EXAMINING THE IMPACT OF SUSTAINABLE PROCUREMENT ON VALUE FOR MONEY AND POVERTY REDUCTION

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Abstract

Sustainable procurement is the quest for sustainable development goals (WCED, 1987) through the acquiring and supply process, and includes adjusting environmental, social and economic goals. It is rising on the policy agenda for some nations, yet knowledge stays constrained. The study seeks to investigate the impact of sustainable procurement on value for money and poverty alleviation. Content examination presented that sustainable procurement has a positive association and significant impact on value for money and poverty alleviation in the study countries. The poverty growth, inequality theory was adopted in three West African countries to examine this effect. The results are quite consistent with major researches on poverty alleviation and public procurement. With the use of Pedroni Cointegration test, it was established that there exists a long-term connection between the variables with labour and Inflation having a negative impact on poverty alleviation in the study countries from 1990-2017.

Keywords: Sustainable Procurement, Poverty, Cointegration, PDOLS, Government Expenditure

INTRODUCTION

The issue of poverty and how to decrease it remains the most squeezing dilemmas in the international development banter. All the more explicitly, two questions are at the core of academic research and public policy development, in particular: why is Sub-Saharan Africa (SSA) declared as the most deprived regions of the globe and what should be done possible to convey sustainable and broad-based economic growth required to address this? (Geoff et al., 2009).

This paper tries to give an understanding of what should be possible to help in the reduction of poverty in the SSA regions. This examination isn't to give a complete review of a huge and consistently changing assemblage of academic literature and government policy. Or maybe, the paper has two fundamental goals. Initially, what are some of the factors that help diminish poverty in SSA and, also, should sustainable procurement be considered as one of the policies of economic improvement and poverty decrease.

Moreover, while there are numerous shared traits between nations in the region, there is additionally a lot of diversity that a regional center disregards. Hence, so as to follow the determinants and maintainers of poverty and related poverty alleviation policy choices from a nation viewpoint, three countries are considered in this case that is (Nigeria, Ghana and Cote D Voire).

In Johannesburg, World summit on sustainable development declared sustainable procurement as a major milestone for development. One final approvals of the summit were to accept sustainable development, deliberations into public procurement decision making process (UN, 2002). Sustainable procurement is defined as the process and procedures where public and private entities in the acquisition of goods, services and utilities in a manner that accomplishes value for money wholly on life basis, considering the importance not only to them but taking into consideration the economy and society as well as the environment (Force, 2006). Again, Perera, Chowdhury, and Goswami (2007) indicated that sustainable procurement should take in mind the environmental, social, and economic issues of design; non-renewable material use; manufacture and production methods; logistics; recycling options; use; reuse; suppliers' capabilities; operation; maintenance; service delivery and disposal.

The United Nations in September, 2015 publicized 17 Sustainable Development Goals (SDGs) by counting quality education and health, climate action, no hunger, clean energy and economic growth, good consumption and production, sustainable town and communities and life on land (Stuart, 2017).

Developed and developing nations are splashing billions of dollars consistently to accomplish these goals. In the achievement of SDGs, public procurement in sustainable ways is

significant. The three components of sustainable development called (economic, social and environmental) can't be drawn nearer without sustainable procurement. Sustainable procurement is intended for bringing the organizations and policy creators together to accomplish regular goal of sustainable development. Any genuine exertion to accomplish the sustainable development goals will subsequently require the public experts to pick sustainable procurement (Zaidi, Mirza, Hou, & Ashraf, 2018).

This paper as stated earlier is gone for to tending to the issue of poverty reduction is from the point of view of sustainable procurement. The effects of sustainable procurement in poverty reduction to accomplish sustainable development have developed as a significant zone of research and exchange lately because of its enormous offer in public spending by most governments around the world (Delmonico et al., 2018).

The remainder of the paper is arranged as pursues. Section 2 clarifies literature review; section 3 presents data, modelling and methodology; section 4 demonstrates modelling results and discussion; section 5 uncovers conclusion and recommendations of the study.

LITERATURE REVIEW

Reflecting more extensive worries to accomplish sustainable development goal of ending poverty, sustainable procurement has as of late obtained a high level of remarkable quality in policy circles globally (Brammer & Walker, 2011). Sustainable procurement expands on the conventional procurement practice which it tries to reach out through the reception of sustainability standards. Procurement is characterized as procurement of goods, works or potentially services from the providers.

