed a limited range of composite indicators, can be applied, which may include economic growth indicators such as GDP per capita, health indicators such as life expectancy, a social indicator such as poverty rate and education. In 1990 the human development index (HDI) was introduced as a means to measure these three broad areas.

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[2]https://en.wikipedia.org/wiki/Economic_development

As GDP per capita represents economic growth alone and is a too narrow indicator for measuring economic development and, it is often criticized lately for having failed to account for and measure other aspects of development, such as life expectancy and enrolment in school. Hence, the HDI remains a broader and more comprehensive multi-composite indicator for measuring development, compared to GDP, even though GDP still provides one-third of the index.

The HDI was introduced by the United Nations Development Programme (UNDP) as part of its contribution, by providing instruments to gauge economic development focusing on these three broad areas. The education dimension is measured by the number of years of schooling, particularly for adults from age 25 and above and expected years of schooling for children of school entering age; the health dimension is assessed by the level of life expectancy at birth; while the standard of living dimension is measured by using the GNI per capita. It is also a summary measure of average achievements gathered from key dimensions of human development, hence an advantageous means of comparing the level of development of countries.[3]

The introduction of the index was a clear indication that economists have accepted the notion that development is a wider and more comprehensive concept than growth, and should include a range of social and economic factors. Although, despite the above listed advantages of HDI, it doesn't account for many more aspects of socio-economic development, one could deem important that could be regarded as significant contributors to or constraining development measurements, such as crime, corruption, poverty, deprivation, and negative externalities.[4]

2. Literature Review

Theoretical and Empirical Underpinning

According to previous studies, such as G. K. Shaw (1972), fiscal policy was developed based on a British economist's theory, John Maynard Keynes who was also known as Keynesian Economist who came up with the (Keynesian Model). It was a fundamental departure from the classical economics (Classical Model) which states that the economy is free-flowing and self-correcting and that wages and prices freely adjust the ups and downs of demand over time. Shaw (1972) also emphasizes that the theory of fiscal policy in modern economics is routed from the economics of Keynes, but before the Keynes argument, the convention was to demean the ideas that government should stimulate an economy, with the argument that public expenditures must be at the expense of the private to avoid the expectation of net benefit.[5]

The theory essentially claims that governments of an economy can influence their macroeconomic productivity levels by increasing or decreasing their taxes rates and spending, in other words, known as the expansionary policy to stimulate an economy and the contractionary fiscal policies to reduce inflation. There have been various studies on the aspects of fiscal policy and its macroeconomic productivity level. Peter R. Orszag and William G. Gale (2003) who studied the effect of fiscal policy on economic growth, states that it is a long-standing and controversial status in economic theory, for economic policy making and empirical researches. Dornbusch & Fischer, (1990) and (Reem, 2009), also conform to the proposition of this theory.

Fiscal Policy and Economic Growthin Middle-Income Countries (MIC)

Many studies on the relationship between fiscal policy and economic growth have been conducted before the relevant endogenous growth model was developed, i.e. Tax revenues, government spending, and budget deficits have been used by these authors as fiscal policy variables and found different results for the macroeconomic activities on fiscal policy. Many researchers (such as Barro and Sala-i-Martin (1995); Kneller and Gemmell (1999); Odedokun (2001); and Bose, et al. (2003); all used fiscal policy variables in their growth equations and have found the significant contribution of the variables. Levine-Renelt (1992) concluded that the majority of results from previous studies on the relationship between fiscal policy indicators and long-run growth are affected by small changes in the conditions that are set therein. Gemmell, et al. (2006) concluded with the use of panel data of OECD countries that in the long run, productive expenses and distortionary taxes have adverse and positive effect respectively on the growth of OECD countries.

Benanaya, Khaled, Rachid, Badreddine, tested the predictions of recent public policy endogenous growth models like Mendoza et al. (1997), and Barro (1990) with a keen observation to avoid biases from the source used.

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[3]http://hdr.undp.org/en/content/human-development-index-hdi
[4] international Journal of Business and Management Review Vol.1, No.4, pp.64-71, December 2013 Published by European Centre for Research Training and Development UK (*www.ea-journals.org*)
[5]G. K. Shaw (1972), Fiscal Policy and Economic Theory

Using a panel of nine MENA countries (Kuwait, Egypt, Iran, Tunisia, Algeria Morocco, Jordan, Oman, Bahrain) during the period of 1980–2007, and the criteria proposed by these models to classify fiscal data, they discovered a significant support for Barro's (1990) predictions with regards to the effects of government expenditure and the structure of taxation on growth. Heitger (2001) used a sample of 21 OECD countries from the year 1960-2000 and concluded that there was a negative correlation between economic growth and total public spending. He, however, found a positive relationship between growth and public spending. Kelly (2007) used a sample of 73 countries from the year 1970-1989 and found a positive relationship between growth and public spending. Furthermore, Grossmann (1988) found no relationship between growth and public spending.

Economic Development in Middle-Income Countries (MIC)

The terms economic growth and economic development have often been used interchangeably in the field of economics, yet many scholars have tried to differentiate between the two. Some of them believe that failed development projects can be traced back to the lack of understanding in the concept of development itself. Development is a wider concept than growth as it cuts across various aspect of the economy, as it has become a term often debated and important, that many scholars have contributed literally to it.

According to the UNDP, the most appropriate method of measuring development in its complexity and diversity is the Human Development Index, because it is the only approach, which accounts for the literacy rates, and life expectancy, both of which affect productivity and could have an impact on economic growth. It also contributes to the creation of more opportunities in the education sectors, healthcare sectors, employment and the conservation of the environment. According to Galloping (1994), development is about qualitative transformation; while growth is mainly about a quantitative increase. Therefore as such economic development, with a goal to increase the quality of life, is not synonymous to economic growth, with one means to the same ends.
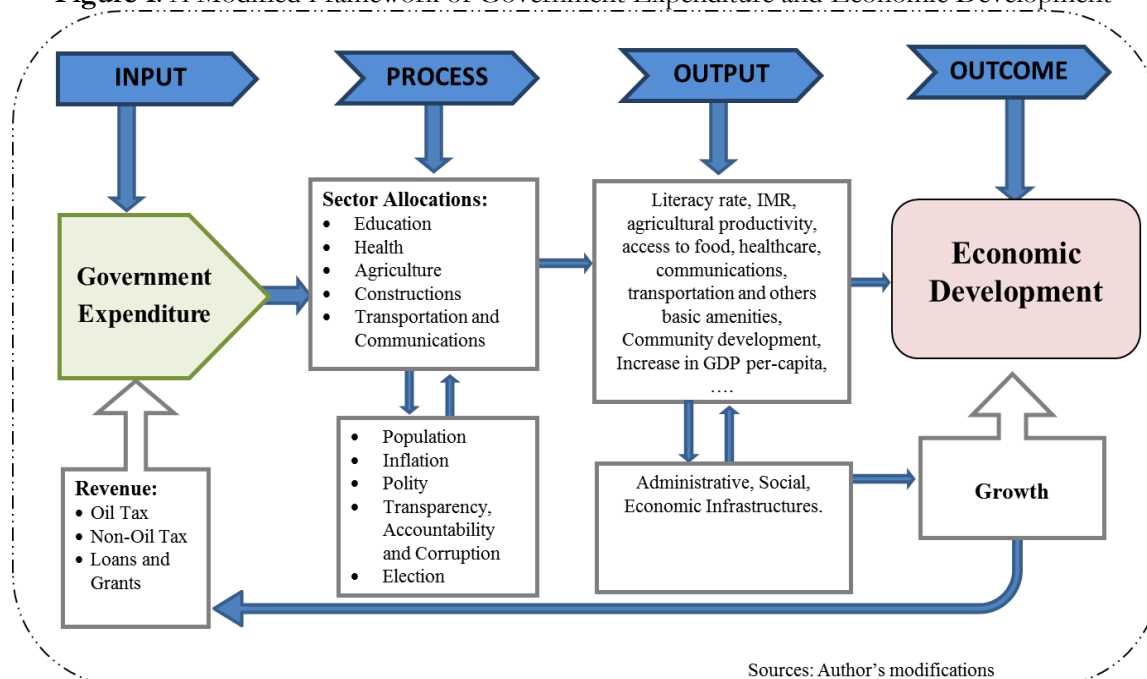
Human Development Index in Middle Income Countries

Different opinions exist on which factors affect human development in an economy. In different literature sources on HDI, we find emphases on how countries' resources change to the benefit of human development; how human development is affected by fiscal policies. An example includes Gupta et al. (1998), who used a sample of 118 developing and transition economies starting from 1980. From this study, it was observed that education per capita expenditures and real health increased on the average in developing countries, while there was a considerable decline in that of transition economies. The study went further to state that, human development is accelerated in many countries by spending on health and primary education and that the benefit of social expenditure is more eventually distributed.

Suescun (2007) studied the effects of government expenditures on human development, using a sample of 15 Latin countries. Drawing from the findings, the conclusion was that government expenditures affected welfare, social progress, human development, and economic growth, positively. Also, compared to other government expenditures like education, transfers, and health, infrastructure expenditures had more effects on development.