The procurement procedure is seen as including sourcing (planning: needs distinguishing, proof and appraisal, supplier determination) contracting, monitoring and evaluation, and expediting; in view of the model definition by Van Weel (2002) referenced in (Mufutau, 2013). Sustainable procurement is defined as the process and procedures where public and private entities in the acquisition of goods, services and utilities in a manner that accomplishes value for money wholly on life basis, considering the importance not only to them but taking into consideration the economy and society as well as the environment (Force, 2006).

Procurement & Poverty Reduction Relationship

The most punctual known work on the long run propensity of public expenditure is that of German economist, Adolph Wagner (1835 – 1917). As per this hypothesis, there are intrinsic propensities for the exercises of various levels of government to consistently ascend, after some time, both intensively and extensively. These increments in state exercises require increment in

government expenditure. In this vein, a utilitarian relationship is hypothesized to exist between the growth of an economy and growth of the government exercises, particularly in social and community infrastructural ventures (Udonwa & Praise, 2018).

A number of writers came out to research on procurement and expenditure effects on poverty mitigation. Using a ARDL technique by Udonwa And Praise (2018) on a study investigated on government expenses and poverty mitigation in Nigeria. The study produced a negative connection between public expenses and poverty alleviation and at the same instance, government capital expenses positively affects poverty rate.

Fan, Hazell, and Thorat (1998) produce outcomes from their model and demonstrate that government spending on profitability upgrading ventures, for example, agricultural R&D and irrigation, rural foundation (counting streets and power), and rural improvement focused on straightforwardly on the rural poor, have all added to reductions in rural poverty, and most have likewise added to development in agricultural productivity. Be that as it may, contrasts in their poverty and productivity impacts are enormous.

Sasmal and Sasmal (2016) gave an evidence that in countries where the public expense ratio on development of infrastructure is high, growth increases and poverty tend to also decrease in general. On the contrary, Mehmood and Sadiq (2010) by using a time series dataset from 1976-2010 and ECM models including the estimation of Johansen Cointegration test came out that there is a negative association between government expenses and poverty eradication.

A study by Dahmardeh and Tabar (2013) on government spending and the rate of poverty reduction in Iran by using ARDL method revealed that expenses have a positive impact on poverty reduction.

Why practice sustainable procurement?

In both private and public sectors, there is expanding weight from clients, customers, government and the public to incorporate sustainable procurement. The 2002 World Conference on Sustainable Development expressed that important specialists at all levels should: "advance public procurement policies that support the improvement and dissemination of environmentally stable goods and services". Because of this, Business Operators and Professionals have been extremely quick to find policies and strategies installing sustainable development worries; for instance, the UK Strategy for Sustainable Consumption and Production (Kalubanga, 2012).

Organizations reviewing sustainable procurement, address their issues for merchandise, administrations, utilities and works not on a private money saving advantage investigation, however, with the end goal of augmenting net advantages for themselves and the more extensive world. In this manner they should fuse extraneous cost contemplations into choices

close by the conventional procurement criteria of cost and quality. These contemplations are regularly isolated consequently: Environmental, Economic and Social (otherwise called the "triple baseline") (Hacking & Guthrie, 2008). The significant territories of environmental concerns are; increasingly proficient utilization of raw materials in manufacturing tasks, contamination and squander, and energy reserve.

RESEARCH METHODOLOGY

The Data

The dataset and variables utilized in this investigation spread over from 1990-2017 period and contains 3 African nations, including Nigeria, Ghana and Cote d'Voire. For these nations' dataset is open for all variables utilized in this study, which means there is a balanced dataset for all estimations. The year period was chosen on the facts that most of the data used for the variables have that year span and that necessitated the choice. WDI is the source of information for the investigation.

To investigate how sustainable procurement can be used as a catalyst for poverty reduction, data sources used for the study is consistent with studies of (Cepparulo, Cuestas, & Intartaglia, 2017; Cherif, 2008; Dhrifi, 2015): (i) the world bank development indicators (ii) the data market variables; (iii) the International Monetary Fund data base. In this study, poverty (POV) is measured by household consumption expenditure in 3 African countries. GDPPC which is always used to measure economic growth as indicated by (Dollar &Kraay, 2002), inflation proxied by the consumer price index which goes consistent with (Jeanneney & Kpodar, 2011). Labor force as the totality of employees available for employment which is in line with that of (Appiah, Amoasi, & Frowne, 2019). Finally, sustainable procurement proxies as government expenditure GOEx as used by (Bugri, Michael, & Arthur, 2019).