Conceptualizing the Fiscal Policy Framework

This study uses the combining and adapting of some success literature. The research framework is developed through the adaptation and modification of Wilhelm and Fiestas 2005 framework. It is divided into four main sections, "input, process, output and outcome, other factors may affect process and output. The input identifies the independent variable that will be used in this research. The process stage shows the allocation stage and some control variables that can affect the dependent variable. The output stage shows the short term impact of the process stage while the outcome will show the long term impact. This will guide us through understanding the Fiscal policy (government expenditures) and development outcomes, their relationship trend and some of the factors that can affect the relationship.

Figure 1: A Modified Framework of Government Expenditure and Economic Development

Sources: Author's modifications

3. Research Data and Methodology

Data Sources and Methodology

This study is designed to structurally ascertain the effect of fiscal policy on economic development in middle-income countries, by adopting a research design known as ex-post facto research design, a quasi-experimental study to examine how an independent variable affects a dependent variable. The method is seen as a realistic approach for solving social science problems which involve collecting data from past events. Ex post facto research provides a systematic and empirical solution to research problems, by using data which are already in existence to provide useful insight into future outcomes, Agbadudu, (2002).

The population of this study is the fiscal policy (government revenue; government expenditure; government debt; government borrowings; government current account balance), including control variables (population; inflation; transparency, accountability, and corruption index, years of election and level of democracy) and the sample period is 27 years from 1990-2017. This research undertakes both a qualitative and quantitative approach using annual data of 51 Middle Income Countries from the World Bank, IMF, UNDP, and others from 1990-2017. A cross-sectional time series (panel data) multiple regression mechanism and co-integration technique was adopted using (Ms-Excel, STATA Statistical Package) to analyze the data and then drawing policy inferences after.

Therefore, based on the conceptual framework, previous studies on this and various observations in the relationship between fiscal policy and its components and the failure in achieving substantial economic development in middle-income countries (MIC), the following hypotheses are tested in this study:

Hypothesis 1 (H1): there is no negative relationship between total fiscal policy and gross domestic product in middle-income countries.
Hypothesis 2 (H2): there is no negative relationship between total fiscal policy and human development index in middle-income countries.

Model Construction

In the empirical application of this study, the study examines the impact on fiscal policy on both GDP per capita (ppp) and human development index, both independently and interactively. To conform with the approach adopted by Bleany *et al* (2000), Fu *et al.* (2003) and Mathew (2009) as their works on fiscal policy and economic growth used for inter-country data. This paper considers defining economic growth and development trend as a function of government fiscal compositions and also some other strong determinants of economic growth and development such as, population headcount, inflation rate, level of democracy, transparency, accountability, and corruption, to minimize the bias in the analysis.

In this study, the equations differentiate the data utilized for analysis into six categories: (1) the relationship between fiscal policy and economic growth in MICs using GDP, (2) the relationship between fiscal policy and economic development in MICs using HDI, (3) the relationship between fiscal policy and economic development (HDI) amongst upper and lower levels MICs, (4) the relationship between fiscal policy and economic development (HDI) amongst countries' regions in three categories.

It is necessary to put those variables into regression equation, in other to illustrate the relationship between Fiscal policy compositions and economic development, hence this study develops the regression equation as the followings:

For Hypotheses One;

In order to obtain the impact of fiscal policy on economic growth (GDP) in middle-income countries, this paper defines the model as the following:

$GDP_t = f$ (GEXP, GDBT, GBRR, GBAL, POP, INFL, TRACCOR, ELEC, POL) ………..…………..… (1)

In an econometric format:

$GDP_t = \beta_{0t} + \beta_2 GEXP_t + \beta_3 GDBT_t + \beta_4 GBRR_t + \beta_5 GBAL_t + \beta_6 POP_t + \beta_7 INFL_t + \beta_8 TRACCOR_t + \beta_9 ELEC_t + \beta_{10} POL_t + \varepsilon_t$ …….…………………………………………………………………………………………… (2)

Where:

GDP is gross domestic product (per capita)

GEXP is government expenditure as a percentage of GDP,

GDB) is Government Debt as a percentage of GDP, GBRR is Government Borrowing as a percentage of GDP, GBAL is Current Account Balance as a percentage of GDP, population headcount in millions (POP), Inflation rate (INFLA), Transparency, Accountability, and Corruption Index (TRACCOR), Years of Election (ELEC) and level of democracy (Polity (POL), β_0 is the constant term, 't' is the time trend,'-1' is a one year lag for the variable, and 'ε' is the random error term. This first function shows the overall government expenditure with other variables in the percentage of GDP terms and its relationship on gross domestic product.

The first function enlightens us on the impact of some government expenditure and others variables on the economic growth which is represented by the gross domestic product, showing how various key indicators relate with the trends of gross domestic product in 51 middle-income countries.

For HypothesesTwo:

In order to obtain the impact of fiscal policy on economic development (HDI) in middle-income countries, this paper defines the model as the following:

$HDI_t = f$ (GDP, GEXP, GDBT, GBRR, GBAL, POP, INFL, TRACCOR, ELEC, POL) ……………..… (3)

In an econometric format:

$HDI_t = \beta_{0t} + \beta_1 GDP_t + \beta_2 GEXP_t + \beta_3 GDBT_t + \beta_4 GBRR_t + \beta_5 GBAL_t + \beta_6 POP_t + \beta_7 INFL_t + \beta_8 TRACCOR_t + \beta_9 ELEC_t + \beta_{10} POL_t + \varepsilon_t$ …….…………………………………………………………………………………..….. (4)

Where:

HDI is Human Development Index

GDP is Gross Domestic Product (per capita)

GEXP is government expenditure as a percentage of GDP,

GDB) is Government Debt as a percentage of GDP, GBRR is Government Borrowing as a percentage of GDP, GBAL is Current Account Balance as a percentage of GDP, population headcount in millions (POP), Inflation rate (INFLA), Transparency, Accountability, and Corruption Index (TRACCOR), Years of Election (ELEC) and Polity (POL), β_0 is the constant term, 't' is the time trend,'-1' is a one year lag for the variable, and 'ε' is the random error term.

The second function enlightens us on the impact of some fiscal policy variables on the economic development which is represented by the human development index, showing how various key indicators relate with the trends of human development index in three categories, (all 51 MICs; Lower and Upper MICs; and Three Regions of MICs). Thus, equations (1, 2, 3, and 4) were used to analyze both the theoretical and empirical relationship between fiscal policy variables and economic growth and development. The signs and magnitude of the sizes of the estimated parameters in the modeled equations were relied upon, in acceptance or rejection of hypotheses. Therefore, the hypothesis for this study can be defined following the estimated regression analysis which will appear as follows;

Ho1: there is no negative relationship between total fiscal policy and gross domestic product in middle-income countries.

(Ho1: $\beta n \geq 0$)

Ha1: there is a negative relationship between total fiscal policy and gross domestic product in middle-income countries.
(Ha1: $\beta n < 0$)

Ho2: there is no negative relationship between total fiscal policy and human development index in middle-income countries.
(Ho2: $\beta n \geq 0$)

Ha2: there is a negative relationship between total fiscal policy and human development index in middle-income countries.
(Ha2: $\beta n < 0$)

The commonly accepted rationale behind this hypothesis is that the components of fiscal policy are expected to aim at enhancing economic growth and economic development in any economy.

Technique of Analysis and Expected Coefficient

An analytical technique is a method used to determine the relationships or otherwise between variables. In dealing with equation 1, 2, 3 and 4, this study employs the panel data estimation technique to take account of issues such as estimating for the cross-sections (the Middle-Income Countries) and time series together, to capture the possible existence of a common structure in the series and offers other views on relationships between variables, rather than the standard OLS. Combining cross-section and time series data increases the number of degree of freedom and increases the strength of the test results. Panel data analysis takes into consideration both the cross-section and the time dimension of the data and carries out an analysis that takes care of the heterogeneity as a challenged for group analysis. A fixed effect (FE) also known as (the within estimator) panel estimation technic was also adopted for this study. In this study, we, therefore, test the hypotheses under the fixed effect assumptions to strengthen our decision criteria for acceptance and rejection of set hypotheses, as such imposing time-independent effects for each entity that is possibly correlated with the repressors.

The expected coefficients of the independent variables will depend on whether these components are utilized judicially for their planned objectives which will therefore, leads to a positive impact on the growth and development, but otherwise, it will then lead to a negative impact on growth and development.

Table 1: Summary of Variables, Sources and their Expected Signs

| Variables	Description	Expected Sign	Source
HDI	Human Development Index		UNDP
GDP	Annual growth rate		World Bank
GREV	Government Total Revenue as (% of GDP)	Positive	IMF
GEXP	Government Total Expenditure as (% of GDP)	Positive	IMF
GDBT	Government Debt as (% of GDP)	Negative	IMF
GBORR	Government Borrowing as (% of GDP)	Positive	IMF
GABAL	Current Account Balance as (% of GDP)	Positive	IMF
POP	Annual population by headcount in (millions)	Negative	IMF
INFL	Inflation, end of period consumer price as (% changes)	Negative	IMF
TRACCOR	Transparency, Accountability and Corruption Index	Positive	IMF
ELEC	Years of Election	Negative	World Bank
POLITY	Political	Negative	Wikipedia