The Model Specification

The study integrates the above-mentioned variables in the subsequent poverty growth, inequality triangle' model adopted by (Grammy & Assane, 2006). By incorporating sustainable procurement as the variable of interest, using Pedroni cointegration method and Panel Dynamic Ordinary Least Squares. The model capable of examining the impact of sustainable procurement on poverty alleviation is as follows:

$POV = a + \beta_1 Growth_{it} + \beta_2 PRO_{it} + \beta_3 LAB_{it} + \beta_4 INF_{it} + +e_{it}$..................................(Equation 1)

Where, POV is dependent variable, PRO measured as government expenditure and as concerned variable with Inflation (INF) seen as CPI measured in percentage, LAB as total number of workers available for employment and INF as inflation considered as control variables.

Analytical Approach

This type of research is an investigative one that tries to discover the worth and relationship between sustainable procurement and poverty alleviation in 3 African countries by assessing. At the first stage, a unit root evaluation is steered to determine the stationarity of the data by means of using Im, Pesaran and Shin process in the estimation. Secondly, the Pedroni method of cointegration is assessed to ascertain the long run nexus. Finally, the Panel Dynamic Ordinary Least Squares were used to evaluate the impact of the independent variables on the dependent variables.

EMPIRICAL RESULTS AND FINDINGS

Table 1: Descriptive Statistics

Variable	POV	GDPPC	PRO	LAB	INF
Obs	84	84	84	84	84
Mean	1.24e+11	8.33e+10	6.00e+09	8.53e+08	71.52864
Std. Dev.	1.83e+11	1.36e+11	1.00e+10	1.34e+09	52.6478
Min	6.07e+09	4.98e+09	4.65e+08	6230924	2.161123
Max	6.95e+11	5.68e+11	3.78e+10	5.47e+09	232.2565
Unit Root	I(O)	I(O)	I(O)	I(O)	I(O)

The study employed panel data for the years 1990-2017 (T=28, N=3). The study Therefore, to check and avoid spurious outcomes conducted a unit root test. There are around four diverse board unit root tests and the Im, Pesaran and Shin (IPS) method of estimation was utilized. Table 2 gives the outcomes of the features of the variables as well as the unit root results with the null hypothesis stating that there is unit root and the alternative as there is no unit root. The outcomes above to specify that all variables are stationary at level with an automatic lag selection of 0-3 meaning they are all stationary at I(O) with the exception of Inflation.

Table 2: Correlation Matrix

Variable	POV	GDPPC	PRO	LAB	INF
POV	1.0000				
GDPPC	0.9816	1.0000			
PRO	0.9130	0.9583	1.0000		
LAB	-0.2947	-0.2693	-0.1803	1.0000	
INF	0.4808	0.4562	0.4811	0.2299	1.0000

The correlation statistics are displayed in Table 2 above and as clearly seen, data vary enough with the aim that one can indicate applicable associations between both the dependent variable and independent variables. Besides, the results of links between explanatory variables (Table 2) acclaims that the integration of all these variables in a similar estimation represents no question of multicollinearity. In fact, coefficients of connection indicate very high and positive except labour.

Table 3: Cointegration Matrix

	Unweighted		Weighted	
	Statistic	Prob.	Statistic	Prob.
Panel v-Statistic	1.189377	0.1171	1.654099	0.0491**
Panel rho-Statistic	-1.449815	0.0736*	-1.611189	0.0536*
Panel PP-Statistic	-3.186260	0.0007***	-4.032371	0.0000***
Panel ADF-Statistic	-3.186939	0.0007***	-4.011690	0.0000***
Alternative hypothesis: individual AR coefs. (between-dimension)				
	Statistic		Prob.	
Group rho-Statistic	-1.232649		0.1089	
Group PP-Statistic	-4.886536		0.0000***	
Group ADF-Statistic	-4.706104		0.0000***	

*NB: *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level*

In above outcomes it can be noted that out of the 11 prob values 7 of these values are significant at the 5% level representing a significant majority indicating that the null hypothesis of no cointegration rejected and the alternate hypothesis of the existence of cointegration is accepted. In summary, it can be recorded that there exists a long run relation between sustainable procurement and poverty reduction.