4. Data Presentation and Analysis

Data Testing, Analysis and Interpretation

This study took caution by checking the properties of the variables by conducting various tests relevant for panel data, such as stationarity tests, including the augmented Dickey fuller and unit root test, multicollinearity was investigated using a simple correlation n matrix as well as calculating the variance inflation factors VIF, few variables showed evidence of significant multicollinearity; as such, they had been replaced with other variables. These results are presented in the appendix. Hausman test to choose between the fixed effect and random effect model for the regression analysis was also conducted, and the result showed that the Fixed Effect Model was the appropriate model for this study.

Data Analysis

Before the presentation of econometric evidence, it is instructive to consider a simple scatter plot of our data.

Figure 2: Scatter Plot for Human Development Index and GDP per capita 1990-2017
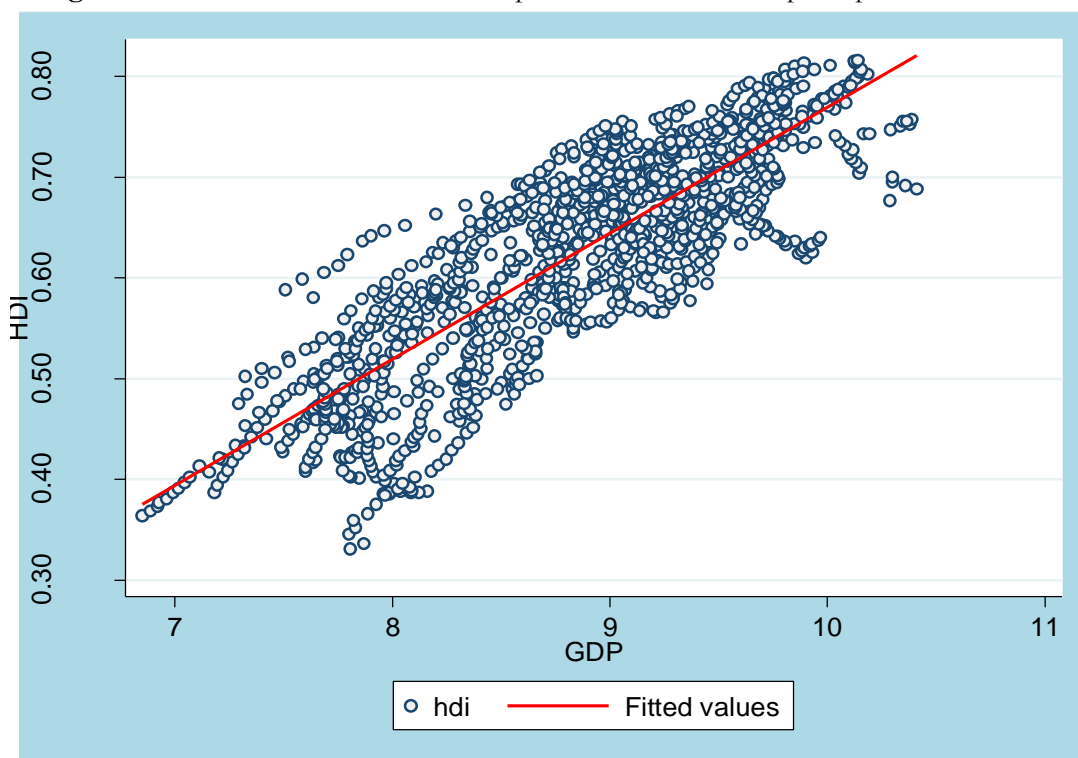
Source: Author's STATA 14.0 Output

The scatter plot shows the straight fitted line cutting across almost the middle of the dots, is upward sloping to the right side of the graph, which can be interpreted as the two variables, HDI and GDP are positively correlated. This also means that, as the economies productivity grows, the level of indicators such as life expectancy, education and per capita incomes increases proportionally; nonetheless, this does not reflect significant improvement in the level of development.

Hypothesis Testing

Test of Hypothesis One

Hypothesis one sought to determine if the fiscal policyhas a negative and significant effect on the economic growth in middle-income countries. Data from the IMF and World-bank database were used in a panel least squares regression analysis to confirm the acceptance or rejection of hypothesis one.

Ho1:   there is no negative relationship between total Fiscal policy and Human Development Index trend in MICs.

The decision criteria are to accept alternate hypothesis (Ha) if the sign of the coefficient for fiscal policyis negative, the t-statistic > 2 and the probability of the t- Statistic is < 0.05. If otherwise, Ha will be rejected, and Ho is therefore accepted.