Table 4: Results of Panel Dynamic Ordinary Least Square

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDPPC	1.099295	0.343566	3.199666	0.0045***
GOEX	-2.043131	2.414155	-0.846313	0.0074***
INF	-2.49E+08	8.46E+08	-0.294672	0.7713
LAB	1927.558	4067.979	0.473837	0.6407
R-Squared	0.995549	Adjusted R-Squared	0.989096	PROB: 0.0000

*NB: *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level*

The estimates give a summary for Panel Dynamic ordinary least squares. The results in Table above indicates that inflation and labour have no significant impact on poverty alleviation from 1990-2017 in the study areas. This result of inflation in this study consistent with a study investigated by Jeanneney and Kpodar (2011). Fischer (1993) stated that inflation is bad for growth and definitely will increase poverty. Cardoso (1992) also confirmed that inflation has no significance on poverty reduction in his study "Inflation and Poverty". Again, a study by Otsuka, Estudillo, and Yamano (2010) confirm the results that labour has no significant impact on poverty alleviation and also goes contrary to that of (Hung, 2005).

Furthermore, the study provided and recorded that sustainable procurement have a significant effect on poverty reduction. (Fan et al., 1998) confirmed this result in an investigation conducted about India. Again, (Anderson, d'Orey, Duvendack, & Esposito, 2018) did a study with an outcome which contradicts the positive significant effects of sustainable procurement proxies as government expenditure on poverty reduction.

On the effects of GDPPC thus economic growth on poverty reduction, the outcomes show that the coefficient is positive and significant for all the countries. Thus, an increase in the level of economic growth, as measured by GDPPC, actually reduces poverty rate. This result goes contrary, with Acocella (1998) who stated that, it is important to remember that growth does not always impact human development. Growth may happen without significant effects on human development, especially regarding the poor. Chani et al. (2011) in his study confirmed that there is a negative significant of economic growth on poverty reduction in the short run. This results also consistent with a study by Son and Kakwani (2004) who demonstrated initial levels of economic growth and development including income inequality have significant effects on poverty reduction. This result proposes that the most operative method for poverty reduction is concentrating on economic growth programs geared towards poverty reduction

In assessing the impact of financial development on reducing poverty, the produced model in the study has an explanatory power of 0. 995549 thus 99% of the investigation. It also recorded a prob value of 0.0000 representing a good model fit.

CONCLUSION

Sustainable procurement is a new notion in Africa. Achieving sustainable development goals is a major task of various governments and administrations. Good sustainable practices can be supportive to achieve sustainable development goals and objectives. The main objective of this study is to investigate the impact of sustainable procurement on value for money and poverty alleviation. Content examination presented that sustainable procurement has a positive association and significant impact on value for money and poverty alleviation in the study

countries. The poverty growth, inequality theory was adopted in three West African countries to examine this effect. The results are quite consistent with major researches on poverty alleviation and public procurement. With the use of Pedroni Cointegration test, it was established that there exists a long-term connection between the variables with Labour and Inflation having a negative impact on poverty alleviation in the study countries from 1990-2017.

RECOMMENDATIONS

For the objective on poverty reduction to be achieved, it is necessary for governments and administration of countries to put down all the measures to reduce inflation. Inflationary rate is probably high in most African countries and this is one of the major reason of poverty since individuals do not have means and purchasing power to acquire basic amenities.

Again, there should be good conditions of service both in the public and private sector as well as creation of jobs. In the wake of poverty alleviation labour plays a major role and needs to be given a maximum priority. Governments and administration should put out policies and strategies to help the creation of jobs by private sector as well as schemes for good condition of service.

Governments and administrations should establish poverty alleviation programmes as the case in Ghana for example the introduction of LEAP (Lively Empowerment to alleviate poverty) and MASLOC (Micro and Small Loans Center) has helped in the reduction of poverty among rural areas.

Procurement of goods and services by governments and administrations should be towards the eradication of poverty. Procuring for the improvement of health facilities, good education including given out facility to facilitate the creation of jobs.

REFERENCES

Acocella, N. (1998). The foundations of economic policy: values and techniques: Cambridge University Press.

Anderson, E., d'Orey, M. A. J., Duvendack, M., & Esposito, L. J. W. D. (2018). Does government spending affect income poverty? A Meta-regression analysis. 103, 60-71.

Appiah, M., Amoasi, R., &Frowne, D. I. (2019). Human Development and Its Effects on Economic Growth and Development. INTERNATIONAL RESEARCH JOURNAL OF BUSINESS STUDIES 12(2), 101-109.

Brammer, S., & Walker, H. (2011). Sustainable procurement in the public sector: an international comparative study. International Journal of Operations Production Management 31(4), 452-476.

Bugri, B. A., Michael, A., & Arthur, E. A. J. J. o. A. (2019). Investigating the Impact of Sustainable Procurement on Economic Growth and Development. 5(2), 67-76.

Cardoso, E. (1992). Inflation and poverty.

Cepparulo, A., Cuestas, J. C., & Intartaglia, M. J. A. E. (2017). Financial development, institutions, and poverty alleviation: an empirical analysis. 49(36), 3611-3622.

Chani, D., Irfan, M., Pervaiz, Z., Jan, S. A., Ali, A., & Chaudhary, A. R. (2011). Poverty, inflation and economic growth: empirical evidence from Pakistan.

Cherif, M. (2008). Financial Development, Economic Growth and Poverty Alleviation In Mena Region.

Dahmardeh, N., & Tabar, M. H. (2013). Government Expenditures and its Impact on Poverty Reduction (Empirical From Sistan and Baluchestan Province of Iran). International Journal of Academic Research in Economics Management Sciences 2(1), 251.

Delmonico, D., Jabbour, C. J. C., Pereira, S. C. F., de Sousa Jabbour, A. B. L., Renwick, D. W. S., Thomé, A. M. T. J. R., Conservation, & Recycling. (2018). Unveiling barriers to sustainable public procurement in emerging economies: evidence from a leading sustainable supply chain initiative in Latin America. 134, 70-79.

Dhrifi, A. J. J. o. t. K. E. (2015). Financial Development and the" Growth-Inequality-Poverty" Triangle. 6(4), 1163-1176.

Dollar, D., & Kraay, A. J. J. o. e. g. (2002). Growth is Good for the Poor. 7(3), 195-225.

Fan, S., Hazell, P. B., & Thorat, S. (1998). Government spending, growth and poverty: An analysis of interlinkages in rural India. Retrieved from

Fischer, S. J. J. o. m. e. (1993). The role of macroeconomic factors in growth. 32(3), 485-512.

Force, S. P. T. J. S. P. T. F., London. (2006). Procuring the future.

Geoff, H., Higgins, K., Bird, S. K., Cammack, D., Sharma, B., & Bird, K. (2009). Poverty and Poverty Reduction in Sub-Saharan Africa: An Overview of Key Issues.

Grammy, A., & Assane, D. J. J. o. P. M. (2006). The poverty-growth-inequality triangle hypothesis: An empirical examination. Journal of Policy Modeling.

Hacking, T., & Guthrie, P. J. E. I. A. R. (2008). A framework for clarifying the meaning of Triple Bottom-Line, Integrated, and Sustainability Assessment. 28(2-3), 73-89.

Hung, T. T. J. D. p., GRIPS, Vietnam. (2005). Impacts of foreign direct investment on poverty reduction in Vietnam.

Jeanneney, S. G., & Kpodar, K. J. T. J. o. d. s. (2011). Financial development and poverty reduction: can there be a benefit without a cost? , 47(1), 143-163.

Kalubanga, M. (2012). Sustainable procurement: concept, and practical implications for the procurement process. International Journal of Economics Management Sciences 1(7), 01-07.

Mehmood, R., & Sadiq, S. J. R. J. o. F. P. (2010). The relationship between government expenditure and poverty: a cointegration analysis. 1(1), 29-37.

Mufutau, G. O. J. I. E. L. (2013). Practical Procurement Skill, Theory and Techniques. 3(9).

Otsuka, K., Estudillo, J. P., & Yamano, T. (2010). The role of labor markets and human capital in poverty reduction: evidence from Asia and Africa. 7(1362-2016-107685), 23-40.

Perera, O., Chowdhury, N., & Goswami, A. J. I. I. (2007). State of play in sustainable public procurement.

Sasmal, R., & Sasmal, J. J. I. J. o. S. E. (2016). Public expenditure, economic growth and poverty alleviation. 43(6), 604-618.

Son, H. H., & Kakwani, N. (2004). Economic growth and poverty reduction: Initial conditions matter. Retrieved from

Stuart, L. (2017). Transforming Our World: The 2030 Agenda for Sustainable Development A/RES/70/1: THEME: statement, 'Do not leave Indigenous Australians behind'.

UDONWA, U., & PRAISE, U.-A. I. (2018). Government Expenditure And Poverty Alleviation In Nigeria, 1970 – 2016. North Asian International Research Journal of Social Science & Humanities, Vol. 4, Issue-3(ISSN: 2454-9827).

UN. (2002). Report of the World Summit on Sustainable Development. In: United Nations New York.

Zaidi, S. A. H., Mirza, F. M., Hou, F., & Ashraf, R. U. J. S.-E. P. S. (2018). Addressing the sustainable development through sustainable procurement: What factors resist the implementation of sustainable procurement in Pakistan? https://www.sciencedirect.com/science/article/pii/S0038012118301265