Table 2: Least Squares Coefficients (GDP and HDI) as dependent variable

	-1	-2
	GDP	HDI
Variable	GMIC	GMIC
GDP Per capita (logged)		0.06634***
		(0.0069)
Government Expenditure	0.0013	-0.00005
	(0.0008)	(0.0001)
Government Debt	0.0001	-0.00001
	(0.0001)	(0.0000)
Government Borrowings	0.0070***	-0.00030*
	(0.0016)	(0.0002)
Current Account Balance	-0.0002	0.00006
	(0.0007)	(0.0001)
Population (Logged)	-0.4748***	-0.06261**
	(0.1235)	(0.0296)
Inflation	0.0000	0.00000
	(0.0000)	(0.0000)
Transparency, Accountability, and Corruption	0.0153***	0.00182
	(0.0057)	(0.0020)
Years of Election	0.0051**	0.00089
	(0.0025)	(0.0010)
Level of Democracy	-0.0006***	-0.00001
	(0.0002)	(0.0001)
_cons	10.6184***	-2.23930***
	(0.4064)	(0.3014)
Observations	1318	1318
R-squared	0.99	0.92
Number of ccode	50	50
Country & Year Fixed Effect	Yes	Yes
Estimated coefficients	85	86

Standard errors in parentheses   ….. *** p<0.01, ** p<0.05, * p<0.1

Table 2 above, shows the results of the panel least squares regression analysis, examining the effect of fiscal policy ongross domestic product and human development index respectively, in middle-income countries. The multiple regression estimates the coefficients of the equation involving nine independent variables and control variables that best predict the value of the dependent variable. The results here shows that R^2 (regression value) of both moderating factors are above 90% at 5% level of significance. It means that the independent variables accounts for 99% and 92% of both GDP and HDI respectively.

Test of Hypothesis Two

Hypothesis two sought to determine if fiscal policy compositions have a positive and significant effect on HDI in middle-income countries. This section will be looking at the middle-income countries in three different categories; first is the lower and upper-middle-income countries; second is based on three separate regions of MICs.

Table 3: Extract from Generalized Least Squares Regression for MICs(HDI) as dependent variable

Variable	-2 LMIC	-3 UMIC	-4 African	-5 Asian	-6 Latin
GDP Per capita (logged)	0.07190*** (0.0028)	0.05848*** (0.0029)	0.06014*** (0.0068)	0.06688*** (0.0024)	0.04127*** (0.0073)
Government Expenditure	0.00007 (0.0000)	-0.00003 (0.0000)	-0.00003 (0.0001)	0.00006 (0.0000)	-0.00003 (0.0001)
Government Debt	0.00000 (0.0000)	0.00000 (0.0000)	-0.00001 (0.0000)	0.00001 (0.0000)	0.00002 (0.0000)
Government Borrowings	-0.00012 (0.0001)	-0.00013 (0.0001)	-0.00016** (0.0001)	0.00001 (0.0001)	-0.00034** (0.0002)
Current Account Balance	-0.00003 (0.0001)	0.00007** (0.0000)	0.00004 (0.0001)	0.00010*** (0.0000)	0.00005 (0.0001)
Population (Logged)	-0.03441*** (0.0072)	-0.00154 (0.0065)	- 0.03462*** (0.0130)	0.05268*** (0.0060)	0.02217 (0.0218)
Inflation	0.00000 (0.0000)	0.00000 (0.0000)	- 0.00006*** (0.0000)	0.00000 (0.0000)	0.00000 (0.0000)
Transparency, Accountability, and Corruption	0.00041 (0.0004)	0.00079 (0.0005)	0.00171** (0.0008)	0.00061** (0.0003)	0.00000 (omitted)
Years of Election	0.00000 (0.0003)	0.00002 (0.0003)	0.00009 (0.0005)	-0.00003 (0.0002)	0.00049 (0.0004)
Level of Democracy	-0.00001 (0.0000)	-0.00002 (0.0000)	-0.00003 (0.0000)	0.00000 (0.0000)	0.00001 (0.0000)
_cons	0.64762*** (0.0339)	0.07387** (0.0350)	0.16804* (0.0914)	0.00937 (0.0190)	0.13298 (0.1079)
Observations	539	712	509	499	243
R-squared	0.99	0.99	0.98	0.99	0.99
Number of ccode	21	27	20	19	9
Country & Year Fixed Effect	Yes	Yes	Yes	Yes	Yes
Estimated coefficients	57	63	56	55	44

Standard errors in parentheses   ….. *** p<0.01, ** p<0.05, * p<0.1

Table3 above, shows the results of five the panel least squares regression analysis, the multiple regression estimates the coefficients of the equation involving ten independent variables and control variables that best predict the value of the dependent variable. The result here shows that R^2 (regression value) of the ten moderating factors is about 99% at 5% level of significance. It means that economic development as depicted by (Human Development Index- HDI) is responsible for, by about 99% of the variation in fiscal policy in all categories of MICs.

5. Interpretation, Discussion and Summary of Findings

Interpretation of Findings

The formulated hypotheses been tested are stated in null **(Ho1)**: there is no negative relationship between total fiscal policy and gross domestic product in middle-income countries; **(Ho2)**: there is no negative relationship between total fiscal policy and human development index in middle-income countries.

The decision criteria is to accept alternate hypothesis (Ha) if the sign of the coefficient for fiscal policy compositions is negative, the t-Statistic > 2 and the probability of the t-Statistic is < 0.05. If otherwise, Ha is rejected, and Ho is therefore accepted.

Hypothesis (1): The relationship between the total fiscal policy and gross domestic product in middle-income countries indicates a more positive but insignificant relationship between government expenditure, debt, borrowings and economic growth trend while current account balance indicates a negative and insignificant relationship in middle-income countries. The poor utilization of government expenditures, borrowings and debt could be responsible for the insignificance outcome of the effects. However, three out of the four independent variables have their expected outcomes; therefore we could also reject the null hypothesis.

Hypothesis (2): The relationship between the total fiscal policy compositions and human development index trend indicates more negative but insignificant relationship, as government expenditure, debt and borrowings depicts a negative and yet insignificant relationship in middle-income countries. The poor utilization of the expenditures, borrowings, and debt could also be responsible for the insignificance outcome of the effects. However, three out of the four independent variables have their expected outcomes; therefore we could also reject the null hypothesis.

In the relationship between the total fiscal policy and human development index between lower and upper-middle-income countries indicates positive but insignificant relationship between economic development trend and government expenditure, debt except for current account balance which is significant, while borrowings indicates negative and yet insignificant relationship in upper-middle-income countries, and for the lower middle-income countries. A similar outcome was observed with a positive but insignificant relationship between economic development trend and government expenditure, debt and current account balance while borrowings indicates negative and yet insignificant relationship. The poor utilization of the expenditures, borrowings, and debt could also be responsible for the insignificance outcome of the effects. However, three out of the four independent variables have their expected outcomes; therefore we could also reject the null hypothesis.

In the third equation, the relationship between the total fiscal policy and human development index based on three different regions of the selected middle-income countries indicates positive but insignificant relationship between economic development trend and government expenditure, debt except for current account balance which is significant, while borrowings indicates negative and yet insignificant relationship in upper-middle-income countries, and for the lower middle-income countries. A similar outcome was observed with a positive but insignificant relationship between economic development trend and government expenditure, debt and current account balance while borrowings indicates negative and yet insignificant relationship. The poor utilization of the expenditures, borrowings, and debt could also be responsible for the insignificance outcome of the effects. However, three out of the four independent variables have their expected outcomes; therefore we could also reject the null hypothesis This does not yet fully explain why the MICs' economic development rate has been low over the years, but it tells us that there is need to increase prudent government expenditures on specific activities to increase the level of development in the countries. Also, there is the need to look at other factors such as population, transparency, accountability, and fight of corruption, control of inflation rate and activities that improve the GDP growth rate.

Discussion of Findings

The findings of this have shown some level of interesting results both at the inter-country level and country-specific levels, these are discussed below.

The first observation from the panel least square regression results using the PraisWinsten regression model was that average government expenditure has a positive but insignificant impact on both GDP with T-test P.value at (0.105) and HDI at (0.692).

Although result for GDP seems to have P.value almost significant at 10% which is in line with past studies, and the result for HDI which also shows a positive and highly insignificant impact was not so surprising considering the present economic reality in most MICs that have shown a slow and low level of development as they lag.

An issue like infrastructural development which is strongly dependent on the budgetary allocations to capital expenditure has remained low over time. This is the situation in MICs as studies such as Aregbe and Greg (2015), Ogbulu and Torbira (2015) and Solomon (2016) have found that poor capital expenditure has been the bane to development in the MICs' economies as most of the facilities that can aid industrial development and general economic growth are in weak states.

Another critical issue that should be strongly considered is how these expenditures are utilized. This finding implies that the current attempt of achieving development in various countries may not yield the much desired instant result owing to poor allocation to capital expenditure. This could be a result of wastage and leakages through corruption.

On the effect of government debt on economic development, the results showed that average government debt also has a positive and insignificant impact on both GDP with T-test P-value at (0.312) and `HDI at (0.411). Interestingly, this result turned out different from the expected result for this study and the majority of other prominent studies on this subject. This was surprising as it also does not represent economic reality in most MICs; however, its insignificant P.value could be taken for an irrelevance. On the other hand, debt is expected to come from borrowing which is expected to be used to improve the economy, thus leading to development. Therefore a positive impact could be expected in the short run, while a negative impact can occur at the time of repayment. The implication of this finding is that debt may be good for MICs to attain various infrastructural development countries, which could improve the level of input and eventually the output of the infrastructures in place, thus yielding the desired result owing to the use of debt through expenditures.

Summary of Findings

Findings arising from this study can be summarized as the following; Government expenditure has a positive but insignificant effect on the economic development of middle-income countries on average; Transparency, accountability and corruption, years of election and polite havea positive and significant effect on the economic growth (GDP per capita)but has a positive and insignificant effect on the economic development (Human Development Index); That Government expenditure in Africa & Middle-east and Latin America & Caribbean countries also has a positive and insignificant effect on the economic development of middle-income countries while it is significant at 10% in Asian and European countries; That Government borrowings have a positive and insignificant effect on the economic development of Asia and Europe countries but have a negative and significant effect for Africa & Middle-east countries and Latin America & Caribbean; That Population has a positive and significant effect on the economic development of Asia and Europe and Latin America & Caribbean countries but has a negative and significant effect for Africa & Middle-east countries; That Inflation has a positive and insignificant effect on the economic development of Asia and Europeand Latin America & Caribbean countries but has a negative and significant effect for Africa & Middle-east countries.

6. Conclusion and Recommendation

Conclusions

As one amongst the few recent studies which empirically analyse the extent that fiscal policy has engenders developments using HDI in middle-income countries, this study attempts to establish crucial factors that may determine a better economic development in middle-income countries given deliberate government actions.

Using a data set of 51 middle-income countries, this study found that in fiscal policy variables, such as government expenditure enhances the economic development but at a low rate and especially in the Asian and European regions, while for African and the Middle Eastern region, it is highly insignificant on both economic growth and development. The results suggest also, that government borrowings can be viewed as less problematic as it looks in the case of African and Middle-eastern countries, as it does not attract negative impact on countries from the Asian and European region. This implies that the more government borrows to finance its expenditure, the lower the economic development in African and Middle-eastern countries. This could be a result of wastage and leakages through corruption especially in Africa.

Recommendations

This study provides the following recommendations for the middles income countries:

1. Reduce borrowings for Africa, Middle East, Latin America, and the Caribbean:
   Countries from these regions are advised to reduce their borrowings and focus on letting foreign investors come to invest in products or sectors in which they have a competitive advantage over other countries. China's opening up approach is an example of how letting of foreign investments in, can contribute to the economy.
2. Increase expenditure for Africa, Middle East, Latin America, and the Caribbean: To increase expenditures may not be the best at the moment because, history and studies have shown that funds can be misused, hence it is still necessary to allocate adequate fund to sectors like health, education, and infrastructure while managing its spending.
3. Promoting or enhancing transparency, accountability and corruption have remained a problem for countries; prudent spending must be promoted and adhered to because proper utilization of the fund can guarantee a significant level of development. When laws are strictly followed and proper punishments and sanctions are given to perpetrators, corruption will reduce while accountability will improve.

4. Population should be managed right while inflation should be reduced, considering their highly significant and negative effect. Population is only an advantage where human capital is developed. China with its compulsory early education, lays a proper foundation for future benefits from the population, as such Nigeria and others can adopt a compulsory early education policy to secure future benefit for development.

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Appendix

51 Selected Middle Income countries (MIC)

Asia and Europe	Africa & Middle East	Latin America & Caribbean
Bangladesh	Botswana	Brazil
India	Cameroon	Colombia
Pakistan	Congo, Rep.	Costa Rica
Sri Lanka	Cote d'Ivoire	Ecuador
Cambodia	Gabon	Jamaica
China	Ghana	Mexico
Fiji	Kenya	Paraguay
Indonesia	Mauritius	Peru
Malaysia	Namibia	Venezuela
Mongolia	Nigeria	
Myanmar	Sao Tome and Principe	
Philippines	South Africa	
Thailand	Sudan	
Vietnam	Zambia	
Armenia	Algeria	
Bulgaria	Egypt	
Romania	Iran	
Russia	Iraq	
Turkey	Jordan	
Ukraine	Libya	
	Morocco	
	Tunisia	

Source: Authors computation from UNDP data